

CHENGALPATTU

DISASTER MANAGEMENT PLAN 2024 - 2025



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**District Collector & Chairman,
District Disaster Management Authority,
Chengalpattu.**



DISTRICT DISASTER MANAGEMENT PLAN 2024-2025

**DISTRICT DISASTER MANAGEMENT AUTHORITY
CHENGALPATTU DISTRICT
TAMILNADU**

PREFACE

Endowed with all the graces of nature's beauty and abundance, the district of Chengalpattu is a vibrant administrative entity on the North eastern part of the state of Tamil Nadu. In spite of the district's high standards in education, human development index and humungous industrial productivity, the district administration and its people have to co-exist with the nature's vagaries like floods, cyclone, Tsunami, drought, heat wave, lightning, chemical, biological, radiological and nuclear emergencies.

The disastrous events in the recent past like the tsunami of 2004, the catastrophic floods of year 2015, the cyclone of year 2016, most recently the COVID-19 pandemic of 2019-2022, Mondous cyclone of year 2022 & Michaung Cyclone of year 2023 will serve as a testament to the district's vulnerability to such hazards.

The change in perspective from a relief-based approach to a more holistic disaster management approach has already begun to gain popularity amongst the policy makers due to its substantial success in efficient handling of recent disasters.

The need of the hour, is a comprehensive disaster management plan which is participative and people-friendly with the component of inter-departmental co-ordination at its crux. The district disaster management plan incorporates both pre-disaster and post-disaster responses with the sole objective of preventing and mitigating disasters thereby bringing down the loss of life and properties.

The District Disaster Management Plan for Chengalpattu district has been prepared in exercise of the powers conferred by the Disaster Management Act, 2005, incorporating all the aforesaid basic principles of disaster management. Further, a conscientious effort has been made to include the principles underlying the existing global frameworks like Sendai Framework and Sustainable Development Goals in this district level plan.

On behalf of the District Disaster Management Authority, I express my appreciation to all the different departments for their valuable contribution, in the preparation of the plan.

I hope that the implementation of this District Disaster Management Plan would bring about greater professionalism and focus in reducing, if not, eliminating human and material loss due to natural calamities in the future.

**S.Arunraj, I.A.S.,
District Collector & Chairman
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INDEX		
EXECUTIVE SUMMARY		
SI.NO	PARTICULARS	PAGE NO.
1	DISTRICT PROFILE	1-13
2	OVERVIEW OF DISTRICT DISASTER MANAGEMENT PLAN	14-25
3	HAZARD, RISK AND VULNERABILITY ANALYSIS	26-69
4	RISK GOVERNANCE – INSTITUTIONAL MECHANISM	70-90
5	DISASTER PREPARDNESS	91-116
6	DISASTER RESPONSE PLAN	117-143
7	DISASTER RELIEF AND REHABILITATION	144-153
8	DISASTER RECOVERY AND RECONSTRUCTION	154-163
9	DISASTER PREVENTION AND MITIGATION PLAN	164-172
10	NUCLEAR OFF-SITE EMERGENCY MANAGEMENT	173-326
11	PREPARDNESS AND RESPONSE FOR COVID 19 PANDEMIC	327-338
12	FINANCIAL ARRANGEMENTS	339-344
13	BUILD BACK BETTER	345-398
14	MAINSTREAMING OF DISASTER MANAGEMENT IN DEVELOPMENTAL PLANS	399-411
ANNEXURES		
1	IMPORTANT CONTACT NUMBERS	412-415
2	STANDARD OPERATING PROCEDURES	416-448
3	DEPARTMENT WISE PREPARDNESS	449-468
4	IMPORTANT GOVERNMENT ORDERS	469-505
5	DOS AND DONTs DURING DISASTERS	506-526
6	LIST OF ABBREVIATIONS	527-528

EXECUTIVE SUMMARY

Natural disaster or calamity brings widespread damage to the property and lives of vulnerable people. The District Disaster Management Plan intends to mitigate the impact of such disasters be it floods, cyclone, earthquake or drought. The level of responsibility of the District Administration is heightened manifold due to the necessity to prepare them for mitigation. It includes relief, rehabilitation and preventive measures to lessen the impact.

Chengalpattu district being a coastal district is vulnerable to all major calamities. The proximity to the metropolitan state capital makes parts of the district an urbanized extension of the city of Chennai. The impacts of floods and cyclones are more pronounced in suburbs and other thickly populated areas of the district. The management of disasters such as Tsunami of 2004 and Cyclones Wardah of 2016, Nivar of 2020, Mondous of 2022 & Michaung of 2023 also provide a vast experience for the district regarding the need for a comprehensive disaster management plan.

In addition, the district also has the Kalpakkam DAE Centre where there are two nuclear reactors producing 2 x 220 MW electrical power. As part of preparedness for possible accidents from the nuclear plants leading to radiation release in public domain, the district administration has well established plans and procedures for effective handling of such nuclear emergencies and preventing such disasters from causing undue harm to public or environment.

The Government of India came up with the National Disaster Management Plan in May, 2016 integrating the Sendai Framework for Disaster Risk Reduction 2015-2030 adopted at the third United Nations World Conference in Sendai, Japan, in 2015. The Sendai Framework was the first International agreement adopted within the context of the post -2015 development agenda. Two other major international agreements followed it in the same year, the “Sustainable Development Goals 2015-2030” in September 2015, and the UNCOP21 Climate Change agreement to combat human induced climate change in December 2015. Disaster Risk Reduction is a Common theme in these three global agreements. The Paris Agreement of 2016 on global climate change highlights the importance of averting, minimizing, and addressing loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events and role of sustainable development in reducing the risk of loss and damage. Intrinsic to sustainable

development is disaster risk reduction and the building of resilience to disasters. The Hon'ble Prime Minister of India declared a 10 point agenda in the Second Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR), held at New Delhi on November 2016. The 10 point agenda is the Roadmap for Disaster Risk Management to Climate Resilient and Sustainable Development.

The District Disaster Management Plan 2021 has accorded primacy to the priorities enunciated in the Sendai Framework for risk reduction, Sustainable Development Goals, the Paris agreement on Climate Change agreement. The plan has been prepared, as per the Disaster Management Act 2005 and also relied on the NDMA Guidelines on State Disaster Management Plan. The plan was developed based on an elaborate consultative process with the Departments of Government, Civil society and other multi-Stakeholders.

The Plan includes,

- & The Profile of the District.
- & Overview of the district disaster management plan providing a framework of the goals, objectives and strategies followed in the preparation of a comprehensive District Disaster management plan.
- & The Hazard vulnerability analysis of different parts of the District to different forms of disasters;
- & The institutional mechanism for risk governance in the district.
- & The role and responsibilities of different Department of the District.
- Preparedness measures to be taken and the capacity-building;
- Disaster response, relief and rehabilitation & responsibility matrix of preparedness and response of Central, State & District agencies in responding to any threatening disaster situation or disaster;

- The measures to be adopted for prevention and mitigation of disasters;
- The manner in which the mitigation measures shall be integrated with the development plans and projects;

The Plan provides the detailed SOPs for Pre and Post Disaster Phases like Preparedness, Prevention & Mitigation, Response, Relief and Rehabilitation with the Responsibility Matrix. The Plan narrate show the District Disaster Management Authority of Chengalpattu has been consistently committed to building resilient infrastructure in corporating Build Back Better principles.

DISTRICT PROFILE

1.1 DISTRICT AT A GLANCE

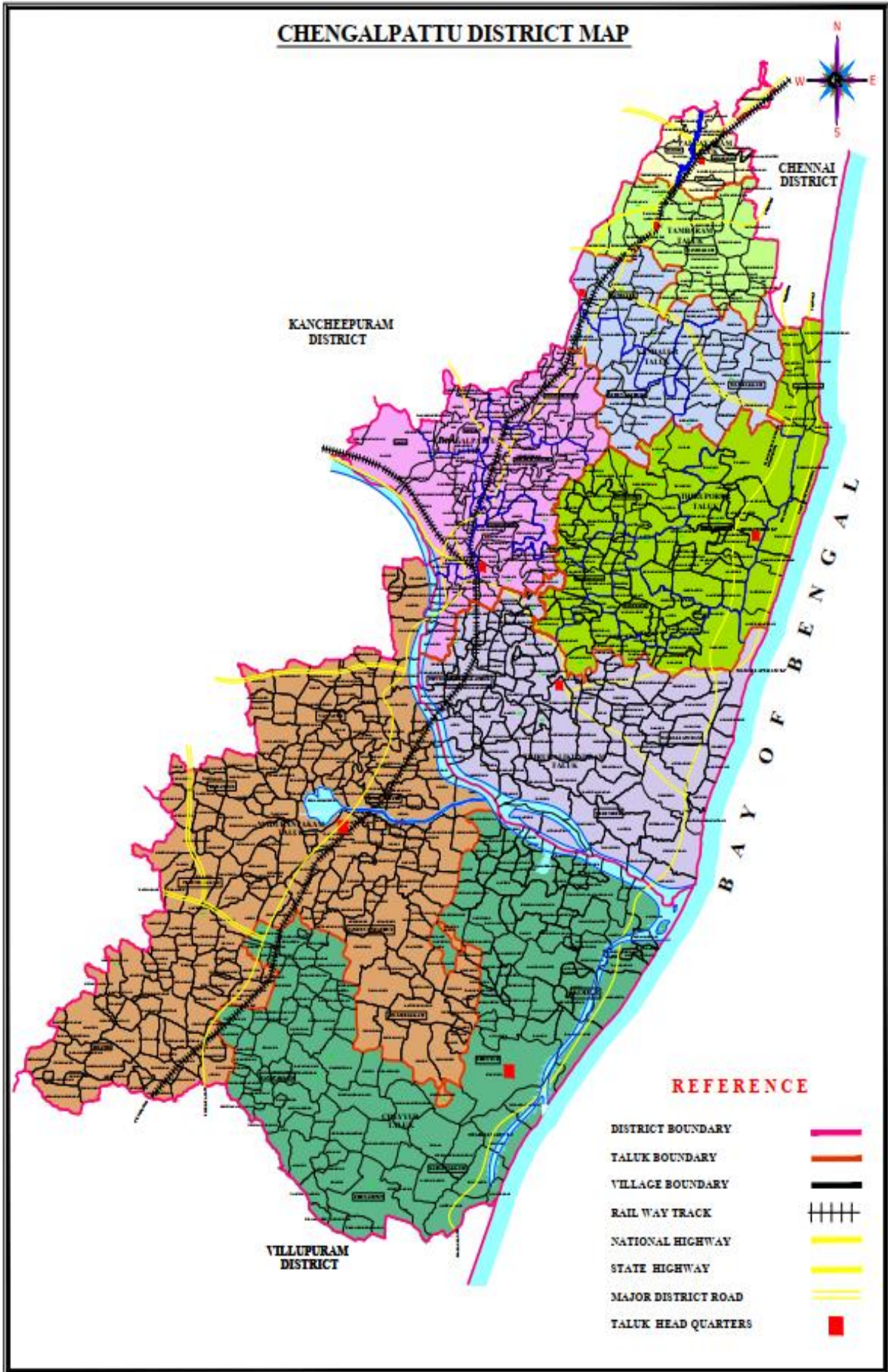
Chengalpattu district is situated on the North East Coast of Tamil Nadu and is adjacent to the Bay of Bengal. It is bounded in the West by Kancheepuram district and Thiruvannamalai District, in the North by Chennai district, in the South by Villuppuram district and in the east by Bay of the Bengal. The District headquarters is located at Chengalpattu town. The Chengalpattu district came into existence on 29 November 2019 when it was carved out of erstwhile Kanchipuram district. The district has a Total area of 2944.96 Sq.Kms, with net irrigated area of 77966 Hectres. The forest area under the district is 19610.095 Hectres.

1.1 ADMINISTRATIVE SET-UP

For administrative reasons, the district has been divided into 3 Revenue divisions comprising of 8 taluks with 636 revenue villages. On the development side, it is divided into 8 development blocks with 359 Village Panchayats.

Revenue Divisions	3
Revenue Taluks	8
Blocks	8
Municipalities	4
Villages	636
Town Panchayat	6
Village Panchayat	359
Corporation	1

CHENGALPATTU DISTRICT MAP



1.2 PROFILE OF THE DISTRICT

1.2.1 COASTAL AREAS

The District has a total coastline length of 57 Kms. Thiruporur, Thirukkazhukundram and Cheyyur Taluks are the coastal taluks. 33 revenue villages are coastal villages in the district. The coastal villages are densely populated and contribute to economic activities such as fishing, agriculture, and tourism.

1.2.2 CLIMATE

Chengalpattu features a tropical wet and dry climate. Due to its proximity to the sea, the summer is not very hot and the winters are not very severe.

TEMPERATURE

The fact that the district is close to the thermal equator and is also coastal prevents extreme variations in the seasonal temperature. The month of January with 25°C average temperature is the coldest month of the year.

Season	Maximum Temperature	Minimum Temperature
Summer	36.8° C	22.1° C
Winter	26.8° C	19.5° C

RAINFALL

Average annual rainfall of the district is about 1400 mm. The district gets most of its annual seasonal rainfall from the north-east monsoon winds during the months of October and November. The pre-monsoon rainfall is almost uniform throughout the District. The coastal taluks get more rains rather than the interior regions. This District is mainly depending on the seasonal rains. Distress conditions prevail in the event of failure of rains. Northeast and Southwest monsoon are the major contributors with each accordingly for 54% and 36% respectively of the actual rainfall.

RAINFALL DATA OF CHENGALPATTU DISTRICT FOR THE YEAR - 2020

RAINGAUGE STATIONS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
THIRUPORUR	111.7	0	0	22.2	27.3	0	61.2	130.4	61.6	241.3	742.1	0	763.9
CHENGALPATTU	74.8	0	0	3	4	4	58	81	59	249.9	782.4	2.6	1045
THIRUKALUKUNDRAM	82.8	2.5	0	18.6	13.5	14	183.5	106.6	77.3	183.2	860.5	0	1674
MAHABALIPURAM	127.7	21	0	25.4	54	16.9	136.4	128.2	144.7	251.4	1235.9	0	1558
MADURANTHAGAM	143	30	0	2	43	15	283.2	71	127	298	973	7	1413
CHEYYUR	109.7	27	0	23	44.5	91.4	202.2	115.2	122.8	254.9	947.7	0	1501
TAMBARAM	207.8	0	0	1.5	7.8	19	214.1	140.9	130.7	258.2	1051.7	7	1318
KELAMBAKKAM	323.8	0	0	19.6	22.8	0	183.5	201.6	80.9	305.8	913.8	11.4	1303
TOTAL	1181.3	80.5	0	115.3	216.9	160.3	1322	974.9	804	2043	7507.1	28	10575
AVERAGE	147.663	10.0625	0	14.41	27.11	20.04	165.3	122.0	101.0	253.0	938.38	3.5	1322

RAINFALL DATA OF CHENGALPATTU DISTRICT FOR THE YEAR - 2021

RAINGAUGE STATIONS	JAN	FEB	MARH	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
THIRUPORUR	111.7	0	0	22.2	27.3	0	61.2	130.4	61.6	241.3	742.1	5.2	1403
CHENGALPATTU	74.8	0	0	3	4	4	58	81	59	249.9	782.4	3.6	1316.46
THIRUKALUKUNDRAM	82.8	2.5	0	18.6	13.5	14	183.5	106.6	77.3	183.2	860.5	14.5	1373.68
MAHABALIPURAM	127.7	21	0	25.4	54	16.9	136.4	128.2	144.7	251.4	1235.9	24.8	2166.4
MADURANTHAGAM	143	30	0	2	43	15	283.2	71	127	298	973	34	2019.2
CHEYYUR	109.7	27	0	23	44.5	91.4	202.2	115.2	122.8	254.9	947.7	36.4	1974.8
TAMBARAM	207.8	0	0	1.5	7.8	19	214.1	140.9	130.7	258.2	1051.7	24.7	2056.4
KELAMBAKKAM	323.8	0	0	19.6	22.8	0	183.5	201.6	80.9	305.8	913.8	11.4	2063.2

TOTAL	1181.3	80.5	0	115.3	216.9	160.3	1322	974.9	804	2042.7	7507.1	155	14560.00
AVERAGE	147.663	10.0625	0	14.41	27.11	20.04	165.3	121.9	100.5	255.33	938.39	19.3	1820.00

RAINFALL DATA OF CHENGALPATTU DISTRICT FOR THE YEAR - 2022

RAINGAUGE STATIONS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
THIRUPORUR	14.5	0	1.6	0	0	0	0	0	31	105.8	397.3	129.4	679.6
CHENGALPATTU	36.7	0	1.1	0	0	0	0	17.5	37.7	167.7	376.6	247.8	885.1
THIRUKALUKUNDRAM	0	0	0	0	0	0	0	0	8.6	176.6	384.4	206	775.6
MAHABALIPURAM	0	0	0	0	0	0	0	0	69	165	614.8	284.1	1132.9
MADURANTHAGAM	37	0	3	0	0	0	0	2	104	188	420	225.5	979.5
CHEYUR	0	0	0	0	0	0	0	0	14.5	266.5	398.7	206.5	886.2
TAMBARAM	38	0	0	0	0	0	0	48	59.5	133.8	334	289	902.3
KELAMBAKKAM	0	0	0	0	0	0	0	26.4	57.2	162.6	250.5	115	611.7
TOTAL	126.2	0	5.7	0	0	0	0	93.9	381.5	1366	3176	1703	6852.3
AVERAGE	15.78	0	0.72	0	0	0	0	11.738	47.69	170.8	397	212.9	856.628

RAINFALL DATA OF CHENGALPATTU DISTRICT FOR THE YEAR - 2023

RAINGAUGE STATIONS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
THIRUPORUR	0	0	21	0	54.6	81	86.4	131.8	265	55.8	291.1	323.8	1310.5
CHENGALPATTU	0	0	33	1.2	26.5	116.5	108	57	315.1	101.4	270.8	252.6	1282.1
THIRUKALUKUNDRAM	3.4	2.4	12.4	0	109.4	119.2	124.8	29	331.8	69.2	351.4	333	1486
MAHABALIPURAM	15	0	9.4	0	131.2	159	146	148	412	130	558	580.4	2289
MADURANTHAGAM	0	2	11	0	61	143	156	103	319	52	392	215	1454
CHEYUR	0	0	4.8	0	24	80.3	121.1	40.5	181	57.9	333.7	149.4	992.7
TAMBARAM	0	0	10.2	3.3	66.5	130.7	98.9	200.5	394	79.2	339.5	508.3	1831.1
KELAMBAKKAM	0	0	18	0	56	101.4	82	130.8	251	47.2	414.2	381.2	1481.8

TOTAL	18.4	4.4	119.8	4.5	529.2	931.1	923.2	840.6	2469	592.7	2951	2744	12127.9
AVERAGE	2.3	0.55	14.98	0.563	66.15	116.4	115.4	105.1	308.6	74.088	368.8	343	1515.931

1.3 DRAINAGE SYSTEM

The river Palar is one of the major rivers in the state of Tamil Nadu traversing through Chengalpattu district for a length of 54 Kms. The river Palar enters the district at Palur village and conflues with Bay of Bengal between Vayalur and Kadalur village. Moreover, the district is bounded by the river Adayar in the north and the Ongur River in the south. Besides the aforesaid rivers, Neenjal Maduvu, Pukkadurai Odai, and Kiliyar are other minor rivers flowing through Chengalpattu district. The district is home to 528 major irrigation tanks having ayacut of more than 100 Acres (or) 40 Hectares each.

Chengalpattu District has 5 major river basins namely Palar Basin, Adyar Basin, Cheyyar sub - basin, Ongur basin and Kiliyar sub - basin. Besides, there are numerous minor & major streams and channels criss-crossing the entire district. This district also has 57km of coastal line, which normally receives 30% higher rainfall than inland. The Buckingham canal drainage system is very sensitive and its fringe areas are always flood prone.

Chengalpattu District is nicknamed “Erikal Mavattam” due to the presence of large number of irrigation tanks spread throughout the district. There are 528 major irrigation tanks having Ayacat Area 52762 hectares. Under the maintenance of PWD and rest of the tanks are vested with Panchayat union.

Government Canals	2
Private Canals	—
Major Irrigation Tanks (PWD)	528
Ayacat area(Hechs)	52762
Minor Irrigation Tanks	549

MI Tanks Area (Hechs)	5451.17
Other Wells	1241
Other Sources	—

1.5 DEMOGRAPHY OF DISTRICT

Division	Taluk	Population
Chengalpattu	Chengalpattu	210306
	Thirukalukundram	238244
	Thiruporur	156427
Tambaram	Tambaram	464297
	Pallavaram	582783
	Vandalur	321003
Maduranthagam	Madurantagam	333902
	Cheyyur	249282
Total		2556244

1.6 ECONOMY

AGRICULTURE

Agriculture is the main occupation of majority of people in this district. Even though the district is very close to Chennai, agriculture is the inevitable occupation of the people living in this district. Rice is the major crop grown throughout all over the district. Madurantakam, cheyyur and Thirukkazhukkundram taluks are major producers of rice in this district. Sugarcane also grown in some parts of the district. Tamil Nadu Government has a cooperative sugar mills in Padalam village of Madurantakam taluk. Groundnut also grown as major crop in areas where/when there is scarcity of water or shortage of rainfall. Cheyyur and Thirupporur taluks are well known for Cash crops such as groundnuts, Urid dhal, Moong dhal, Karamani, Sesame, etc.

Vegetables such as brinjal, ladies finger also grown in Thirupporur, Thirukkazhukkundram and Madurantakam regions. Watermelons are cultivated in Kodur, Cheyyur and its surrounding areas during summer. Beetel leaves were produced in Karunguzhi.

INDUSTRIES

Chengalpattu district consists of a number of industries and it contributes a significant share to the economy. Siruseri SIPCOT IT Park which is the largest IT parks in Asia is situated in Thirupporur taluk. Madras Export Processing Zone has large number of IT and BPO based companies in Tambaram. Maraimalai Nagar is Detroit of Chengalpattu district having various automobile manufacturing units such as Ford motors, Hyundai, Rane TRW etc. Mahindra World City has large number of companies in IT SEZ, Auto Ancillary SEZ, Apparel & Fashion SEZ and DTA. Madras Atomic power station is present in Kalpakkam. Marg Swarnabhoomi SEZ present in Kodur. Ultra Mega Power Projects (UMPP) is about to be setup in Cheyyur by government of India. Distilleries are present in Chengalpattu and Madurantakam areas.

1.7 SOIL AND AGRO CLIMATIC ZONE

Chengalpattu district comes under the North-Easteren agro climatic zone of the state. The soil present here is Red sandy loam, clay loam and saline coastal alluvium.

1.9 TRANSPORT

Chengalpattu district is well connected with all means of transport such as roadways, railways etc.

ROADWAYS

This district has well developed roads interconnecting all major towns, villages to the district capital. Below are the major road systems present in this district.

1. NH45 passing through Meenambakkam, Pallavaram, Chromepet, Tambaram, Perungalathur, Vandalur, Guduvancheri, Maraimalai Nagar, Chengalpattu, Karunguzhi, Madurantakam, Melmaruvathur, Acharapakkam and Thozhupedu connecting Chennai and southern parts of Tamilnadu.
2. Outer ring road starting from Vandalur connecting Mannivakkam, Thirumudivakkam to places in Thiruvallur districts such as Poonamalle, Thirunindravur, Minjur and Ennore port.
3. East Coast road connecting East part of Chennai running through Kovalam, Vadanemmeli, Mamallapuram, Kalpakkam, Koovathur and Kadapakkam to Puducherry and other coastal districts of Tamilnadu.
4. Old Mahabalipuram Road called with other names as Rajiv Gandhi Salai or IT Expressway connecting Madhya Kailash of Chennai to Mamallapuram through Navalur, Kelambakkam, Thirupporur, paiyanoor.

Other major roads are Vandalur-Kelambakkam Road, Pallavaram-Thoraipakkam radial road, Pallavaram-Kundrathur-Poonamallee Road connecting Kundrathur of Kanchipuram District and Poonamallee of Thiruvallur District, Tambaram-Velachery road, Tambaram- Mudichur road connecting oragadam of Kanchipuram district, Guduvancheri-Nellikuppam road, Urapakkam-Adhanur road, Singaperumal koil-Shriperumbudur road, Chengalpattu- Thirupporur Highway, Chengalpattu-Mamallapuram road, Bukkathurai-Uthiramerur road, Padalam-Cheyyur road, Padalam-Vedanthangal road, Karunguzhi-Thirukkazhukundram road, Madurantakam-Vennagupattu

road, Cheyyur-Sothupakkam-Vandavasi road, Thozhuppedu-Orathy-Thindivanam road. Apart from these major roads, this district has many PWD roads which helps in connecting small villages to taluk or district headquarters.

RAILWAYS

Chengalpattu district is the one of the best districts in tamilnadu having good railway network. Major stations in this district are Tambaram (TBM),Perungalathur (PRGL) Chengalpattu (CGL), Melmaruvathur (MLMR), Madurantakam (MMK).

Chennai suburban trains which starts from Chennai beach (MSB) towards Chengalpattu, Kanchipuram, Tirumalpur and Arakkonam covers major towns of this district.

Chennai Metro rail limited (CMRL) has proposed extension of Metro line from Airport Metro till Kilambakkam near Urapakkam touching Pallavaram, Chromepet, Mepz, Tambaram, Perungalathur, Vandalur to ease passenger commute in suburbs.

Southern Railways are in planning to build Rail tracks parallel to East Coast Road.

AIRWAYS

The Chennai International Airport is located here opposite the Tirusulam Railway station, with the cargo terminal located at the adjacent Meenambakkam. Chennai International Airport (IATA: MAA, ICAO: VOMM) is the primary airport serving the city of Chennai. The airport is the regional headquarters of the Airports Authority of India for South India comprising the states of Tamil Nadu, Andhra Pradesh, Karnataka and Kerala and the union territories of Puducherry and Lakshadweep.

DISTRICT DISASTER
MANAGEMENT PLAN –
AN OVERVIEW

The objective of the District Disaster Management Plan (DDMP) is to devise a set of guidelines for District level disaster preparedness, prevention, mitigation and monitoring which will grow into becoming a well – defined protocol for disaster management that will be updated periodically. The Emergency Support functions of various departments will be listed out in the plan. An inventory of resources in the district will be listed out. All of this will converge into the state plan and mesh into one another.

While the District Disaster Management Plan form the framework for the entire district, it will be fine-tuned further by requirements of individual district units and emergency situation.

2.1 Vision

To build a safer, disaster resilient Chengalpattu District by developing a holistic and multi-pronged strategy for Disaster Management that will harness the collective efforts of all stakeholders in any emergency.

2.2 Purpose of Disaster Planning

The purpose of DDMP is as detailed below:

- To develop a plan of action for the District Disaster Management Authority and other stakeholders
- To set priorities and provide directions for disaster risk Management.
- To serve as the basis for effective response to any hazard
- To define the roles and responsibilities of various stakeholders in disaster risk management.
- To facilitate Co-ordination between various Departments of Government and voluntary organizations
- To facilitate integration of mitigation into response and recovery activities.

2.3 AIMS AND OBJECTIVES OF THE DDMP

As defined in the Disaster management Act, Section 31 of Disaster Management Act 2005 (DM Act), to have a disaster management plan for every district, The Chengalpattu District prepares and modifies the existing Disaster management plan into a Competent DDMP which focuses Hazard Vulnerability Capacity and Risk Assessment (HVCRA), prevention, mitigation, preparedness measures, response plan and procedures for the year 2021- 2022.

2.4 OBJECTIVES OF THE PLAN

- ▶ To prevent loss of human life and property damage.
- ▶ To study, analyze and evaluate the disasters.
- ▶ To identify the vulnerable locations and do the vulnerability and risk analysis.
- ▶ To improve preparedness, prevention and mitigation at district level.
- ▶ To ascertain the status of existing resources and facilities
- ▶ To recommend appropriate strategies and responses to deal with future disasters
- ▶ Make concerned departments acquainted to their role and responsibilities.
- ▶ Undertake all scheduled pre-disaster activities properly.
- ▶ Identify and involve the new agencies working in DM.
- ▶ Understand working of emergency communication system
- ▶ Know the response mechanism in terms of time, management and resource available.
- ▶ Organize capacity building trainings, awareness programmes and mock drills as per the demand of the plan.

2.5 GOALS

1. Comprehensive Flood Protection through structural and non-structural interventions to reduce the risks and enhance resilience and resistance of the Community with special reference to Chengalpattu District
2. Minimize the risk of urban floods.
3. Enhance the resilience of farmers to face the vagaries of monsoon and impacts of Climate Change with special reference rainfed areas
4. Recharge the aquifers in Blocks where Ground Water is currently overexploited/ Critical/Semi Critical categories and convert into Safe Category.
5. Restore and protect ecologically fragile Wet Land and Marsh Lands in the District
6. Reclaim and Restore Areas affected by Sea Water Intrusion and prevent Sea Water Intrusion in Coastal Areas in the District
7. Enhance Bio Shields to mitigate Floods and Storms in Coastal Districts
8. Chengalpattu being a District of tanks, the goal is to restore and Strengthen Water bodies and enhance the capacity of the Water Bodies through Desiltation to mitigate floods and drought.
9. Promote Sustainable Agricultural practices in Rainfed Areas
10. Enhance Multi-stakeholder participation, especially community participation with social inclusion.
11. Strengthen Non-structural measures to reduce the risks due to Man- made and Natural Disasters.
12. Build the capacity to manage CBRN and other man-made disasters

2.6 APPROACH AND STRATEGY

The focus areas for risk reduction will be “Natural Resources Conservation on watershed basis, Comprehensive Management of River Basins, Sustainable Management of Ecologically Fragile areas, Sustainable Agricultural Development, Mainstreaming of DRR into Developmental Plans, Social Inclusion and Integrated Development of the Vulnerable Areas”



Disaster risk reduction and management depends on coordination mechanisms within and across sectors and with relevant stakeholders at all levels, and it requires the full engagement of all State institutions of an executive and legislative nature at national and local levels and a clear articulation of responsibilities across public and private stakeholders. While the drivers of disaster risk may be local, national, regional or global in scope, disaster risks have local and specific characteristics that must be understood for the determination of measures to reduce disaster risk. In the post-disaster recovery, rehabilitation and reconstruction phase, it is critical to prevent the creation of and to reduce disaster risk by “Building Back Better” and increasing public education and awareness of disaster risk;

Taking into account the experience gained through the implementation of the Hyogo Framework for Action, and in pursuance of the expected outcome and goal, 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 : Understanding disaster risk.

Priority 2 : Strengthening disaster risk governance to manage disaster risk.

Priority 3 : Investing in disaster risk reduction for resilience.

Priority 4 : Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction.

2.7 THE NEED FOR DISASTER MANAGEMENT

- In the modern context, issues concerning disasters are inextricably linked with environment complexities.
- Vulnerability to natural hazards has steadily escalated due to the interaction between nature and human activity.
- One of the principal factors involved in this interface is the rising trend of demographic profiles.
- The interaction between social, economic, cultural, political, technological and administrative variables involved is highly dynamic and complex that constraints and limitations invariably surface to frustrate efforts.
- No doubt conservation of the environment will require a fundamental alteration in present policies and practices.
- In the meanwhile, however, lives and property continue to be lost, and developmental efforts receive continual setbacks in the face of natural calamities.
- The immediate concern in this regard is to devise adequate and comprehensive coping measures.
- These measures enable vulnerable communities to substantially mitigate the effects of extreme natural phenomena or to be better prepared to withstand the adversity
Of weather and geo-physical factors.

2.8 AUTHORITY FOR DDMP: DISASTER MANAGEMENT ACT 2005 (DM ACT)

The Government order vide G.O.(Ms).No.33 revenue (DM1(2) Dep, dt.24.01.2012 has issued orders consisting District Disaster Management Authority in all the district in the state. under sub-section(1) and (2) of the section 25 of the Disaster Management Act, 2005 (Central Act 53 of 2005), as per the said G.O the following are the members of the District Disaster Management Authority :

Sl.No	Officials	Designation
1.	District Collector	Chairperson
2.	District Panchayat Chairman	Co - Chairperson
3.	District Revenue Officer who shall function	Chief Executive Officer
4.	Additional Collector (Development)/ Project Officer (District Rural Development Authority).	Member
5.	Superintendent of Police -	Member
6.	Personal Assistant (General) to the Collector	Member
7.	Joint Director, Health services, ex officio;	Member

2.9 STAGES OF DISASTER MANAGEMENT

Stage No.	Description	Function
0	Pre - disaster Condition	Determining to some degree, the Effect of and response to impact.
1	Warning	Precautionary activity
2	Threat	Survival action
3	Impact	“Holding on”.
4	Inventory	Diagnosis of situation and decision on action
5	Rescue	Spontaneous, local, unorganized extrication and first-aid, some Preventive measures.
6	Relief	Organized and professional relief, medical care, preventive and Security measures.
7	Rehabilitation	Individual rehabilitate community restoration of property and organizational preventive measures against recurrence

2.10 DDMP WITH REVISED GOALS.-

- Building self-reliant coastal communities and empower them to manage their livelihoods in a sustainable manner.
- Long term comprehensive pre and post disaster management programs linked to developmental activities.
- De-centralize the decision making authority to the field level line department officials.
- Participatory Management.
- Increasing the awareness of long-term impact of relief program on development potential.
- Emphasis on quality management of Relief measures.
- Enhance the resilience of farmers to face the Vagaries of monsoon in rainfed areas.
- To maintain the database capturing all the past experiences like Tsunami, Flood, Cyclone, and Drought in the district.
- To convene the meeting of District Disaster Management Authority for every quarter to discuss the preparedness of the line departments to meet any disasters.
- Provide information about the rainfall, heat wave and other natural calamity to the public through District Emergency operation centre thereby to reduce the loss of life's and property.
- Proper Operation and Maintenance of VHF sets and Early Warning Systems installed in coastal habitations
- Creating awareness through Mock Drills, communication drills regularly and periodically in association with line departments like Education, Health, Police, Fire and Rescue, SDRF, NDRF and SIRD trained CBDRM trainers.

- Motivate the public about the importance of Water conservation works such as rain water harvesting, desilting of tanks and channels and kudimaramathu.
- Effective implementation of G.O (Ms) No: 540 on Eviction of encroachments through Water Conservation and Water Management Committee and Encroachment Eviction Committee.
- To avoid the construction of the buildings in low lying areas and to insist the Builders on the need to raise the construction site sufficiently thereby preventing the inundations during monsoons.
- To reduce the direct disaster economic loss through Disaster Risk governance by identifying the vulnerable locations for various disaster and make the officials to realise their roles, their Hazard, Risk assessment and precautionary measures.
- Effective utilization of Search, Rescue and Evacuation equipment's of all the line departments.
- Identify the list of swimmers, climbers and snake catchers for each of the vulnerable locations and update them in the district website.

2.11 COMPONENTS OF DDMP

2.11.1. HAZARD, RISK, VULNERABILITY, AND CAPACITY ANALYSIS (HRVCA)

Analysis means that it is the study of something by examining its parts and their relationship. DDMP 2021- 2022 of Chengalpattu District gives a detailed sense of analysis in this context.

The HRVC Analysis is done by establishing the most damaging hazard, what is at risk and finally identifying the vulnerability factors and their capacity to cope with these hazards. It is important to know that the risk analysis encompasses the hazard and vulnerability analysis.

In HRVC Analysis and resource inventory, it needs to be examined whether the existing resources (Various equipment and manpower) are sufficient in dealing with the major disaster identified above.

2.11.2. MAPS AND DATA

Latest maps and data are included as far as possible. Wherever necessary the source of information along with the year is provided.

2.11.3. STANDARD OPERATIONAL PROCEDURES (SOPS)

Standard operational procedures are specific to each department and are classified under the heads mitigations, response, relief and rehabilitation as the SOPs change from stage to stage. Similarly it highlights the hazard specific SOPs by listing the common ones first and the hazard specific ones later.

2.11.4. STRENGTHENING OF EMERGENCY OPERATION CENTRE IN THE DISTRICT

A State Steering Committee has been constituted under the chairpersonship of the Chief Secretary to Government for implementing the project in Tamilnadu for the implementation of the prospect, the Special commissioner and Commissioner of Revenue Administration has been appointed as the nodal officer and the Joint Commissioner (Relief) as the State Project Officer. Similarly District Emergency Operation Centre is setup in the District under the chairpersonship of District Collector

2.11.5. RESPONSE MECHANISM

The District Collector heads is a District level Committee which is in overall charge of the relief operations in the District. The district has the contingency plan that is updated from time to time.

2.11.6. MITIGATION:

Risk Mitigation means reducing the impact of a Disaster. It is planned for long term rather than for immediate relief. Hence this DDMP has factored in mitigation measures for the District so that in future the vulnerability from disasters may be reduced thus protecting lives and property.

2.11.7. PREPAREDNESS:

Mitigation does not eliminate risk and vulnerability of all hazards. So district administration is bound to face emergency threats which have not been anticipated and the Administration has to face any new, complex and

unexpected challenge of calamitous forces. Disaster preparedness is the only remedy to save the people. Even for such situation Disaster Management Plan is inevitable to face the challenges and get over the threats to save the life of the people and their properties. So preparedness is the process of getting ready to meet the challenges whether they come or not.

2.11.8. RESPONSE:

During the calamity there is no time to stand and stare. Instant operation is an absolute necessity to save the affected people and their property. Response actions include contacting emergency management officials concerned, warning and evacuating and sheltering the people affected if possible, informing the people about situations, rescuing individuals and providing medical treatment, maintaining discipline to make them follow the rule of law, assessing damages and addressing mitigation issues that arise from response activities even requesting help from other districts.

2.11.9. RECOVERY:

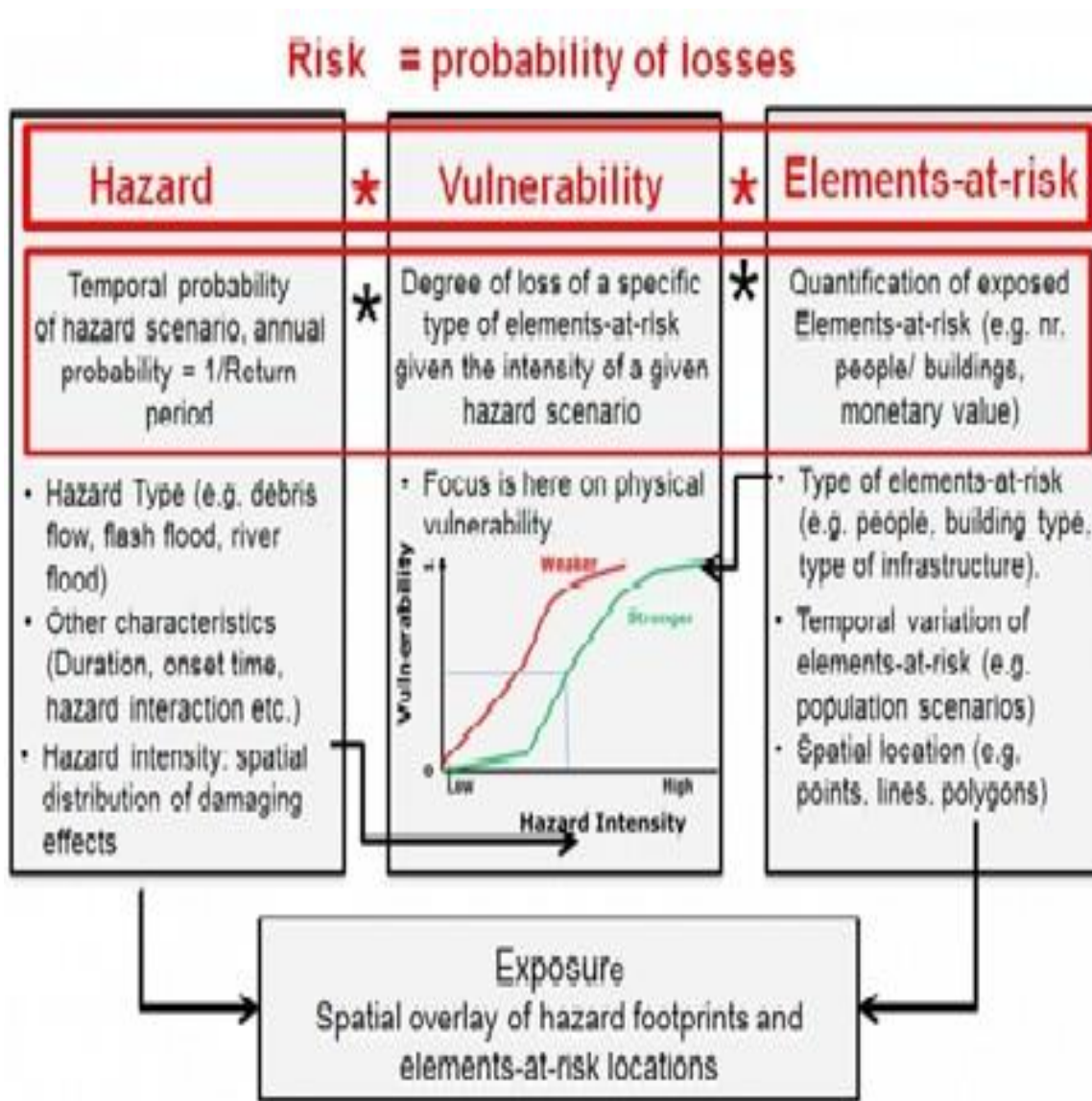
Recovery is the effort to restore infrastructure and socio-economic life of a community to normal life, but it should mitigate suffering as a goal after disaster.

HAZARD, VULNERABILITY AND RISK ASSESSMENT

3.1 SYSTEM BASED APPROACH

A systems based approach gives due emphasis on risk identification and assessment of the system as a whole, which is a pre - requisite for any significant intervention for prevention, mitigation, preparedness and response etc.

The major hazards being cyclonic storms and periodic floods. The identification, assessment and mapping of the risks are undertaken taking into account the legacy data and geomorphological characters of the District.



DISASTERS FOR WHICH THE DISTRICT IS VULNERABLE

Water and Climate Related	Geophysical Related	Chemical and Industrial	Accidents Related	Biological Related
Storm Surge, Sea Erosion, Sea Water Incursion, Floods and Cyclones	Earthquake, Tsunami, Landslide	Industrial Fires, Gas and Chemical Leakage, Oil spills	Forest fires, Electrical fires, Urban and Village fires, Building Collapses, Road, Rail and Air based Accidents/Boat capsizing, Fire	Epidemics, Pest attacks, Food poisoning, Water Contamination and Cattle epidemics

3.2 HISTORY OF DISASTERS THAT HAVE AFFECTED CHENGALPATTU DISTRICT IN THE PAST:

3.2.1 TSUNAMI - 2004

An earthquake of magnitude 9.3 in the Richter scale (Scale for measuring the intensity of an earthquake) with its epicenter (the point at which an Earthquake reaches the earth's surface) off the coast of Sumatra, triggered a tsunami in the Indian Ocean at 6.29 a.m on 26th December 2004.

The Tsunami which struck the coastal areas of Tamil Nadu on the 26th of December 2004, was unprecedented. In Chengalpattu District, nearly 44 kuppams in 30 revenue villages in 4 coastal taluks (Tambaram, Thiruporur, Thirukalukundram and Cheyyur) were affected which left a population of nearly one lakh stranded. The destruction was so severe that huts and pucca houses were flattened, fishing boats were smashed. The State and the District administrative machineries sprang into action immediately by rescuing the stranded people and accommodating them in the makeshift relief camps.

3.2.2 FLOOD - 2015

The rainfall from 25.11.2015 to 10.12.2015 was disastrously heavy and caused severe damages to all infrastructure facilities, agriculture, live-stocks, men and material in the coastal areas and in the Tambaram division in the district. The rain resettled in the recluse excess flow River Adyar become toddy from 198 tanks through five tributaries namely Mannivakkam branch, Adanur branch, Orathur branch, Manimangalam branch and Malaipattu branch.

This caused an unmediated situation where in the adyar river utilised a flood of 17800 cusecs against its flood carrying capacity of 9200 cusecs. Midday to the load the Adyar River also received peak surplus discharge from Chembarambakkam reservoir to the tune of 29000 cusecs.

The River Palar, River Ongur and Neenjal Maduvu scrolled with flood discharge flooding adjacent areas necessitating major evacuation and relief work taken up at war footing.

During North East Monsoon 2015, in Chengalpattu district on 02.12.2015 Tambaram taluk recorded 494 mm rainfall. Thirukalukundram taluk recorded a maximum rainfall of 441.4 mm on a single day. Due to heavy rainfall in 2015 major damages were caused to all infrastructure facilities, live – stocks, men and material in Tambaram Division.

3.2.3 VARDHAH CYCLONE - 2016

Indian Meteorological Department issued a very severe cyclonic storm warning dated 11th December 2016 at 08.30 hours. It stated that a very severe cyclonic storm VARDHAH lay centered at 480 Kms North East of Chennai and warned that the system was likely to cross North Tamilnadu coast between Chennai – Pulicat by 12th December 2016 afternoon.

The southern wings and whirl of the “SEVERE VARDHAH CYCLONE” passed over the Chengalpattu district, causing destruction’s to various infrastructures, electrical & telecommunication installations and flora and fauna. The speed of gale wind which churned out is recorded as more than 100 KMPH and the average rainfall over the district was 126.16 mm with peak rainfall of 283.10 mm being recorded in Chengalpattu district on 13.12.16.

3.2.4 DROUGHT in 2016- 17

Usually North East Moonsoon is received in Tamil Nadu from October to December. But in the year 2016 from 1.10.2016 to 30.11.2016 i.e. for so continuous days no rain was received. This led to crop damage in samba paddy season due to water stress. To overcome the moisture stress affected crops identified, the Agriculture department asked the farmers to spray KCl (Potassium Chloride) and PPFM (Pink Pigmented Facultative Methylo trophs bacteria) to revive the crops and prevent further drying. In every year from April and May a review was also conducted by the monitoring officer and directions were given to desist the water bodies under MGNREGS / CSR initiatives and create soak pits / recharge wells so as to improve their holding capacity and facilitate ground water recharge during the receipt of rains in the month of December.

3.2.5 NIVAR CYCLONE – 2020

IMD issued cyclone warnings off the coast of Tamil Nadu, Pondicherry and Sri Lanka on 24th November . the cyclone reached its peak intensity of 120 kmph on November 25th which makes it as a Very Severe Cyclonic Storm. It was designated as a category 1 tropical cyclone of 130 kmph. It made a landfall in Marakkanam close to Pondicherry on the midnight of November 25.

The cyclone brought heavy to very heavy rains over north coastal Tamil Nadu including in the Chengalpattu district. The heavy rainfall led to the filling up of lakes and ponds in the district . Most of the lakes and ponds in the districts reached their maximum capacity . The suburbs around Tambaram and low-lying regions along the

river Adyar were flooded.

3.2.6 Covid-19 PANDEMIC 1st WAVE AND 2ND WAVE

The central government on 14 march 2020 declared [COVID-19](#) as a national ‘disaster’. Lying south of the state capital, Chengalpattu emerged as a district witnessing a surge in coronavirus cases, after its proximity to Chennai made it easy for the virus to spread to the peripheral areas. Places like Pammal, Pallavaram, Pozhichalur, Tambaram that come under the Chengalpattu district have seen a consistent spike in COVID 19 cases since May 18. The first phase of covid 19 spread in the district lasted from the months of march 2020 to august 2020. The number of cases in the district started to decline from the months of October. The phase 2 of covid 19 spread was witnessed in the district from the months of may 2021.

3.2.7 MONDOUS CYCLONE – 2022

IMD issued cyclone warnings off the coast of Tamil Nadu and Pondicherry on 8th December. the cyclone reached its peak intensity of 105 kmph on December 8th which makes it as a Severe Cyclonic Storm. It was designated as a category 2 tropical cyclone of 105 kmph. It made a landfall in Mamallapuram close to Chennai on the midnight of December 8.

The cyclone brought heavy rains over north coastal Tamil Nadu including in the Chengalpattu district. The heavy rainfall led to the filling up of lakes and ponds in the district . Most of the lakes and ponds in the districts reached their maximum capacity.

MONDOUS CYCLONE 2022 RAINFALL IN MM				
09.12.2022 TO 12.12.2022				
RAINGAUGE STATIONS	09.12.2022	10.12.2022	11.12.2022	12.12.2022
THIRUPORUR	16	48.8	10	5
CHENGALPATTU	14.1	121	0.5	28.4
THIRUKALUKUNDRAM	6.2	61.7	15	38.4
MAHABALIPURAM	17.4	132	25	16
MADURANTHAGAM	2	109	2	10
CHEYYUR	0	63.6	2	32.5
TAMBARAM	36	134	7.4	37.6
KELAMBAKKAM	26	49.6	4	2
TOTAL	118	719	65.9	170
AVERAGE	14.7	89.8	8.24	21.2

MONDOUS CYCLONE 2022 DAMAGES DETAILS 09.12.2022 TO 14.12.2022

Sl. No	Taluk	Human Loss			Cattle Loss									Hut Damages					Grand Total
		Male	Female	Total	Cow	Calf	Goat	sheep	Bullock	Buffalow	Horse	Hen	Total	Hut Damage		Pacca Houses		Total	
														Part	Full	Part	Full		
1	Chengalpattu	0	0	0	0	2	0	0	0	0	0	2	12	1	0	0	13	15	
2	Cheyur	0	0	0	5	7	5	0	0	0	29	46	83	8	0	0	91	137	
3	Vandalur	0	0	0	0	0	0	0	0	0	0	0	19	1	0	0	20	20	
4	Pallavaram	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	4	4	
5	Maduranthagam	0	0	0	16	57	21	0	0	0	275	369	151	2	0	0	153	522	
6	Thirukazhukundram	0	0	0	2	7	1	0	1	0	0	11	37	3	0	0	40	51	
7	Thiruporur	0	0	0	3	4	4	0	1	0	0	12	1	4	2	0	7	19	
8	Tambaram	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total		0	0	0	26	77	31	0	2	0	304	440	304	20	4	0	328	768	

**MONDOUS CYCLONE 2022 TREE FALLEN DETAILS
09.12.2022 TO 14.12.2022**

S.NO	Chengalpattu District	Total No of Tree fallen	Removed	Tobe Removed
Total		1794	1794	0

**MONDOUS CYCLONE 2022 EB POLE DAMAGE DETAILS
09.12.2022 TO 14.12.2022**

Total No. of Feeders	HT POLE		LT POLE		Transformer		Power
	Damaged	Restored	Damaged	Restored	Damaged	Restored	Restored
Chengalpattu	37	37	73	73	1	1	100%
Tambaram	7	7	32	32	4	4	100%
Total	44	44	105	105	5	5	100%

3.2.8 MICHAUNG CYCLONE – 2023

In late November 2023, a low-pressure area crossed into the Bay of Bengal from the Gulf of Thailand. On December 1, the India Meteorological Department (IMD) said the disturbance had developed into a depression in the South Andaman Sea, and was expected to move towards the northwest while strengthening in the Bay of Bengal. On December 2, the system intensified into a deep depression located about 440 kilometres (270 mi) east-southeast of Puducherry. Thereafter, it intensified into a cyclonic storm, and was assigned the name Michaung by Myanmar.

On December 4, cyclone Michaung reached peak intensity as it approached the coast of Tamil Nadu with winds of 110 kilometres per hour (68 mph), equivalent to a high-end tropical storm on the Saffir-Simpson scale. Michaung moved almost directly northward along the coast. On December 5, the storm made landfall between Nellore and Machilipatnam in Andhra Pradesh, weakening as it moved inland. By December 6, the storm had weakened to a depression over central Andhra Pradesh.

Michaung Cyclone 2023 - RAINFALL IN MM CHENGALPATTU DISTRICT

RAINGAUGE STATIONS	3.12.2023	4.12.2023	5.12.2023	6.12.2023
THIRUPORUR	26.2	132	141.6	0
CHENGALPATTU	16.5	119.9	92.5	0
THIRUKALUKUNDRAM	32	138	112	0
MAHABALIPURAM	45	220.4	224	0
MADURANTHAGAM	25	93	41	0
CHEYUR	15.6	84.5	27	0
TAMBARAM	72	172.5	235.8	0
KELAMBAKKAM	38.2	167.6	157.8	0
TOTAL	270.5	1128	1031.7	0
AVERAGE	33.813	141	128.96	0

Michaung Cyclone Damages 2023

6) Human Loss / Human Injury Relief Given Details from 03.12.2023 to 06.01.2024

Sl No	Name of the Taluk	Human Loss / Human Injury Details						Remarks
		Human Loss	Relief Given	Balance	Human Injury	Relief Given	Balance	
1	Chengalpattu	0	0	0	0	0	0	-
2	Madurantakam	0	0	0	0	0	0	-
3	Cheyur	0	0	0	0	0	0	-
4	Thirukazhukundram	1	1	0	0	0	0	-
5	Thiruporur	4	4	0	1	1	0	-
6	Vandalur	0	0	0	0	0	0	-
7	Tambaram	1	1	0	0	0	0	-
8	Pallavaram	2	1	1	0	0	0	1 Human Loss is Unidentified Person
Total		8	7	1	1	1	0	-

Michaung Cyclone 2023 – HUT DAMAGES DETAILS

Sl No	Name of Taluk	Huts / Tiled Damages	Relief Given Details	Balance	Pucca House Damages	Relief Given Details	Declined	Balance
1	Chengalpattu	14	14	0	2	2	0	0
2	Madurantakam	119	119	0	1	1	0	0
3	Cheyur	119	119	0	0	0	5	0
4	Thirukazhukundram	48	48	0	0	0	0	0
5	Thiruporur	21	21	0	2	2	0	0
6	Vandalur	1	1	0	1	1	0	0
7	Tambaram	2	2	0	0	0	0	0
8	Pallavaram	37	37	0	0	0	26	0
Total		361	324	0	6	6	31	0
*31 Cases Encroachment of Govt Poramboke Land								

Michaung Cyclone 2023 – CATTLE LOSS DETAILS

Sl No	Name of Taluk	Total Cattle Loss	Relief Given Details	Declined	Balance
1	Chengalpattu	5	5	0	0
2	Madurantakam	38	38	0	0
3	Cheyyur	170	170	0	0
4	Thirukazhukundram	7	7	0	0
5	Thiruporur	17	17	0	0
6	Vandalur	6	6	0	0
7	Tambaram	8	0	0	0
8	Pallavaram	88	88	0	0
Total		339	339	0	0

3.3 HAZARD & VULNERABILITY ANALYSIS:

Chengalpattu district is vulnerable to all Major Hazards like Flood, Cyclone, Industrial Hazards, Nuclear Emergencies, Tsunami, Drought etc., Chengalpattu District Disaster Management Authority has developed and classified the hazard prone and vulnerable areas in the district.

3.3.1 CYCLONE / HEAVY RAINFALL VULNERABILITY

The geographical setting of the Chengalpattu district makes it vulnerable to natural disasters such as cyclones, floods and earthquake-induced tsunami. About 8% of the state is affected by five to six cyclones every year, of which two to three are severe. Cyclonic activities on the east coast are more severe than on the west coast, and occur mainly during October-December. On an average, the State encounters one or two cyclonic events during the Northeast monsoon period. Even during the non-cyclonic phase, the district receives sudden and very heavy spells of incessant rains during the formation of low pressure/deep depressions in the Bay of Bengal. The low pressure/deep depressions so formed cause flooding and inundation in the vulnerable areas. Of late extreme weather events are resulting in extremely heavy rains way beyond the carrying capacity of the river systems and the drainage system, disrupting normalcy. Some of the cyclonic storms are accompanied by gale winds gushing even beyond 140 Kmph, wreaking havoc on the public infrastructure including power infrastructure and causing loss of lives and damages to housing and agricultural properties.

3.3.2 FLOOD VULNERABILITY

Chengalpattu district is also subjected to annual flooding, including flash floods, floods due to cloudbursts, monsoon floods of single and multiple events, cyclonic floods,. Every year, number of people are affected, some succumbing to the floods, thousands are rendered temporarily homeless and several hectares of crops are damaged. Floods in the district are mainly caused during cyclones and heavy rains.

3.3.2.1 URBAN FLOOD ASSESSMENT

Risks emanating from recurring Urban floods and more pronounced in Chennai, Tuticorin, Cuddalore, Nagapattinam, Tambaram, Manali and other urban areas, will be analysed in depth through Unmanned Aerial Vehicle (UAV) based aerial photogrammetric and Light Detection and Ranging (LiDAR) based surveys on a river basin approach. The study will cover the river basins in their entirety traversing rural and urban areas to arrive at structural and non structural interventions in a holistic manner to prevent/mitigate urban floods.

The State has done Hazard Vulnerability Risk Assessment of the most frequently recurring hazard i.e. flooding. The Mapping of vulnerable areas at firka level (with respect to Rural) and ward level (with respect to urban) has been prepared with vulnerability analysis for floods based on legacy data in AutoCAD format. Converting them into digital formats and uploading them in the respective district websites is under progress. Based on legacy data 390 areas were identified in chengapattu district as ble areas and they are classified as below:

I. Areas of Very High Vulnerability:

- a. Where inundation of water is more than 5 feet, or
- b. Where rescue operations were carried out with the help of Central forces/
State Disaster Response Force(SDRF), or
- c. Which were cut-off and became inaccessible, or
- d. Where loss of lives was reported or large-scale evacuation was carried out.

II. Areas of High Vulnerability:

Where inundation of water was from 3 to 5 feet.

III. Areas of Moderate Vulnerability:

Where inundation of Water was from 2 to 3 feet.

IV. Areas of Low Vulnerability:

Where inundation of water was below 2 feet.

The list of Vulnerable areas and their locational details are furnished in Annexure.

3.3.2.2 ABSTRACT OF VULNERABLE AREAS FOR FLOOD IN THE DISTRICT

Name of the Department	Very High Vulnerable	High Vulnerable	Moderate Vulnerable	Low Vulnerable	Total
RURAL	36	65	86	31	218
TOWN PANCHAYATS	12	28	34	24	98
MUNICIPALITY	23	29	4	18	74
TOTAL	71	122	124	73	390

3.3.2.3 FIRKA WISE VULNERABLE AREAS IN CHENGALPATTU

SL. No	Name of the taluk	Name of the firka	Name of the panchayat / municipality / town panchayat	Level of Vulnerability	Vulnerable areas
1	Chengalpattu	Kattankolathur	Kattankolathur	VERY HIGH	Anna Nagar
2	Chengalpattu	Kattankolathur	Kattankolathur	Moderate	Ambedkar Nagar
3	Chengalpattu	Kattankolathur	Kattankolathur	HIGH	Vishnnu priya nagar
4	Chengalpattu	Appur	Kattankolathur	VERY HIGH	Dasarikunnathur

SL. No	Name of the taluk	Name of the firka	Name of the panchayat / municipality / town panchayat	Level of Vulnerability	Vulnerable areas
5	Chengalpattu	Palur	Kattankolathur	VERY HIGH	Vadagal
6	Chengalpattu	Palur	Kattankolathur	HIGH	Venkatapuram
7	Chengalpattu	Palur	Kattankolathur	HIGH	Senthamangalam
8	Chengalpattu	Palur	Kattankolathur	HIGH	Palur B
9	Chengalpattu	Palur	Kattankolathur	Moderate	Gokulam Colony
10	Chengalpattu	Palur	Kattankolathur	Moderate	Kanthalur
11	Chengalpattu	Chengalpattu	Kattankolathur	VERY HIGH	Ammanambakkam
12	Chengalpattu	Chengalpattu	Kattankolathur	HIGH	Vinjiyabakkam
13	Chengalpattu	Chengalpattu	Kattankolathur	HIGH	Mahalakshmi Nagar
14	Chengalpattu	Chengalpattu	Kattankolathur	HIGH	Patravakkam
15	Chengalpattu	Chengalpattu	Chengalpattu	Very High	Jck Nagar
16	Chengalpattu	Chengalpattu	Chengalpattu	Very High	Kalathumedu
17	Chengalpattu	Chengalpattu	Chengalpattu	Very High	Barathi Nagar
18	Chengalpattu	Chengalpattu	Chengalpattu	High	Pudhu Eri, Anna Nagar
19	Chengalpattu	Chengalpattu	Chengalpattu	High	Municipal Colony
20	Chengalpattu	Chengalpattu	Chengalpattu	High	Anumanthaputheri
21	Chengalpattu	Chengalpattu	Chengalpattu	High	Gokulapuram
22	Chengalpattu	Chengalpattu	Chengalpattu	High	Vedhachala Nagar
23	Chengalpattu	Chengalpattu	Chengalpattu	High	Gandiban Streer
24	Chengalpattu	Chengalpattu	Chengalpattu	Moderate	Thimmarajakulam

SL. No	Name of the taluk	Name of the firka	Name of the panchayat / municipality / town panchayat	Level of Vulnerability	Vulnerable areas
25	Chengalpattu	Chengalpattu	Chengalpattu	Moderate	TKM Road
26	Chengalpattu	Chengalpattu	Chengalpattu	Low	Ambedkar Nagar
27	Chengalpattu	Chengalpattu	Chengalpattu	Low	Pachiamman Koil Street
28	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	Vallancheri
29	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	Sivaji Nagar
30	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	Senthil Nagar
31	Chengalpattu	Kattankolathur	Maraimalai Nagar	Moderate	Vallal MGR Street
32	Chengalpattu	Kattankolathur	Maraimalai Nagar	Moderate	Kumarakurubarar Street
33	Chengalpattu	Kattankolathur	Maraimalai Nagar	Moderate	Maraimalai Adigalar Salai
34	Chengalpattu	Kattankolathur	Maraimalai Nagar	Moderate	Ambedkar Street
35	Chengalpattu	Kattankolathur	Maraimalai Nagar	Moderate	Nakeerar Street
36	Chengalpattu	Kattankolathur	Maraimalai Nagar	Low	Elavalaganar Street
37	Chengalpattu	Kattankolathur	Maraimalai Nagar	Low	Kannadasan Street
38	Chengalpattu	Kattankolathur	Maraimalai Nagar	Low	Sangamithirai Street
39	Chengalpattu	Kattankolathur	Maraimalai Nagar	Low	Kambar Street
40	Chengalpattu	Kattankolathur	Maraimalai Nagar	Low	Valiammai Street
41	Chengalpattu	Kattankolathur	Maraimalai Nagar	Low	Kavimani Street
42	Chengalpattu	Kattankolathur	Maraimalai Nagar	Low	Avvaiyar Street

SL. No	Name of the taluk	Name of the firka	Name of the panchayat / municipality / town panchayat	Level of Vulnerability	Vulnerable areas
43	Chengalpattu	Kattankolathur	Maraimalai Nagar	Low	Ambikabathi Street
44	Chengalpattu	Kattankolathur	Maraimalai Nagar	Low	Thirikudarasapar Street
45	Chengalpattu	Kattankolathur	Maraimalai Nagar	Moderate	Shankar Nagar
46	Chengalpattu	Kattankolathur	Maraimalai Nagar	Moderate	Srivari Nagar
47	Chengalpattu	Kattankolathur	Maraimalai Nagar	Moderate	Alamelumangapuram
48	Chengalpattu	Kattankolathur	Maraimalai Nagar	Moderate	Narasingapuram
49	Chengalpattu	Kattankolathur	Maraimalai Nagar	Moderate	Sengundram
50	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	Keezhakaranai
51	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	MTC Nagar
52	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	Peramanur
53	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	Vivekanandar Nagar
54	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	Kattankulathur
55	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	West Potheri
56	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	Thailavaram
57	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	Samundeeswari Nagar
58	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	Aadhiparasakthi Nagar
59	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	Kamrajar Street
60	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	Annai Teresa Street

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61	Chengalpattu	Kattankolathur	Maraimalai Nagar	High	MGR Street
62	Thiruporur	Kelambakkam	Thiruporur	Very High	Nemeli
63	Thiruporur	Kelambakkam	Thiruporur	Very High	pattipulam
64	Thiruporur	Kelambakkam	Thiruporur	Very High	Salavankuppam
65	Thiruporur	Kelambakkam	Thiruporur	Very High	Edayankuppak
66	Thiruporur	Kelambakkam	Thiruporur	Very High	Kelambakkam
67	Thiruporur	Kelambakkam	Thiruporur	Very High	Sathankuppam
68	Thiruporur	Kelambakkam	Thiruporur	Low	Kovalam
69	Thiruporur	Kelambakkam	Thiruporur	Very High	Egattur
70	Thiruporur	Kelambakkam	Thiruporur	Very High	Muttukadu
71	Thiruporur	Kelambakkam	Thiruporur	Very High	Kazhipattur
72	Thiruporur	Thiruporur	Thiruporur	Moderate	Illalour
73	Thiruporur	Thiruporur	Thiruporur	Moderate	Alathur
74	Thiruporur	Thiruporur	Thiruporur	Moderate	Vengaleri
75	Thiruporur	Thiruporur	Thiruporur	Moderate	Karunguzhipallam
76	Thiruporur	Thiruporur	Thiruporur	Moderate	Thandalam
77	Thiruporur	Thiruporur	Thiruporur	Moderate	Siruthavour
78	Thiruporur	Karumpakkam	Thiruporur	High	Mullipakkam
79	Thiruporur	Karumpakkam	Thiruporur	High	Rayamangalam
80	Thiruporur	Nellikuppam	Thiruporur	Moderate	Kottamedu
81	Thiruporur	Nellikuppam	Thiruporur	Low	Hanumanthapuram
82	Thiruporur	Nellikuppam	Thiruporur	High	Nellikuppam

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83	Thiruporur	Nellikuppam	Thiruporur	Moderate	Irular Colony
84	Thiruporur	Paiyanoor	Thiruporur	Very High	Paiyanour
85	Thiruporur	Paiyanoor	Thiruporur	Low	Arunkundram
86	Thiruporur	Manamathy	Thiruporur	High	Panchanthirthi
87	Thiruporur	Manamathy	Thiruporur	Moderate	Agaram
88	Thirukkalukundram	Thirukkalukundram	Thirukkalukundram	High	Kilapakkam
89	Thirukkalukundram	Thirukkalukundram	Thirukkalukundram	High	Kilapakkam Colony
90	Thirukkalukundram	Thirukkalukundram	Thirukkalukundram	High	Pandur
91	Thirukkalukundram	Thirukkalukundram	Thirukkalukundram	High	Irular Colony
92	Thirukkalukundram	Thirukkalukundram	Thirukkalukundram	High	Pakkam
93	Thirukkalukundram	Thirukkalukundram	Thirukkalukundram	High	Pakkam Colony
94	Thirukkalukundram	Thirukkalukundram	Thirukkalukundram	High	Echankaranai
95	Thirukkalukundram	Mamallapuram	Thirukkalukundram	High	(Kokilamedu) Mamallapuram, Kokilamedu Kuppam & Colony
96	Thirukkalukundram	Mamallapuram	Thirukkalukundram	High	(Perumal Eri) Vadkadambadi Perumal Eri Irular Colony, Erikarai
97	Thirukkalukundram	Mamallapuram	Thirukkalukundram	High	(Melakuppam) Kadambadi, Melakuppam
98	Thirukkalukundram	Nerumbur	Thirukkalukundram	High	Sadras

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99	Thirukkalukundram	Nerumbur	Thirukkalukundram	High	(Sadras) Meyyur
100	Thirukkalukundram	Nerumbur	Thirukkalukundram	High	Pudupattinam
101	Thirukkalukundram	Nerumbur	Thirukkalukundram	High	Vayalur
102	Thirukkalukundram	Nerumbur	Thirukkalukundram	High	Lathur
103	Thirukkalukundram	Nerumbur	Thirukkalukundram	High	Vittilapuram
104	Thirukkalukundram	Nerumbur	Thirukkalukundram	High	Naduvakarai
105	Thirukkalukundram	Nerumbur	Thirukkalukundram	High	Salur
106	Thirukkalukundram	Nerumbur	Thirukkalukundram	High	Ponpathirkudam
107	Thirukkalukundram	P.V.kalathur	Thirukkalukundram	High	Othivakkam
108	Thirukkalukundram	P.V.kalathur	Thirukkalukundram	High	Punnappattu
109	Thirukkalukundram	P.V.kalathur	Thirukkalukundram	High	Pudupakkam
110	Thirukkalukundram	P.V.kalathur	Thirukkalukundram	High	Manapakkam
111	Thirukkalukundram	P.V.kalathur	Thirukkalukundram	High	Anoor
112	Thirukkalukundram	P.V.kalathur	Thirukkalukundram	High	Elumichampattu
113	Thirukkalukundram	P.V.kalathur	Thirukkalukundram	High	Korapattu
114	Thirukazhukundram	Thirukazhukundram	Thirukazhukundram	Low	Irular Colony
115	Thirukazhukundram	Mamalapuram	Mamallapuram	High	Kovalam Road,
116	Thirukazhukundram	Mamalapuram	Mamallapuram	High	Solid Waste Management go to way
117	Thirukazhukundram	Mamalapuram	Mamallapuram	Moderate	Devenary Venburusham Fisherman area

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118	Thirukkazhukundram	Mamalapuram	Mamallapuram	Moderate	Mamallapuram Tsunami Nagar
119	Thirukkazhukundram	Mamalapuram	Mamallapuram	Moderate	Venpurushan Tsunami Nagar
120	Thirukkazhukundram	Mamalapuram	Mamallapuram	Low	Annal Ambethkar Street
121	Thirukkazhukundram	Mamalapuram	Mamallapuram	Low	Annal Gandhi Street
122	Thirukkazhukundram	Mamalapuram	Mamallapuram	Low	Matha Koil Street,
123	Thirukkazhukundram	Mamalapuram	Mamallapuram	Low	Rajiv Gandhi Street
124	Thirukkazhukundram	Mamalapuram	Mamallapuram	Low	Vethachalam Street
125	Vandalur	Vandalur	Kattankolathur	Moderate	Mannivakkam Pudhu Nagar
126	Vandalur	Vandalur	Kattankolathur	VERY HIGH	Rajiv Gandhi Nagar
127	Vandalur	Vandalur	Kattankolathur	HIGH	Priya Nagar
128	Vandalur	Vandalur	Kattankolathur	Moderate	MG.Nagar,
129	Vandalur	Vandalur	Kattankolathur	Moderate	Jagadesh Nagar
130	Vandalur	Vandalur	Kattankolathur	HIGH	Arul Nagar
131	Vandalur	Vandalur	Kattankolathur	VERY HIGH	Sadhananthapura m
132	Vandalur	Vandalur	Kattankolathur	VERY HIGH	Varaprashanth Nagar

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133	Vandalur	Vandalur	Kattankolathur	Moderate	M.G.R. Nagar,,
134	Vandalur	Vandalur	Kattankolathur	Moderate	Mettu Street
135	Vandalur	Vandalur	Kattankolathur	Moderate	Subash Chandra bose Street,
136	Vandalur	Mambakkam	Thazambur	High	DLF
137	Vandalur	Guduvancherry	Nandhivaram Guduvanchery	High	N.P.R. Nagar GST Salai, Tharmapillai Thottam
138	Vandalur	Guduvancherry	Nandhivaram Guduvanchery	High	Magalakshmi nagar, Amutham Colony, Udhaya Suriyan Nagar
139	Vandalur	Guduvancherry	Nandhivaram Guduvanchery	High	Govindarajapuram Periyar Nagar
140	Vandalur	Guduvancherry	Nandhivaram Guduvanchery	High	Meenatchu nagar, Jesubatham nagar, Aankarai Street
141	Vandalur	Guduvancherry	Nandhivaram Guduvanchery	High	Sterling adukkam Balaji Avenue
142	Vandalur	Guduvancherry	Nandhivaram Guduvanchery	High	Arul Nagar, Kamatchi nagar, Sirpi Nagar
143	Vandalur	Guduvancherry	Nandhivaram Guduvanchery	High	Ragavendra Colony, Priya Nagar, Ganapathi nagar

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144	Vandalur	Mambakkam	Thiruporur	High	Pudhupakkam
145	Vandalur	Mambakkam	Thiruporur	Low	Siruseri
146	Vandalur	Mambakkam	Thiruporur	High	Market Road
147	Vandalur	Mambakkam	Thiruporur	High	Chinnamanagar
148	Vandalur	Mambakkam	Thiruporur	High	Senganmal
149	Tambaram	Tambaram	Kovilambakkam	Very High	Engineer Avenue,
150	Tambaram	Tambaram	Kovilambakkam	Very High	LIC Nagar,
151	Tambaram	Tambaram	Kovilambakkam	Very High	Rajeshwari Nagar,
152	Tambaram	Tambaram	Kovilambakkam	Very High	Unmai Nagar,
153	Tambaram	Tambaram	Kovilambakkam	Very High	Keethapuram,
154	Tambaram	Tambaram	Kovilambakkam	Very High	Bakiyalakshmi Nagar
155	Tambaram	Tambaram	Mudichur	Very High	Amutham Nagar
156	Tambaram	Tambaram	Mudichur	Very High	Lakshmi Nagar
157	Tambaram	Tambaram	Mudichur	Very High	Ambedkar Nagar
158	Tambaram	Medavakkam	Medavakkam	Moderate	Surya Nagar,
159	Tambaram	Medavakkam	Medavakkam	Moderate	Jaya Nagar
160	Tambaram	Madambakkam	Agaramthen	Moderate	Annai Sathya Nagar
161	Tambaram	Madambakkam	Agaramthen	Moderate	Kasphapuram
162	Tambaram	Madambakkam	Madurapakkam	Moderate	Kalainar Nagar
163	Tambaram	Pallikaranai	Nanmagalam	Very High	Veeramani Nagar
164	Tambaram	Medavakkam	Ottiyampakkam	Very High	Arasankalani,

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165	Tambaram	Medavakkam	Ottiyampakkam	Very High	Vedanthangal Nagar
166	Tambaram	Medavakkam	Perumbakkam	High	Kailash Nagar,
167	Tambaram	Medavakkam	Perumbakkam	High	Andal nagar
168	Tambaram	Medavakkam	Perumbakkam	High	Srikrishna Nagar
169	Tambaram	Medavakkam	Perumbakkam	Moderate	Neathagi Nagar,
170	Tambaram	Medavakkam	Perumbakkam	Moderate	Slum board
171	Tambaram	Medavakkam	Perumbakkam	Moderate	Bolini Hills Side
172	Tambaram	Medavakkam	Perumbakkam	Moderate	Kanni Koil, M.G.R. Nagar
173	Tambaram	chitlapakkam	Thiruvanchery	Very High	Agaramthen Main Road,
174	Tambaram	chitlapakkam	Thiruvanchery	Very High	Sathiyamoorthi Nagar
175	Tambaram	Medavakkam	Vengaivasal	Very High	Periyar Nagar
176	Tambaram	Medavakkam	Vengaivasal	Low	Visalatchi Nagar, Rangarajapuram
177	Tambaram	Medavakkam	Vengaivasal	Low	Bharathi nagar, Bajanai Kovil Street
178	Tambaram	Tambaram	Tambaram	Very High	Krishnan Nagar
179	Tambaram	Tambaram	Tambaram	High	CTO colony
180	Tambaram	Tambaram	Tambaram	High	TTK Nagar
181	Tambaram	Chitlapakkam	Tambaram	Low	Ranganathapuram

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182	Tambaram	Chitlapakkam	Tambaram	Low	Manimegalai street Extension
183	Tambaram	Chitlapakkam	Tambaram	Low	Kannappar street
184	Tambaram	Tambaram	Tambaram	Low	Ricky Garden
185	Tambaram	Tambaram	Tambaram	Low	Maruthi Nagar
186	Tambaram	Tambaram	Tambaram	Low	Arul Nagar
187	Tambaram	Tambaram	Tambaram	Low	Gayathiri Nagar
188	Tambaram	Tambaram	Tambaram	Low	Vinoba Nagar
189	Tambaram	Tambaram	Tambaram	Low	Adhi Nagar
190	Tambaram	Chitlapakkam	Sembakkam	Moderate	Thirumalai Nagar
191	Tambaram	Chitlapakkam	Sembakkam	Moderate	Thangal
192	Tambaram	Chitlapakkam	Sembakkam	Moderate	Santhi Nagar
193	Tambaram	Chitlapakkam	Sembakkam	Moderate	Sivagami Nagar
194	Tambaram	Chitlapakkam	Sembakkam	Moderate	Tellus Avenue
195	Tambaram	Chitlapakkam	Sembakkam	Moderate	Raja Rajeswari Nagar
196	Tambaram	Chitlapakkam	Sembakkam	Moderate	Bharathidasan Nagar
197	Tambaram	Chitlapakkam	Sembakkam	Moderate	Anna Street
198	Tambaram	Chitlapakkam	Sembakkam	Moderate	Vallal Yusuf Nagar
199	Tambaram	Chitlapakkam	Sembakkam	Moderate	Venugopal samy nagar Extn.,
200	Tambaram	Chitlapakkam	Chitlapakkam	Low	Judge Colony

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201	Tambaram	Chitlapakkam	Chitlapakkam	Very High	Balaji
202	Tambaram	Chitlapakkam	Chitlapakkam	Very High	Abdulkalam Street
203	Tambaram	Chitlapakkam	Chitlapakkam	Very High	Mayur Avenue
204	Tambaram	Chitlapakkam	Chitlapakkam	High	Duraisamy Nagar
205	Tambaram	Chitlapakkam	Chitlapakkam	High	Jothi Nagar 1st Street
206	Tambaram	Chitlapakkam	Chitlapakkam	High	Jothi Nagar 2nd Street
207	Tambaram	Chitlapakkam	Chitlapakkam	Very High	Tagore Street
208	Tambaram	Chitlapakkam	Chitlapakkam	Very High	Lakshmi Nagar 2nd Main Road
209	Tambaram	Chitlapakkam	Chitlapakkam	Very High	Veeraragavan Street
210	Tambaram	Chitlapakkam	Chitlapakkam	Very High	Veeraragavan Cross Street
211	Tambaram	Chitlapakkam	Chitlapakkam	Very High	Martin Loother Street
212	Tambaram	Chitlapakkam	Chitlapakkam	Very High	Jawhar Street
213	Tambaram	Chitlapakkam	Chitlapakkam	Very High	Babu Street
214	Tambaram	Chitlapakkam	Chitlapakkam	Very High	Sembakkam Main Road
215	Tambaram	Chitlapakkam	Chitlapakkam	High	Shanthi Avenue
216	Tambaram	Chitlapakkam	Chitlapakkam	High	Ramachandra Street

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217	Tambaram	Chitlapakkam	Chitlapakkam	High	Venkatraman Street
218	Tambaram	Chitlapakkam	Chitlapakkam	High	Gomathi Nagar
219	Tambaram	Chitlapakkam	Chitlapakkam	High	Maraimalai Adigal
220	Tambaram	Chitlapakkam	Chitlapakkam	High	Vaithiyalingam Street
221	Tambaram	Chitlapakkam	Chitlapakkam	High	Abrahaganlingam Street
222	Tambaram	Chitlapakkam	Chitlapakkam	High	Sethunarayana Street
223	Tambaram	Chitlapakkam	Chitlapakkam	High	Ramakrishnapuram
224	Tambaram	Chitlapakkam	Chitlapakkam	High	Avviyar Street
225	Tambaram	Madambakkam	Madambakkam	Low	Kamarajar Nagar 1st & 2nd Street
226	Tambaram	Madambakkam	Madambakkam	Low	Sriradi Sai Nagar 1st, 2nd & 3rd Street
227	Tambaram	Tambaram	Perungalathur	Very High	Mahakavi Bharathi Nagar
228	Tambaram	Tambaram	Perungalathur	Very High	Sakthi Nagar
229	Tambaram	Tambaram	Perungalathur	Very High	Varun Avenue
230	Tambaram	Tambaram	Perungalathur	Very High	Bharathi nagar, Kanniamman Koil Street

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231	Tambaram	Tambaram	Perungalathur	Very High	Nethaji Nagar, Parameswaran Nagar, Sriram Nagar
232	Tambaram	Tambaram	Perungalathur	Very High	Meenakshi & Kannan Avenue, Veeralakshmi Nagar, Moovendar Nagar, Bharathi Nagar, Sasivaradan Nagar, Goodwill Nagar, Karumariamman Nagar, Annai Anjugam & Samathuva periyar Nagar
233	Tambaram	Tambaram	Perungalathur	High	Thangaraj Nagar
234	Tambaram	Tambaram	Perungalathur	High	Bharathi Avenue
235	Tambaram	Tambaram	Perungalathur	High	Annai Therasa Street & Devid Nagar
236	Tambaram	Tambaram	Peerankaranai	Very High	KK Nagar, Immanuvel Street & Sriram Nagar
237	Tambaram	Tambaram	Peerankaranai	Very High	Devenesan nagar

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238	Tambaram	Tambaram	Peerkankaranai	Very High	MGR Cross Street, Anna Street, Rajiv Gandhi Street
239	Tambaram	Tambaram	Peerkankaranai	Very High	Uma Nagar
240	Tambaram	Tambaram	Peerkankaranai	Very High	A.S.Rajan Nagar, Sakthi Nagar, Mullai Nagar
241	Tambaram	Tambaram	Peerkankaranai	High	Vijayalakshmi Street
242	Tambaram	Tambaram	Peerkankaranai	High	Swami vivekanandar Street, Archana Nagar
243	Pallavaram	Pallavaram	Thirusulam	High	Harbour Nagar,
244	Pallavaram	Pallavaram	Thirusulam	High	Amman Nagar
245	Pallavaram	Pallavaram	Moovarsampattu	Moderate	Venkateshwara Nagar,
246	Pallavaram	Pallavaram	Moovarsampattu	Moderate	Gokul Nagar
247	Pallavaram	Pallavaram	Moovarsampattu	Moderate	Ragava Nagar Ext
248	Pallavaram	Pallavaram	St.Thomas Mount	low	Bharathi Nagar, Bajanai Koil street
249	Pallavaram	Pallavaram	Pallavaram	Moderate	Nethaji Nagar
250	Pallavaram	Pallavaram	Pallavaram	Moderate	Perumal Nagar
251	Pallavaram	Pallavaram	Pallavaram	Moderate	Bhavani Nagar

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252	Pallavaram	Pallavaram	Pallavaram	Moderate	GST Road (Kamarajar Nagar)
253	Pallavaram	Pallavaram	Pallavaram	low	Thirumalai Nagar
254	Pallavaram	Pallavaram	Cowllbazar	Very High	Kalainar Nagar,
255	Pallavaram	Pallavaram	Cowllbazar	Very High	Dilli babu Street,
256	Pallavaram	Pallavaram	Cowllbazar	Very High	Anna nagar
257	Pallavaram	Pammal	Anakaputhur	Very High	Shanthi Nagar
258	Pallavaram	Pammal	Anakaputhur	Very High	Thiru Nagar
259	Pallavaram	Pammal	Anakaputhur	Very High	Thai Moogambigai Nagar
260	Pallavaram	Pammal	Anakaputhur	Very High	Stalin Nagar
261	Pallavaram	Pammal	Anakaputhur	Very High	Quaide Milleth Nagar
262	Pallavaram	Pammal	Anakaputhur	Very High	Quaide Milleth Nagar
263	Pallavaram	Pammal	Anakaputhur	High	Pari Nagar
264	Pallavaram	Pammal	Anakaputhur	Moderate	Sanjay Gandhi Nagar
265	Pallavaram	Pammal	Anakaputhur	Low	Gurusamy Nagar
266	Pallavaram	Pammal	Anakaputhur	Low	Amaresan Nagar
267	Pallavaram	Pammal	Pammal	Moderate	Fathima Nagar
268	Pallavaram	Pammal	Pammal	Moderate	Shankar Nagar (Part)

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269	Pallavaram	Pammal	Pammal	Moderate	Thiruvalluvar Nagar
270	Pallavaram	Pammal	Pammal	High	Anna Nagar
271	Pallavaram	Pammal	Pammal	High	SBI Colony
272	Pallavaram	Pammal	Pammal	High	Lakshmi Narayanan Nagar
273	Pallavaram	Pammal	Pammal	High	Moongil Eri
274	Pallavaram	Pammal	Pammal	Moderate	Prasanthi Nagar
275	Pallavaram	Pammal	Thiruneermalai	Very High	Jain Household, Kasi Garden, Ranga nagar, Subaraya Nagar, Temple Town
276	Pallavaram	Pammal	Thiruneermalai	High	Saraswathi Puram, Parvathipuram, Sripuram, Kumaraswamy Street
277	Pallavaram	Pammal	Thiruneermalai	High	Mallima Street, Anna Street, Selva Vinayagar Koil Street, Kulakari Street, Bajanai Koil Street

SL. No	Name of the taluk	Name of the firka	Name of the panchayat / municipality / town panchayat	Level of Vulnerability	Vulnerable areas
278	Pallavaram	Pammal	Thiruneermalai	Moderate	Ganga Street, Rajiv Gandhi Street, Kulakarai
279	Pallavaram	Pammal	Thiruneermalai	Low	durga Nagar
280	Pallavaram	Pammal	Polichalur	High	Andal Nagar,
281	Pallavaram	Pammal	Polichalur	High	Moovar Nagar
282	Madurantagam	orathi	Acharapakkam	Low	Kalathur
283	Madurantagam	orathi	Acharapakkam	Low	Vadamanipakkam
284	Madurantagam	orathi	Acharapakkam	High	Veliampakkam
285	Madurantagam	orathi	Acharapakkam	Low	Sirudamur
286	Madurantagam	Acharapakkam	Acharapakkam	Moderate	Seetapuram
287	Madurantagam	Acharapakkam	Acharapakkam	Moderate	Elapakkam (R.C. Nagar)
288	Madurantagam	Acharapakkam	Acharapakkam	Moderate	Pallipettai
289	Madurantagam	Acharapakkam	Acharapakkam	Moderate	Minnalkilminal
290	Madurantagam	L.Endathur	Acharapakkam	Moderate	L.Endathur
291	Madurantagam	L.Endathur	Acharapakkam	Moderate	Pappanallur Colony,
292	Madurantagam	L.Endathur	Acharapakkam	Moderate	Irular Colony
293	Madurantagam	L.Endathur	Acharapakkam	Low	Tandarai
294	Madurantagam	L.Endathur	Acharapakkam	Moderate	Puducherry
295	Madurantagam	Perumbakkam	Acharapakkam	Low	Orathur,

SL. No	Name of the taluk	Name of the firka	Name of the panchayat / municipality / town panchayat	Level of Vulnerability	Vulnerable areas
296	Madurantagam	Perumbakkam	Acharapakkam	Low	Orathur Vadaku Colony
297	Madurantagam	Perumbakkam	Acharapakkam	Low	Keezhamur
298	Madurantagam	Perumbakkam	Acharapakkam	Low	Kudapakkam Colony
299	Madurantagam	Perumbakkam	Acharapakkam	Low	Thandalam Colony
300	Madurantagam	Perumbakkam	Acharapakkam	High	Seniyarmedu (Irrular Area)
301	Madurantagam	Perumbakkam	Acharapakkam	Moderate	Unamalai (Pallithangal)
302	Madurantagam	Perumbakkam	Acharapakkam	Moderate	Nemam (Athivakkam)
303	Madurantagam	Perumbakkam	Acharapakkam	Low	Vaippanai
304	Madurantagam	L.Endathur	Acharapakkam	Moderate	Kozhiyalam Pampayampattu
305	Madurantagam	L.Endathur	Acharapakkam	Low	Sempundi
306	Madurantagam	L.Endathur	Acharapakkam	Moderate	Sempundi Colony
307	Madurantagam	L.Endathur	Acharapakkam	Low	Chithatur,
308	Madurantagam	L.Endathur	Acharapakkam	Low	Vinayaganallur
309	Madurantagam	L.Endathur	Acharapakkam	Low	Thettalam
310	Madurantagam	Acharapakkam	Acharapakkam	Low	Venkatesapuram, Rawthunallur Mettu Colony
311	Madurantagam	Acharapakkam	Acharapakkam	Low	Ambedkar nagar

SL. No	Name of the taluk	Name of the firka	Name of the panchayat / municipality / town panchayat	Level of Vulnerability	Vulnerable areas
312	Madurantagam	Jamin endathur	Madurantakam	Moderate	Sirunallur
313	Madurantagam	Jamin endathur	Madurantakam	Moderate	Keelakandai (Atthivakkam - Rajiv Gandhi Street)
314	Madurantagam	Jamin endathur	Madurantakam	Moderate	Keelakandai (Irular Kudiyuruppu)
315	Madurantagam	Jamin endathur	Madurantakam	Moderate	Melakandai (Muthalamman Street)
316	Madurantagam	Jamin endathur	Madurantakam	Moderate	Keelakancai (Dharmapuram Colony)
317	Madurantagam	Jamin endathur	Madurantakam	Very High	Zamin Endathur (Maruvalam)
318	Madurantagam	Jamin endathur	Madurantakam	Moderate	Zamin Endathur (Ozhavetti Colony)
319	Madurantagam	Jamin endathur	Madurantakam	Moderate	Nathapakkam Colony
320	Madurantagam	Jamin endathur	Madurantakam	Moderate	Avurimedu Colony
321	Madurantagam	Jamin endathur	Madurantakam	Moderate	Chitharavadi Colony
322	Madurantagam	Jamin endathur	Madurantakam	High	Peruveli
323	Madurantagam	Jamin endathur	Madurantakam	High	Murukkampakkam (Ambetkar Street)

SL. No	Name of the taluk	Name of the firka	Name of the panchayat / municipality / town panchayat	Level of Vulnerability	Vulnerable areas
324	Madurantagam	Onambakkam	Madurantakam	Low	Periyavenmani
325	Madurantagam	Onambakkam	Madurantakam	Low	Chithamur
326	Madurantagam	Onambakkam	Madurantakam	Low	Zamin Budur
327	Madurantagam	Onambakkam	Madurantakam	Low	Keelvasalai
328	Madurantagam	Onambakkam	Madurantakam	High	Nallur
329	Madurantagam	Onambakkam	Madurantakam	High	Samathuvaburam
330	Madurantagam	Onambakkam	Madurantakam	High	Kolampakkam
331	Madurantagam	Onambakkam	Madurantakam	High	Kolampakkam
332	Madurantagam	Onambakkam	Madurantakam	Low	Padalam Pazhaya Colony
333	Madurantagam	Vaiyavoor	Madurantakam	Low	Pulipurakoil
334	Madurantagam	Vaiyavoor	Madurantakam	Moderate	Athiyur Colony
335	Madurantagam	Vaiyavoor	Madurantakam	Moderate	Meyyur Indira Nagar
336	Madurantagam	Vaiyavoor	Madurantakam	Moderate	Kamarajar Nagar
337	Madurantagam	Madurantagam	Madurantakam	Moderate	Vadapthy Anna Nagar
338	Madurantagam	Madurantagam	Madurantakam	Moderate	Mariputhur (Kamsalapuram)
339	Madurantagam	Madurantagam	Madurantakam	Moderate	Vilagam Therkutheru
340	Madurantagam	Madurantagam	Madurantakam	Moderate	Malai Colony
341	Madurantagam	Maduranthakam	Maduranthakam	Very High	Gandhi Nagar Housing Board

SL. No	Name of the taluk	Name of the firka	Name of the panchayat / municipality / town panchayat	Level of Vulnerability	Vulnerable areas
342	Madurantagam	Maduranthakam	Maduranthakam	Very High	Eri Sai Ram Nagar
343	Madurantagam	Karunkuzhi	Madurantakam	High	Mulli
344	Madurantagam	Karunkuzhi	Madurantakam	High	Valarpirai
345	Madurantagam	Karunkuzhi	Madurantakam	Moderate	Kunnathur Colony
346	Madurantagam	Karunkuzhi	Madurantakam	Moderate	Thachur Village
347	Madurantagam	Karunkuzhi	Madurantakam	Moderate	Kilavalam Village
348	Madurantagam	Karunkuzhi	Madurantakam	Moderate	(Budur) Sakayanagar
349	Madurantagam	Karunkuzhi	Madurantakam	Moderate	Thottanaval
350	Madurantagam	Karunkuzhi	Madurantakam	Moderate	Irusamanallur
351	Madurantagam	Karunkuzhi	Madurantakam	Moderate	KK Budur
352	Madurantagam	Karunkuzhi	Madurantakam	Moderate	Kallapiranpuram Village
353	Madurantagam	Karunkuzhi	Madurantakam	Moderate	Atthimanam Colony
354	Madurantagam	Perumbakkam	Madurantakam	Moderate	Thandalam
355	Madurantagam	Perumbakkam	Madurantakam	Moderate	Mazhuvankollai
356	Madurantagam	Perumbakkam	Madurantakam	Moderate	Chettimedu
357	Madurantagam	Perumbakkam	Madurantakam	Moderate	Irular Area
358	Madurantagam	Karunkuzhi	Karunkuzhi	Low	Anna Nagar
359	Madurantagam	Karunkuzhi	Karunkuzhi	Low	Melavalam Colony
360	Madurantagam	Karunkuzhi	Karunkuzhi	Low	Keelanda Colony

SL. No	Name of the taluk	Name of the firka	Name of the panchayat / municipality / town panchayat	Level of Vulnerability	Vulnerable areas
361	Madurantagam	Karunkuzhi	Karunkuzhi	Low	Old Battai Street
362	Cheyyur	kadpakkam	Cheyyur	Moderate	Vedal Colony
363	Cheyyur	kadpakkam	Cheyyur	Moderate	Irular Area
364	Cheyyur	Kadappakkam	Edaikazhinadu	Low	Nainar Kuppam, Kalamman koil Street
365	Cheyyur	Kadappakkam	Edaikazhinadu	Low	Othiyur Main Road and Cross Street
366	Cheyyur	Chithamur	Cheyyur	Moderate	(Sothupakkam) Poonganagar
367	Cheyyur	Chithamur	Cheyyur	Moderate	Keelmaruvathur
368	Cheyyur	Chithamur	Cheyyur	Moderate	Periyakalakadi
369	Cheyyur	Chithamur	Cheyyur	Moderate	Chithamur Kannimangalam Colony
370	Cheyyur	Chithamur	Cheyyur	Moderate	Perukaranai
371	Cheyyur	Kayapakkam	Cheyyur	Moderate	Indalur Kottaipunjai
372	Cheyyur	Kayapakkam	Cheyyur	Low	Indalur Colony
373	Cheyyur	Kayapakkam	Cheyyur	Low	Sirumailur Venmanagaram Colony

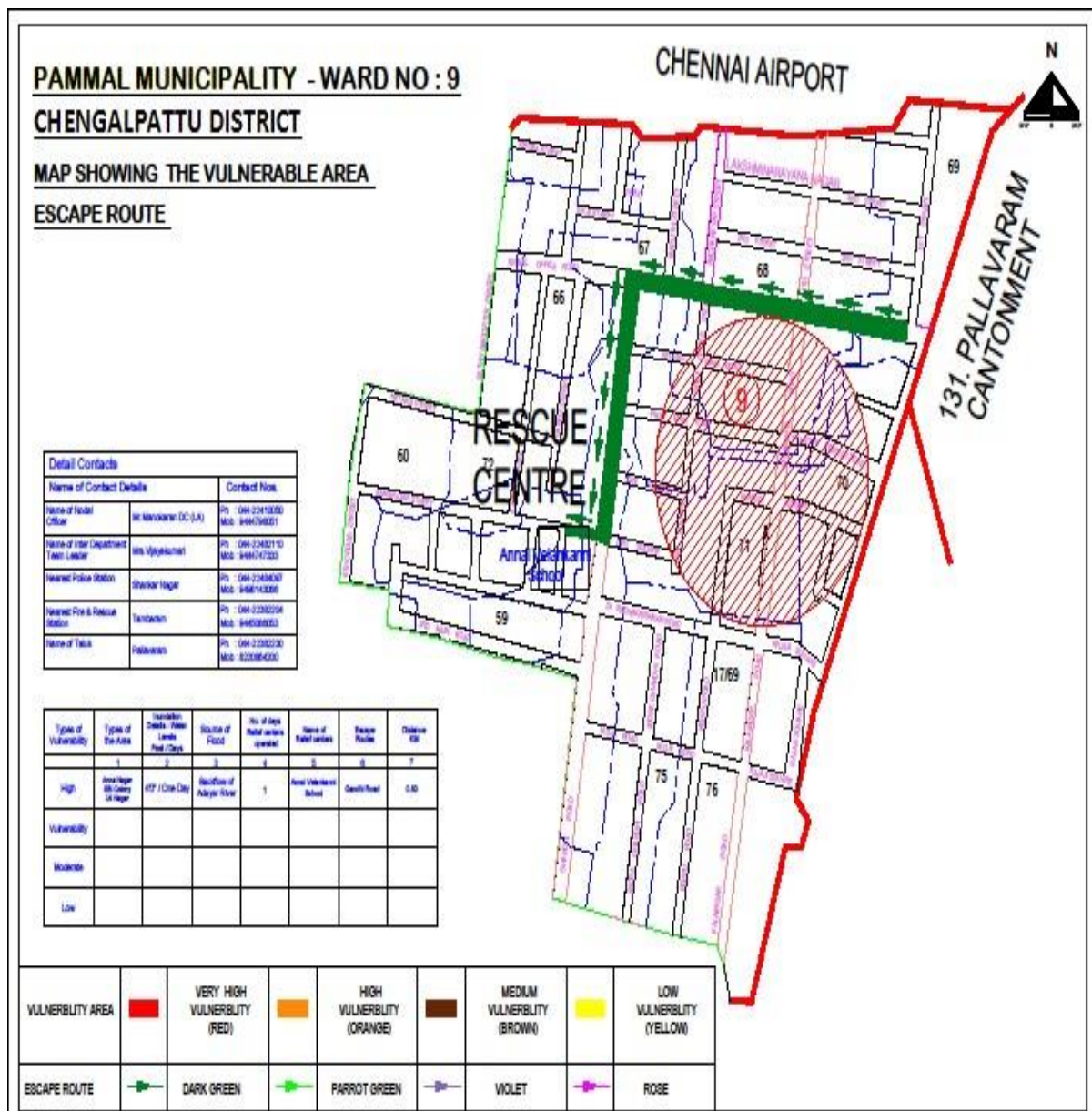
SL. No	Name of the taluk	Name of the firka	Name of the panchayat / municipality / town panchayat	Level of Vulnerability	Vulnerable areas
374	Cheyyur	Sunambedu	Cheyyur	High	(Chunambedu) Pudhukudi, Pudupattu, Pudupattu Colony, Vellakondagaram, Pudupettai
375	Cheyyur	Sunambedu	Cheyyur	Moderate	Chinnakalakadi
376	Cheyyur	Sunambedu	Cheyyur	High	Vanniyallur Vilampattu
377	Cheyyur	Sunambedu	Cheyyur	Moderate	Amanthakaranai Arcot
378	Cheyyur	Sunambedu	Maduranthakam	Moderate	Gandhi Nagar,
379	Cheyyur	Sunambedu	Maduranthakam	Moderate	Sathnaoor,
380	Cheyyur	Sunambedu	Maduranthakam	Moderate	Mambakkam
381	Cheyyur	Sunambedu	Maduranthakam	Low	Power Station Road, Chinna Colony, Kattu Colony
382	Cheyyur	Kodur	Cheyyur	Moderate	(Kadalur) Sathirampettai
383	Cheyyur	Kodur	Cheyyur	Moderate	(Koovathur) Perumpallam
384	Cheyyur	Kodur	Cheyyur	Low	(Thenpattinam) Thenpattinam Colony

SL. No	Name of the taluk	Name of the firka	Name of the panchayat / municipality / town panchayat	Level of Vulnerability	Vulnerable areas
385	Cheyyur	Kodur	Cheyyur	Moderate	(Paramankeni) Paramankeni Kuppam
386	Cheyyur	Lathur	Pavunchur	High	(Kalkulam) Sevoor
387	Cheyyur	Lathur	Pavunchur	Moderate	(Thandarai) Purancherry
388	Cheyyur	Lathur	Pavunchur	Low	(Adayalacherry) Gundimanicherry
389	Cheyyur	Cheyyur	Pavunchur	High	(Nemandham) Pakuvancherry
390	Cheyyur	Cheyyur	Pavunchur	Moderate	(Cheyyur) Devarajapuram North Cheyyur Palayar Madamputhur

3.3.2.4 FLOOD VULNERABILITY ANALYSIS WITH SAMPLE MAP:

As per the guidelines issued by the ACS / CRA vulnerability mapping has been done after elaborate study of the previous occurrences with the help of the inputs received from the stake holders.

A sample analysis of flood vulnerable area in Pammal Municipality has been illustrated below. Here the area which is identified as very highly vulnerable (Based on previous experience) has been marked in Red stripes and escape route from this place to the temporary shelter has been marked in Dark Green Arrows.



3.3.3 STORM SURGE VULNERABILITY

Storm surge varies from 3 meters to 11 meters in the Tamil Nadu coast. The Southern parts of Thanjavur, Pudukkottai, Ramanathapuram, Thoothukudi, Tirunelveli, and Kanyakumari have experienced storm surges exceeding 6m above the current sea level. The northern regions of Thanjavur, Cuddalore, Chengalpattu and Chennai have lower storm surge heights of around 3 meters. Storm surges are a major threat to the fishing community damaging their livelihood support and to small & marginal farmers by rendering agricultural lands unfit for cultivation.

3.3.4 HEAT WAVE VULNERABILITY

A Heat Wave is a period of abnormally 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. Due to the urbanized nature of the district and the close proximity to the state capital, the temperature in the suburbs are usually higher compared to the average temperature of the district, thus rendering these areas to be vulnerable for heat wave.

3.3.5 TSUNAMI

An earthquake of magnitude 9.00 on the Richter scale struck the seabed off the Sumatra Coast, Indonesia at 6.28 AM on 26.12.2004. The resultant seismic giant sea wave (Tsunami) battered the coast of South India. These giant sea waves ravaged the coastline of Tamil Nadu ferociously on 26.12.2004 at 8.30 A.M. The people living in villages and towns all along the coastline of 13 districts including Chengalpattu were severely affected leading to loss of lives, livelihood and infrastructure.

3.3.6 FIRE RISK AND EXPLOSIVES

Tamil Nadu is vulnerable to fire risk disasters and some of the districts fall in the very high risk and high-risk categories. Districts have been analyzed based on fire risk ranking by specialized groups and the analysis reveals that six districts including Chengalpattu are under the 'very high risk' category. The analysis was borne out of assessing the population density, residential built-up area and Industrial areas in these districts. Forest fires are also a major problem districts during acute drought conditions, lightning and some times induced by human activities. Chengalpattu district also have considerable area under reserve forest. Hence caution is taken on this front also.

3.3.7 CHEMICAL, BIOLOGICAL, RADIOLOGICAL AND NUCLEAR (CBRN)

Tamil Nadu also has a number of Industries which are vulnerable to natural as well as man-made disasters. There are 7 (MAH)-Major Accident Hazard units in Chengalpattu district falling under this category because of the storage of highly inflammable petroleum products in large quantities. There are underground pipelines carrying petroleum products across the district apart from tankers and railways carrying chemicals which are potentially hazardous. The three major types of hazards possible with chemical emergencies are fires, explosions, and toxic releases that could affect the population and the environment.

3.3.7.1 List of Major Accident Hazard Factories in Chengalpattu District with the details of Hazardous Chemicals used and the Quantities of such Hazardous chemicals handled are given below:-

Chengalpattu District

In Chengalpattu district there are 11 factories coming under the Major Accident Hazardous category. These Major Accident Hazardous

factories are mostly located in Viz., Kelambakkam, Marimalai nagar, Padalam, Maduranthagam Melakottaiyur, Alathur and Chengalpattu . The nature of the industries is mainly Electronics industry, Chemical industry, Glass industry, LPG bottling plant, Automobile , Foundry, Printing industry, Drug industry and Metal sheet industry .The details of the industries and the chemicals they deal with are discussed in the table below:

S.No	Location of the Factory	Name of the Chemicals Handled/ Stored	Quantity of the Chemicals Stored
1	Total Oil (Private) Limited, (Formerly ELF Gas (Private) Limited), (LPG Bottling Plant), Chittalamangalam Village, Madhurantagam Tk	LPG	99 MT
2	Indian Oil Corporation Limited, LPG Bottling Plant, 71/2, Milestone on G.S.T. Road, Kolambakkam Village, Padalam PO 603 308	LPG	1800 MT
3	Bay Forge Limited, Pukkathurai, Madhuranthagam Taluk,	LPG	20 MT
4	SHV LPG Private Ltd., (Caltex Gas India Limited) (LPG Bottling Plant), Melakottaiyur, Chennai – 600 048.	LPG	970 MT
5	Thomson Press India Limited A-9, Industrial Complex,	LPG	20 MT

S.No	Location of the Factory	Name of the Chemicals Handled/ Stored	Quantity of the Chemicals Stored
	Maraimalai Nagar.		
6	Visteon Automotive System India (Private) Limited, Keelakaranai Village, Melrosapuram, Chengalpattu – 603 204.	LPG	66 MT
7	Orchid Chemicals & Pharmaceuticals Limited, 138- 149, SIDCO Industrial Estate, Alathur – 603 110,	Methanol Toluene Acetone Di-methylene Chloride Dimethyl Formamide Dimethyl Sulfoxide Formaldehyhde	25 Kl. 25 Kl. 25 Kl. 20 Kl. 80 Tons 55 Kl. 15 T
8	Flamagas India Private Limited, 121/2C, Mambakkam (V & P),	LPG	18 MT
9	Kasturi & Sons, B6-B7, Maraimalai Nagar, Industrial Estate, Maraimalai Nagar, 603 409.	LPG	18.6 MT
10	TAFE, Gears Division, Kelambakkam	LPG	18.2 T
11	Bright Gas Bottling Company, G.S.T. Road, Madurantakam	LPG	40 T

S.No	Location of the Factory	Name of the Chemicals Handled/Stored	Quantity of the Chemicals Stored
	TK,		

3.3.8 NUCLEAR EMERGENCY – VULNERABLE AREAS

Department of Atomic Energy (DAE) Centre, Kalpakkam has two operating nuclear reactors at Madras Atomic Power Station (MAPS) and many other nuclear facilities at the site with an exclusion zone of 1.6 km around MAPS. Although the reactors are designed with several safety features including accident mitigating systems and operation safety is ensured by continuous monitoring, very low probability of accidents with radioactivity release potential are envisaged for disaster preparedness considerations. During such accidental conditions, plant/site emergency will be declared and the radiological impact of such events is likely to be contained well within the site boundary of 1.6 km radius around the plant which is considered as the precautionary action zone (PAZ). In the event of actual or projected radiation release spreading into public domain, an Urgent Protective action Zone (UPZ) of 16-km radius from MAPS is considered as Emergency Planning Zone wherein disaster preparedness plans need to be implemented in affected areas.

Most of the areas in the UPZ or EPZ beyond the site boundary fall under Thirukalukundram Taluk, while some of the areas in the south come in the Cheyyur taluk and a few villages to the north of the plant fall under Thirupporur taluk. A total of 126 villages in the three Taluks comprise the EPZ with potential vulnerability for nuclear emergency impacts.

3.4 HAZARD VULNERABILITY RISK ANALYSIS

The Government of Tamil Nadu has initiated number of studies to assess the Hazard and Vulnerability Risk Analysis of (HVRA) various disasters. The HVRA study for Thiruvallur District has been completed

by the Disaster Management Cell, Anna Institute of Management, Chennai during 2014. The HVRA study for Cuddalore District is under progress. The State has plans to take up HVRA studies based on systems approach in all other river basins covering the entire state.

3.5 INTEGRATED COASTAL ZONE VULNERABLE AREAS MAPPING

Integrated Coastal Zone Management (ICZM) is a dynamic, multidisciplinary and iterative process to promote sustainable management of coastal zones. It takes into account the full cycle of information collation, planning, decision making, management and monitoring and evaluation of implementation. ICZM refers to the integration of a wide variety of objectives depending on the stakeholder and also to the integration of the many instruments needed to meet these objectives. The key deliverables of the project are:

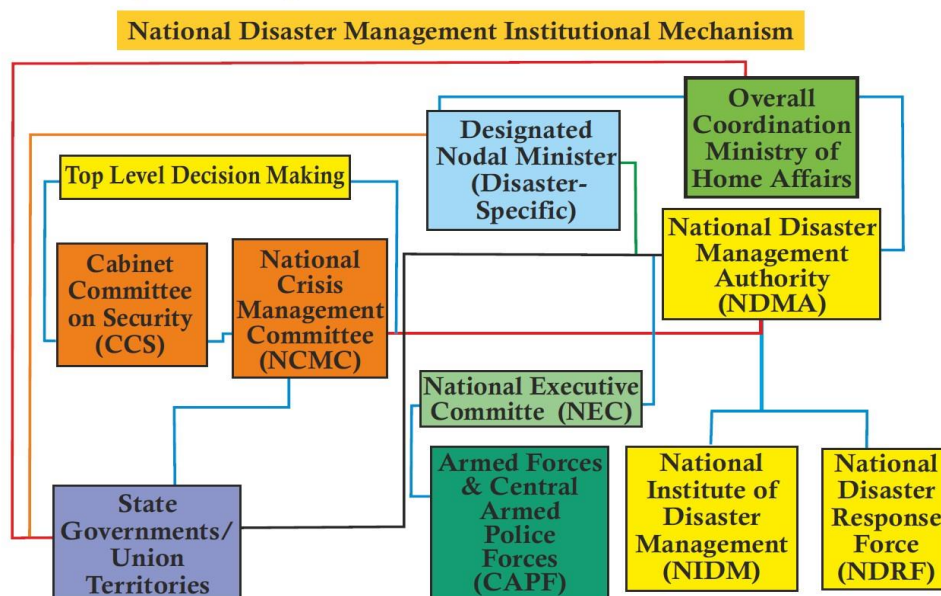
- 1) Land use mapping of the entire coastal stretch
- 2) Land capability assessment,
- 3) Coastal Vulnerability Mapping,
- 4) Sectoral Planning recommendation,
- 5) Special Area Management Plans

**RISK GOVERNANCE-
INSTITUTIONAL
FRAME WORK**

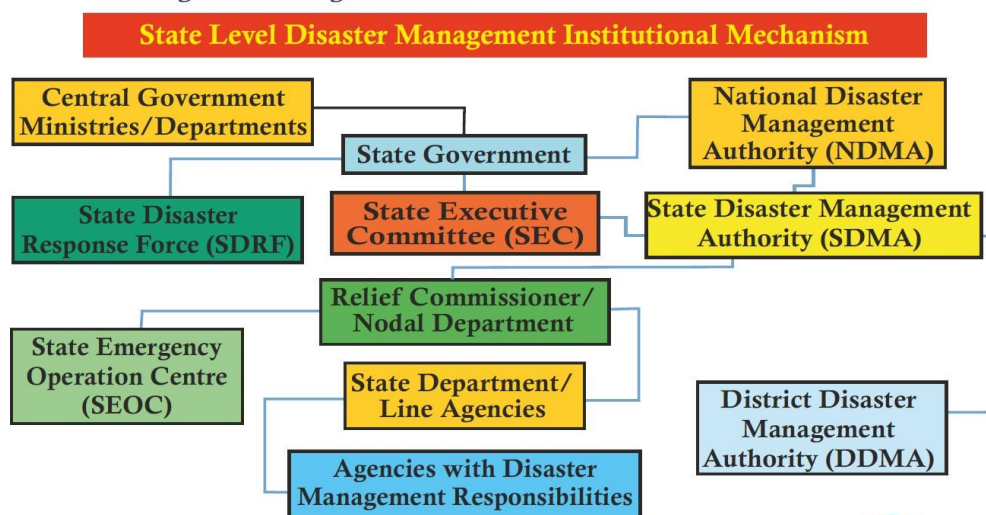
4.1 INSTITUTIONAL MECHANISM

Disaster management structure is in place right from the national to local level. This institutional mechanism plays a crucial role in all activities from policy making to implementation across the entire disaster management cycle.

9.5 Institutional Mechanism for Disaster Management at the National Level is given at the figure below:



9.6 The Institutional Mechanism for Disaster Management at the State Level is given at the figure below:



4.2 Tamil Nadu State Disaster Management Perspective Plan 2018-2030:

The Tamil Nadu State Disaster Management Authority has approved a perspective plan that is co-terminus with the Sendai framework period. The State Disaster Management Perspective Plan 2018-2030 has accorded primacy to the priorities enunciated not only in the Sendai Framework for risk reduction but also the Sustainable Development Goals, the Paris agreement on Climate Change, Prime Minister's 10 point programmed and relevant declarations.

4.3 Tamil Nadu State Disaster Management Authority:

The Tamil Nadu State Disaster Management Authority constituted as per Disaster Management Act, 2005 is the apex body at the State Level, which provides the policy directions, funding support and monitors the Disaster Management activities of the State. Tamil Nadu State Disaster Management Authority is headed by the Hon'ble Chief Minister with the following members:

- 4.3.1 Hon'ble Minister for Revenue and Disaster Management,
- 4.3.2 Chief Secretary to Government,
- 4.3.3 Secretary, Revenue and Disaster Management Department,
- 4.3.4 Secretary, Finance Department,
- 4.3.5 Secretary, Home Department,
- 4.3.6 Secretary, Higher Education,
- 4.3.7 Secretary, School Education,
- 4.3.8 State Relief Commissioner and Commissioner of Revenue Administration,
- 4.3.9 Director, Centre for Disaster Management & Mitigation, Anna University, Chennai.
- 4.3.10 Head of Department of Civil Engineering, Indian Institute of Technology, Madras.

4.4 State Executive Committee:

The State Executive Committee has been constituted under the Chairmanship of the Chief Secretary with Secretaries of Finance, Revenue, Public Works, Highways and Home as members. The State Relief Commissioner and Commissioner of Revenue Administration is a special invitee. The State Executive Committee is responsible for implementing the State Plan and to advise the State Government on all financial matters regarding Disaster Management and ensure immediate release of funds for carrying relief operations during disasters and for capacity building & purchase of search and rescue equipment.

4.5 State Advisory Committee:

The State Advisory Committee has been constituted under the Chairmanship of the Principal Secretary / Commissioner of Revenue Administration. Additional Chief Secretary, Revenue and Disaster Management Department is the Co-Chair. The Advisory Committee comprises of experts in various fields to advice on measures for disaster risk reduction.

4.6 Tamil Nadu Disaster Risk Reduction Agency

Tamil Nadu Disaster Risk Reduction Agency, earlier known as the Tamil Nadu State Disaster Management Agency was established as per G.O.Ms.No.488, Revenue Department, dated 28.11.2013 as a follow up of framing of Tamil Nadu Disaster Management Policy for the State. This Agency has been registered under Tamil Nadu Societies Registration Act on 09.01.2014. The Governing Council of the Agency is chaired by the Hon'ble Minister for Revenue and Disaster Management. The Principal Secretary / Commissioner of Revenue Administration and State Relief Commissioner is the chairman of the Executive Council. The Director, Disaster Management is the Member Secretary of the Executive Council. The Agency under the overall supervision of the Principal Secretary/ Commissioner of Revenue Administration functions as the executive wing of the Tamil Nadu State Disaster Management Authority.

4.7 District Disaster Management Authority:

The District Disaster Management Authorities have been constituted as per the provisions of the Disaster Management Act, 2005 under the Chairmanship of respective District Collectors in all the Districts. The District Disaster Management Authority consists of the following members:-

District Collector – Chairperson – Ex-officio

District Panchayat Chairman – Co-chairperson-Ex-officio

Superintendent of Police

District Revenue Officer who shall function as Chief Executive Officer of the District Authority – Ex-officio

Joint Director, Health Services – Ex-officio

Personal Assistant (General) to the Collector and Additional Collector (Development)/ Project Officer (DRDA)

In Chengalpattu District to face the Disasters other than nuclear emergencies, the following (3 Tier) committees have been formed. In case of nuclear emergencies, separate plans and procedures are in place that outline the constitution of committees/ teams to implement all response actions and these are covered in Volume-II of the DDMP.

4.8 DISTRICT LEVEL STEERING COMMITTEES

4.8.1 Apex Committee

- District Collector
- District Revenue Officer
- Superintendent of Police, Chengalpattu
- Deputy Commissioner of Police, St. Thomas mount
- Assistant Commissioner of Police, St. Thomas mount, Pallavaram and Tambaram.
- Personal Assistant (General) to Collector

4.8.2 Early Warning Committee

- Personal Assistant (General) to Collector
- District Project Officer (CBDRM)
- Thasildar (Disaster Management), Chengalpattu

Role

- Setting up control room and managing control room round the clock
- Assignment of duties to the district level officials and Deputy collectors/Thasildars/BDO's
- Arrangement of vehicles and sound system for information dissemination
- NGO co-ordination and assignment of duty
- Proper record keeping and transmission of information to all the levels
- Early warning to fishermen
- Holding of Natural Calamity meeting
- Ensure functioning of warning and communication systems
- Create awareness with the target
- Ensure mock drill

4.8.3 Water Resources Monitoring Committee

- Executive Engineer (WRO)
- Project Director (DRDA)
- Regional Director, Municipal Administration
- Assistant Director (Town Panchayat), Chengalpattu
- Assistant Director (Panchayat), Madurandhkam
- Role: Monitoring of water level in water bodies including rivers, ponds, tanks and channels.

4.8.4 Rescue & Relief Committee

- Deputy Superintendent of Police, Chengalpattu, Mamallapuram, Maduranthakam and Vandalur
- Assistant Commissioner of Police, St.Thomas mount, Tambaram and Pallavaram
- District Fire Officer
- Deputy Director (Mines)
- Divisional Engineer (Highways)
- Executive Engineer (WRO)
- Executive Engineer (Agriculture Engineering)
- Project Director (DRDA)
- Regional Director, Municipal Administration
- Assistant Director (Town Panchayat), Chengalpattu
- Assistant Director (Panchayat), Chengalpattu
- Joint Director(Agriculture) Chengalpattu
- Joint Director, Animal Husbandry
- Deputy Director(Horticulture) Chengalpattu
- District Supply and Consumer Protection Officer
- Chief Educational Officer
- Joint Registrar, Co-operatives
- Assistant Director of Fisheries

Role:

Rescue if necessary with the help of NDRF / SDRF and immediate sheltering to provide food, Water and ensure sanitation.

- Deployment of Police/ Fire force for search and rescue
- Co-ordination with NCC/ NSS/ Civil Defence/ NDRF/Rajya Sainik Board etc. for rescue operation
- Ensure availability of the rescue materials

- Prepare inventory of shelter places and map indicating the sheltercenters
- Provide and arrange Rescue Kit at risk areas
- To warn people about the impending danger & to leave for safer places
- To co-ordinate with Civil Defence –NGOs/ Board/ Police for Support
- Arrangement of boats / vehicles etc.for evacuation
- Evacuate people of marooned areas and administer emergent relief
- Organize trained task force members
- Deployment of police for maintaining law& order and peace keeping during evacuation
- Mobilize people to go to identified/ safer shelters
- Deployment of Power boats/ Country boats (Govt./ Private) for evacuation

4.8.5 Food Management Committee

- District Supply and Consumer Protection Officer, Chengalpattu
- Joint Registrar, Co-operatives
- Regional Director, Municipal Administration
- Personal Assistant to Collector (Noon meal)
- Assistant Director (Town Panchayat)
- Assistant Director (Panchayat), Chengalpattu

Role: Arranging Food from various sources and distribution to various relief centres.

- Identification of shelters/ temporary shelters in high-elevated places and arrangement of tents etc.
- Arrangement of Food/ Drinking water/ Medicine in the shelter Places
- Persons allocation for each shelters

- Arrangement of transportation
- Arrangement of safe shelter for animals
- Providing the lighting facilities for shelter places
- Deployment of Police personnel
- Temporary supply of safe drinking water
- Deployment of Vehicles
- Procurement and transportation of relief materials to affected pockets/ areas
- Arrangement of free kitchen in the shelter camps and affected areas
- Assigning responsibilities to officials for distribution of Emergent relief / running of free kitchen

4.8.6 Traffic & Logistics Management Committee

- Deputy Superintendent of Police, Chengalpattu
- Divisional Engineer, Highways
- Regional Transport Officers
- Assistant Director (Mines)

Role: Arrangement of vehicles for transportation of boats etc and for stranded public Route map for vehicles.

4.8.7 Health & Epidemic Management Committee

- Joint Director, Health Services
- Deputy Director, Health Services, Chengalpattu& Saidapet
- Regional Director, Municipal Administration
- Assistant Director (Panchayat), Chengalpattu
- Executive Engineer , TWAD

Role : Precautionary measures to prevent outbreak of epidemics

- Deployment of Medical Staff
- Stock piling of Life saving drugs/ ORS packets/ Halogen tablets
- Treatment of the injured persons and Transportation of the injured to Hospitals
- Awareness messages to stop the out break of epidemics
- Disease surveillances and transmission of reports to the higher authorities on a daily basis.
- Vaccination
- Constitute mobile teams and visit the worst affected areas.
- Dis-infection of drinking water sources
- Identification of site operation camps
- To obtain/ transmit information on natural calamities to District Control Room
- Advance inoculation programme in the flood/ cyclone prone areas
- Arrangement of fodder/ medicines for the animals
- Vaccination, site operation camps, carcasses disposal
- List of the Medical staff members with contact address and telephone number
- Stock position of medicines at District/ Taluk/ PHC/CHC/ AWC and indent position of stock
- Trained voluntary staffs/ task forces/ Anganwadi workers on use and providing min. Health services to the community
- Arrangement of mobile health unit for in accessible pockets/ health awareness campaign
- Stock position for medicine of animals
- Disinfectant water system and ensuring supply of safe drinking water arrangement for supply of drinking water

- Arrangement of mobile team and assigning specific operational areas for supply of water
- Involvement of volunteers

4.8.8 Media Management Committee

- Public Relation Officer
- Tahsildar, TACTV

Role: Disseminating of information by getting inputs from Early Warning Committee. Providing information required by press

4.8.9 Volunteers Management Committee

- Project Officer, Mahalir Thittam
- Chief Educational Officer
- NSS Coordinator
- Red Cross

Role : Pooling volunteers, providing extra manpower in problematic areas for rescue operations and regulation of flood victims

4.8.10 Disaster Management Dissemination (to private organizations) Committee

- District Labour Officer
- Inspector of Factories
- The District Environmental Engineer, TNPCB

Role : Sensitizing all institutions including industries, Schools / Colleges, Hospitals, High rise Buildings

4.8.11 Relief Material Management Committee

- Spl. District Revenue Officer, (LA) Mamallapuram – Puducheri Express Road, Chengalpattu.

- PA to RDO, Chengalpet, Maduranthagam and Tambaram
- Deputy Superintendent of Police, Vandalore
- Assistant commissioner of Police, St. Thomas Mount, Tambaram and Pallavaram
- Residents Welfare Association / NGO's

Role : Pooling of Relief materials and despatch to respective camps

4.9 REVENUE DIVISION LEVEL COORDINATION COMMITTEES

- ▶ At the field level, teams have been formed to carry out rescue and relief works. 33 Inter Departmental Zonal teams formed consisting of officials from 11 Departments viz Revenue, Rural Development, Town Panchayat, Municipality, Police, Fire, PWD, Highways, EB, Medical, Fisheries departments are in the teams, with special focus given to highly vulnerable areas. 15 Nodal Officers in the rank of Deputy Collectors are appointed for these 33 inter-departmental zonal teams.
- ▶ Apart from this to coordinate the works of these teams respective Sub-divisional Magistrates have been entrusted for dissemination, preparedness, monitoring rescue relief and restoration of the execution teams.

4.9.1 VILLAGE LEVEL DISASTER MANAGEMENT TEAM

- Village level Response team have been formed in the District
- VAO is the Responsible Officer
- Other Members are :
 - 1.Panchayat Secretary
 - 2.Village Assistant
 - 3.OHT Operator
 - 4.Noon Meal Organiser
 - 5.Noon Meal Cook
 - 6.Anganwadi Workers

- Volunteers are also identified as a preparedness measures. In case of communication interruption, in Villages during Severe Cyclones, they will act as a nodal persons for the affected peoples in their villages and are responsible to provide basic amenities to the evacuated people in the shelters.
- In addition to that, nearby ration shops, Hospitals, Medical Shops are identified for providing basic needs during Emergency situations

4.10 RISK ASSESSMENT AND RISK COMMUNICATION

Establishing an institutional mechanism is vital for timely communication and dissemination of disaster risk to the vulnerable population. The warning messages on Heavy Rainfall, Flood, Cyclone, Earthquake, Tsunami, etc. received from nodal agencies viz., Indian Meteorological Department (IMD), Indian National Centre for Ocean Information Services, Central Water Commission (CWC), etc., are being communicated by State Emergency Operation Center (SEOC) to the general public, fisherman, students, farmers, district administration and medias in the state.

4.10.1 RECEIVING AND DISSEMINATION OF DISASTER ALERTS

Sl No.	Nature of Disaster (cyclone, floods drought, Earthquake, Fire etc.,)	Organisation from which information received (IMD / State Control Room / INCOIS etc.,)	Modes of communication for receipt of information	Mode of dissemination from the Districts to the Villages / Blocks / Taluks
1.	Cyclone	IMD and State Control Room	Wireless, Telephone, Mobile Phone, Fax and E-Mail	Wireless, Telephone, Mobile Phone, Fax , E-Mail, Loud Speaker
2.	Flood	IMD and State Control Room	Wireless, Telephone, Mobile Phone, Fax and E-Mail	Wireless, Telephone, Mobile Phone, Fax , E-Mail, Loud Speaker
3.	Earthquake	INCOIS, Hyderabad	Wireless, Telephone, Mobile Phone, Fax and E-Mail	Wireless, Telephone, Mobile Phone, Fax , E-Mail, Loud Speaker
4.	Tsunami	INCOIS, Hyderabad	Wireless, Telephone, Mobile Phone, Fax and E-Mail	Wireless, Telephone, Mobile Phone, Fax , E-Mail,

4.11 State Emergency Operation Centre (SEOC)

SEOC is the communication centre for Disaster Management functioning at Chennai round the clock. This centre functions under the direct supervision of the Hon'ble Minister for Revenue and Disaster Management, Additional Chief Secretary, Revenue and Disaster Management, Principal Secretary / Commissioner of Revenue Administration and Director, Disaster Management. During disaster period, the centre will function as command centre round the clock with the assistance of Senior Officers of the Line Departments including National Disaster Response Force, Tamil Nadu Disaster Response Force, Police Department, Tamil Nadu Fire and Rescue Services for quick dissemination of alerts, under the supervision of Commissioner of Revenue Administration and State Relief Commissioner. The centre is accessed by the people in distress by calling toll free number 1070.

4.12 District Emergency Operation Centre (DEOC)

DEOC is functioning under the supervision of the District Collector. DEOC acts as a communication centre in disseminating forecast / alert messages to the General Public immediately. During disaster period, officials from various line departments are posted at District Emergency Operation Centre in order to expedite the search, rescue and 17 relief operations. This centre is accessed by the public by calling to Toll free No.1077.

4.12.1 EMERGENCY OPERATION CENTRE

- EOC is the nodal point for the overall coordination and control of the relief work in case of any disaster situation.
 - In case of any disaster district level EOC have to be activated.
 - The primary function of EOC is to facilitate smooth inflow and Outflow of disaster relief activities.
 - The EOC acts as a bridge between the State and Central governments.
 - Chengalpattu district shall has an exclusive Emergency Operation Centre (EOC) at District Head Quarter.
 - I will be round the clock set up with sufficient man power and most modern equipments.
 - This centre is intended to coordinate all disaster related activities in the district starting from preparedness to rehabilitation and reconstruction.
- It has a dedicated telephone line and other communication facilities.

LOCATION OF DEOC WITH ADDRESS	CONTACT / HELPLINE NUMBER
<ul style="list-style-type: none"> DISTRICT EMERGENCY OPERATION CENTRE, Chengalpattu 	044-27427412 044-27427414 1077 (TOLL FREE) 9444272345 (WHATSAPP)
<ul style="list-style-type: none"> COLLECTORATE CAMPUS, Chengalpattu 	044- 27427413
<ul style="list-style-type: none"> TAMBARAM CORPORATION 	18004254355 (TOLL FREE) 044-22266206 (CONTROL ROOM) 8438353355 (WHATSAPP)

4.12.1 ROLE OF EMERGENCY OPERATION CENTRE IN NORMAL TIME

- ▶ The District Collector is in-charge of EOC. Personal Assistant (General) will be responsible for the effective functioning of the EOC. Responsibilities of the EOC in charge in normal time include:
 - Ensure that all equipments in the EOC are in working condition;
 - Collection data on routine basis from line departments for disaster management
 - Develop status reports of preparedness and mitigation activities in the district;
 - Ensure appropriate implementation of District Disaster Management Plan
 - Maintenance of data bank with regular updating
 - Activate the trigger mechanism on receipt of disaster warning/occurrence of disaster

4.12.3 ROLE OF EMERGENCY OPERATION CENTRE DURING DISASTER TIME

On the basis of the message received from the forecasting agencies, warning has to be issued for the general public and the departments, which play a vital role during emergencies. Issuing correct and timely warning would be one of the prime responsibilities of EOC. For effective dissemination of warning EOC should have a well- planned line of communication. The DC shall be the competent authority to disseminate a disaster

warning. The warning on occurrence of a disaster will also be communicated to:

- All the concerned departments
- Hospitals in the disaster area
- Emergency Operation Centre in the neighbouring districts
- State Emergency Operation Centre
- People's representatives in the district
- Apart from this the District Emergency Operation Centre the onsite EOCs are to be set up with the help of the district EOC.
- Constant communication between the State EOC, District EOC and Onsite EOC

During nuclear off-site emergencies, DEOC coordinates all the communications between the DDMC and Kalpkkam DAE Centre and maintains constant communication with other external agencies including NDMA, SDMA, NDRF and DAE Crisis Management Group

4.13 TAMIL NADU DISASTER RESPONSE FORCE (TNDRF):

In pursuance of the announcement made by the Hon'ble Chief Minister of Tamil Nadu on the floor of the Legislative Assembly on 11.07.2017, Government have constituted the "Tamil Nadu Disaster Response Force (TNDRF)".

4.14 Tamil Nadu System for Multi-Hazard Potential Impact Assessment, Alert, Emergency Response Planning and Tracking (TN-SMART):

A System for Multi-Hazard Potential Impact Assessment, Alert, Emergency Response Planning and Tracking (TN-SMART) for assessing potential impacts of hazards using weather forecast information has been developed through RIMES (Regional Integrated Multi-Hazard Early Warning System for Africa and Asia). The salient features of TNSMART are forecasting disaster risk, communication of risk via Mobile Application, registering and tracking distress calls and evaluating risk reduction measures and monitoring and Management of database. This mobile application has an unique alarm system that can send an alarm, even if the mobiles are in silent mode and the alarm stops only after the alert is viewed by the user to ensure timely dissemination of early warning

information to minimize loss of lives during life threatening disasters like Tsunami, Cyclones and Floods. Through this mobile application, public can lodge complaints related to disasters and the same will be registered, forwarded to concerned officers for action and tracks the action taken on complaints.

4.15 INCIDENT RESPONSE SYSTEM

DISTRICT CRISIS MANAGEMENT GROUP

- ▶ This is the core group to take decisions in emergency situations. This core group convenes meetings when there is an emergency situation in the district. The core group is confidential in nature.
- ▶ In the case of disasters it has to meet frequently with the following functions:
 - ▶ To take stock of the situation
 - ▶ Assist the Incident commander to take appropriate decision in managing the disaster
 - ▶ Deciding the way of immediate operation in disaster relief and rehabilitation works
 - ▶ Apex body in district to deal with major disaster and provide expert guidance
 - ▶ Assists in the preparation of the district off-site emergency plan
 - ▶ Reviews all the on-site emergency plans prepared by the occupier of Major Accident Hazards installation
 - ▶ Assists the district administration in the management of Disaster within the district

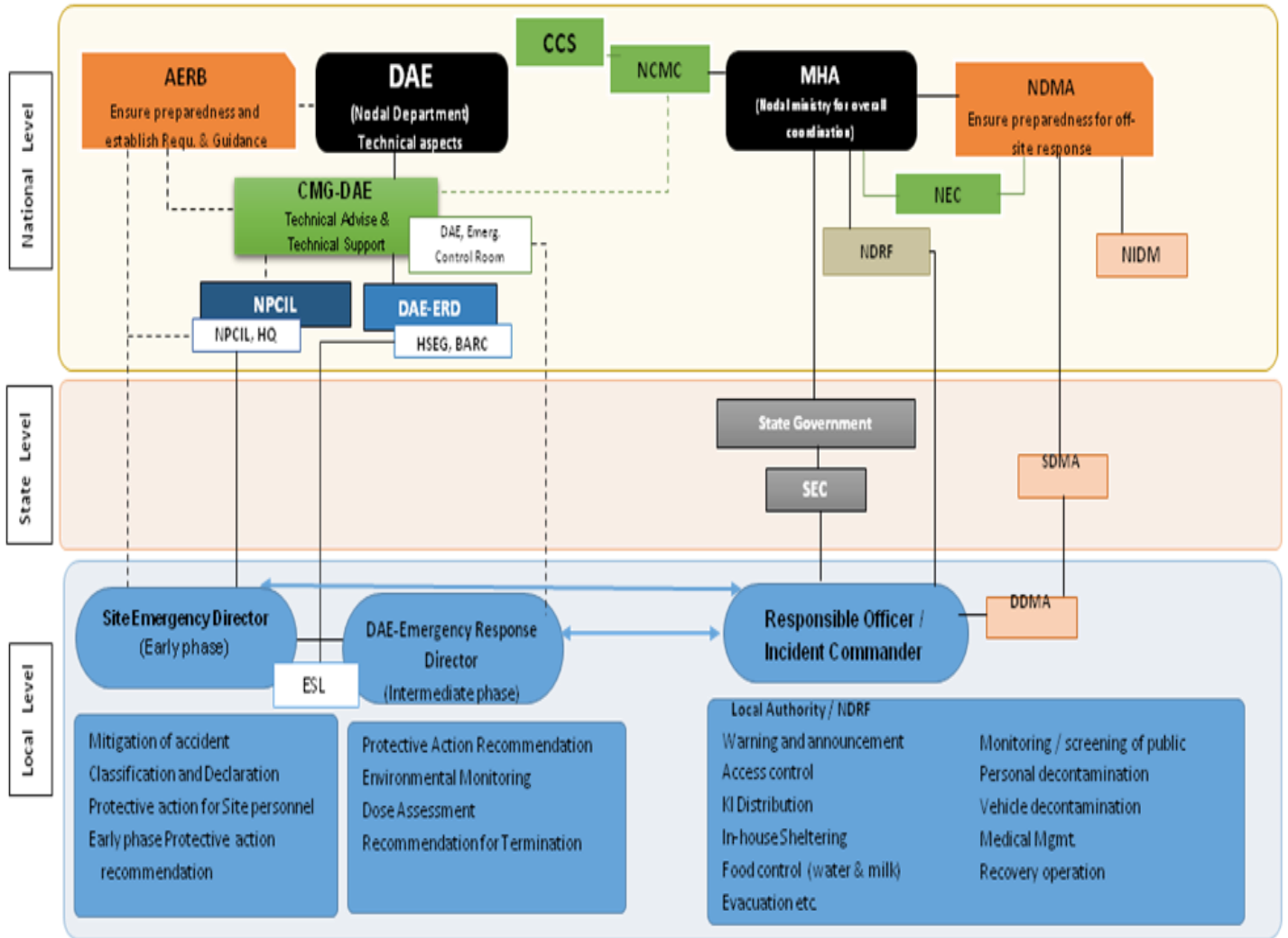
Ensures continuous information flow from the district to the Centre and state Crisis Group regarding accident situation and mitigation efforts.

Conducts at least one full scale mock-drill of a chemical accident at a site each year and forward a report of the strength and the weakness of the plan to the State Crisis Group.

Conducts nuclear off-site emergency exercise once every two years in coordination with Kalpakkam DAE Centre .

4.16 Institutional Framework for Nuclear Emergency Preparedness & Response

The overall institutional framework for preparedness and response for a nuclear emergency at national, State and local level is depicted in Figure below:



This represents merely the institutional pathways for coordination, decision-making and communication for management nuclear emergency and does not imply any chain of command.

- Nuclear off-site Emergency management involve three distinct phases-early, intermediate and late phases. While the institutional coordination will be between Kalpakkam Site and District authorities in the early phase, the command and control will shift from Site Emergency Director to the DAE Emergency Response Director in the subsequent phases. National and State level agencies will be providing oversight and support in all the phases for emergency management.

4.17 STAKEHOLDERS IN DISASTER MANAGEMENT

The policy also systematizes a frame work of operation for the following set of stake holders that play key roles in disaster management.

- i. Tamilnadu State Disaster Management Authority.
- ii. State and Central Government Departments.
- iii. District Disaster Management Authorities.
- iv. Local authorities including Municipal Corporations/Municipalities, District/Block/Grama Panchayaths, Taluk/Village Officers etc.
- v. Voluntary and Civil Society Organisations.
- vi. Red Cross, multilateral aid agencies.
- vii. Community – Village Disaster Management Committees / Task Forces.
- viii. Public sector Undertakings.
- ix. Private sector undertakings
- x. Army, Navy, Air Force, Coast guard, Airport Authority, National Disaster Force.

4.18 ROLE AND RESPONSIBILITY OF DIFFERENT DEPARTMENTS AND AGENCIES

Sl. No.	Functions	Departments/Agencies
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, Search and Rescue Operations	RADM&M, Urban and Local bodies.
5	Traffic control and diversions	Traffic Police , Home Guards , Volunteers
6	Cordoning off the disaster affected areas, Search and Rescue Operations	SDRF , NDRF, Police , Home Guards and Volunteers
7	Law and Order maintenance, Search and Rescue Operations	Police and Home Guards
8	Search and Rescue operation Provision of First Aid / Trauma	Fire and Rescue Services, SDRF, NDRF, Police etc., Health department, Local
9	Care / Prevent Spread of Epidemic and Endemic diseases	bodies and RED Cross
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

DISASTER PREPAREDNESS

5.1 NEED FOR DISASTER PREPAREDNESS

Disaster Management is a highly complex plan requiring multiple strategies and multi-sectoral approaches. Preparedness is the most important aspect in all phases of Disaster Management.

Preparedness strengthens efforts for preventing disasters, enhances ability for rescue and evacuation, enables inclusive coverage of vulnerable sections during relief operations, provides scope for rapid response for restoration and rehabilitation as well as provides opportunities for building back better and above all ensures unification of the efforts of multiple agencies and integration of the community participation in Governmental efforts.

Disaster preparedness refers to measures taken to prepare for and reduce the effects of disasters. 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:

5.2 KEY FEATURES ASSOCIATED WITH THE PREPAREDNESS

5.2.1 As part of the preparedness measures the following general preparedness measures are adopted to face the eventualities such as floods, cyclonic storms, landslides that arise during North East Monsoon and special measures are put in place to face disasters such as Tsunami, Earthquakes and others.

5.2.2 Hazard, Vulnerability and Risk Assessments (HVRA)

All planning and implementation of disaster preparedness measures will 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. This assessment was meant to

- 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.

5.2.3 Identification of Vulnerable Areas:

Identification of vulnerable areas due to North East Monsoon activities was done throughout the State based on legacy data and 4399 areas have been identified and they are classified into 4 categories as detailed below.

- Areas of Very High vulnerability- 578
- Areas of High vulnerability- 892
- Areas of Medium Vulnerability-1206
- Areas of Low vulnerability-1723

5.2.4 Vulnerability Mapping

Maps have been prepared to depict the vulnerable areas in rural and urban areas. Each map incorporates not more than 3 vulnerable areas in a Firka (Rural areas) / Ward (Urban area).

Analysis of the vulnerability and its magnitude in the areas identified, along with details of escape route to the nearest relief center are all captured in the vulnerability map.

5.2.5 Early Warning and Dissemination Systems

Early warning and dissemination systems play a very important role in minimizing the risks to the community. Several Central agencies are responsible for forecasting and sharing the early warning messages. The following Central agencies are mandated to provide early warning messages for different natural hazards. These agencies are responsible for keeping track of developments in respect of specific hazards assigned to them and inform the designated authorities about the impending disasters.

5.3 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 Centre for Ocean Information Services

5.3.1 FLOODS

Floods are often a result of heavy rains associated with the natural course of surplus water flow being hindered by encroachments, unplanned development and the like. The Central Water Commission has developed a network of flood forecasting stations and it issues Daily Flood Bulletins during the Monsoon seasons for all the major river basins in the following categories:

- **Category IV: Low Flood stage** (Water level of the river is flowing between Warning Level and Danger Level)
- **Category III: Medium Flood** (Water Level below 0.50m. less than HFL and above Danger Level)
- **Category II: High Flood** (Water Level less than Highest Flood Level but still within 0.50m. of the HFL)

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

Declaration of Stages of Flood

The standard 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

In Chengalpattu District there are 5 Major River Basins namely Palar basin, Adyar basin, Cheyyar sub - basin, Ongur basin and Kiliyar sub - basin. Besides, there are numerous minor & major streams and channels criss-crossing the entire district, which normally receives 30% higher rainfall than the inland areas do. The Pallikaranai swamp and Buckingham canal drainage system is very sensitive and its fringe areas are always flood prone.

Before Disaster:

Structural:

- ▶ Clearance of water ways
- ▶ Removal of encroachments
- ▶ Cleaning of sewerage
- ▶ Repairing damaged roads
- ▶ Constructing water harvesting systems
- ▶ Construction of bunds, canals etc
- ▶ Maintenance and repair of sluice gates and spill way of reservoirs

Non Structural:

- Public awareness campaigns
- Monitoring & updating flood related parameters
- Mobilising sand bags
- Dewatering pumps
- Updating resource inventories
- Procurement of locally available boats
- Collect details of earth movers, cutters, JCB's and other related machineries in the district
- Pre arranging generators
- Storage of medicine
- Mobilize the search & rescue equipment's

During Disaster:

- ▶ Effective utilization of machineries like boats, vehicles, helicopters etc to rescue maximum number of people from the flood affected areas using rescue equipment and human resources to reduce the number of human losses.

- ▶ Installation of mobile clinics adjacent to the temporary shelters to provide basic and immediate medical assistance to the people staying in shelters and use life saving equipment to minimize the loss of life.

After Disaster:

- Providing Safe drinking water, food and shelter to the affected people
- Providing financial aid to the victims
- Restoration of electricity and other basic infrastructural needs to the affected people
- Providing Medicines and other basic health care to the victims.
- Precautionary measures like vaccination, providing safe drinking water to prevent epidemic outbreak

5.3.2 TSUNAMI

The Indian National Centre for Ocean Information Services (INCOIS) provides round- the-clock monitoring and warning services for the coastal population on tsunamis, storm surges and high waves through the in-house Indian Tsunami Early Warning Centre (ITEWC). When an earthquake occurs in a Tsunami generic source and if the magnitude is more than 6.5 and the depth is less than 100 km, INCOIS automatically starts issuing a real-time tsunami warning.

5.3.2.1 Nature of Advisories issued by INCOIS

Real-time tsunami warnings are issued by INCOIS by first announcing the area of warning, alert and watch based on travel time together with an estimate of the height of the tsunami calculated on pre-run numerical models of tsunami propagations. Based on the hazard - '*warning*', '*alert*' and '*watch*' are issued.

- **Area under Warning:** Area that is within 60 minutes from the tsunami generic sources and wave height expected is more than 2 meters.
- **Area under Alert:** Area within 60 minutes travel time of the tsunami and wave height is less than 2m and Area more than 60 minutes travel time of tsunami and the expected wave height is more than 2 m.

- **Area under Watch:** Areas that are outside the 60 minutes travel time of tsunami and are kept under watch when the wave height is expected to be less than 2 m.

INCOIS issues of over a period of four to five hours as many as six bulletins.

- **The First Bulletin (Type – I)** is issued before the lapse of 20 minutes of the earthquake when the seismic network detects an earthquake occurring in the Andaman Sumatra Subduction Zone (ASSZ). The First bulletin informs that an earthquake has occurred and the preliminary estimates of the location of the epicentre, magnitude, depth of focus and time are informed.
- **The Second Bulletin (Type – II)** is issued not later than 30 minutes of the earthquake in the subduction zone with a magnitude of > 6.3 and the depth of focus is less than 100 km detailing the areas under warning and threat.
- **The Third Bulletin (Type – II Supplementary)** is issued with updated earthquake parameters and revised information on tsunami wave height and accordingly the status of the threat is updated.
- **The Fourth Bulletin (Type III)** is issued when tsunami is confirmed. If the threat is upgraded to **warning** status evacuation will be started immediately.
- **The Fifth Bulletin (Type – III Supplementary)** is issued when the tsunami reaches the coast with hourly updates and also whenever real- time water level information are available.

The Final-“ALL CLEAR” bulletin indicates withdrawal tsunami warning.

In addition, an early warning system for earthquake/tsunami in Indian Ocean is operational at Madras Atomic Power Station, Kalpakkam. This PC-

based Earthquake Notification System (ENS) is installed in Control room of MAPS. The Tsunami was something that defied every bit of preparedness, by the government and by the people. Here, disaster preparedness could save lives of people though not all their properties.

In Chengalpattu District, nearly 44 kuppams in 30 revenue villages in 3 coastal taluks (Thiruporur, Thirukkalukundram and Cheyyur), together having 57 KM of Coastal line are prone to Tsunami.

Tsunami preparedness could be followed in 3 stages.

(1). Before Disaster:

- ▶ Tsunami prone areas and evacuation routes and shelters in the maps should be located based on the same people are losing.
- ▶ People should know in advance their safest evacuation route.
- ▶ People should listen to the tsunami forecast and follow the news.
- ▶ People should carry with them drinking water, some dry fruits, and biscuits, a radio running on dry cell batteries etc.

(2). During Disaster:

- ▶ People should follow warning signs and indicated evacuation routes to high ground and shelters.
- ▶ People should move to inland or high ground.
- ▶ People should move to the top or higher level of reinforced buildings if there is no high ground nearby.

(3). After Disaster:

- People should continue to tune into local radio for further information and instruction as to what to do next.
- Once the people are informed that the emergency is over, people should go back to their residence.

5.3.3 CYCLONE

The cyclone warnings are issued by IMD in four stages.

The **First Stage** warning known as “**PRE CYCLONE WATCH**” issued 72 hours in advance contains early warning about the development of a cyclonic disturbance and its likely intensification into a tropical cyclone..

- The **Second Stage** warning known as “**CYCLONE ALERT**” is issued at least 48 hrs. It contains information on the location and intensity of the storm, likely direction of its movement, intensification, coastal districts likely to experience adverse weather and advice to fishermen, general public, media and disaster managers.
- The **Third Stage** warning known as “**CYCLONE WARNING**” issued at least 24 hours in advance of the expected commencement of adverse weather over the coastal areas. Landfall point is forecast at this stage. These warnings are issued at 3 hourly interval giving the latest position of cyclone and its intensity, likely point and time of landfall, associated heavy rainfall, strong wind and storm surge along with their impact and advice to general public, media, fishermen and disaster managers.
- The **Fourth Stage** of warning known as “**POST LANDFALL OUTLOOK**” is issued at least 12 hours in advance of expected time of landfall. It gives likely direction of movement of the cyclone after its landfall and adverse weather likely to be experienced in the interior areas.

Different colour codes are used in the cyclone warning

bulletins.

Stage of warning	Colour code
Cyclone Alert	Yellow.
Cyclone Warning	Orange.
Post landfall out look	Red.

5.3.4 HEAT WAVES

Heat-wave early warnings are designed to reduce the avoidable human health consequences from heat-waves through timely notification of prevention measures to vulnerable populations. Heat wave is considered only after maximum temperature of a station reaches at least 40° C for plains and at least 30° C for hilly regions. India Meteorological Department issues forecast on the level of Heat waves likely to prevail in the regions for 5 days at a time.

5.3.5 LANDSLIDES

The major landslides in Tamil Nadu occur mostly in the Nilgiris, parts of Eastern Ghats, Yelagiri and Shevaroy hills.

Geological Survey of India issues alerts and warnings about landslides

- **Category I:** Landslides that may occur over or in close vicinity of inhabited areas such as urban settlements or fairly large rural settlements wherein a landslide can result in loss of human lives and dwellings on a large scale.
- **Category II:** The landslides that may occur on the fringes of inhabited areas and result in limited loss of life and property.

- **Category III:** Landslides which are fairly large and affect infrastructural installations such as strategic and important highways and roads, rail routes, hydroelectric and irrigation projects.
- **Category IV:** Landslides of small dimensions that occur away from habitations and do not affect either humans or their possessions.

5.3.6 EARTHQUAKE

An Earthquake is a sudden event and gives hardly any time to react. Early warning or prediction of an earthquake is not easy. 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 and disseminates information to all the concerned agencies.

Chengalpattu district is at an elevation of 83.2m above sea level. Chengalpattu soil is described to be inferior due to the mixture of stone and gravel. In general this region is in seismic zone – II which is classified as a Low damage risk zone. Though so far no major Earthquake has occurred in Chengalpattu district in recent times the following preparation have been done .

Before Disaster: Structural:

- ▶ Construction of earthquake resistant buildings
- ▶ Strengthening of bridges
- ▶ Analysis of historical seismic data and regional geology for guiding people, including architects, builders, and engineers to build safer structures.
- ▶ Earthquake safe designs and building codes for public construction.
- ▶ Seismic strengthening, retrofitting of non- engineered structures.
- ▶ Identification and removal of unsafe buildings/structures
- ▶ To provide or make seismic microzonation maps

Non Structural:

- Disseminating informations on earthquake risk to general public residing in earthquake prone zones
- Campaignly for earthquake safety tips
- Updating Resource inventories
- Collect details of earth movers, cutters, JCB's and other related machineries in the district
- Storage of medicine
- Mobilize the search & rescue equipments
- Planning logistics for response scenarios, planning of evacuation routes

During Disaster:

- ▶ Effective utilization of machineries like vehicles, helicopters etc to rescue maximum number of people from the affected areas to reduce the number of human loss.
- ▶ Installation of mobile clinics adjacent to the temporary shelters to provide basic and immediate medical assistance to the people staying in shelters and using life saving equipment to minimize the loss of life

After Disaster:

- Providing Safe drinking water, food and shelter to the affected people
- Providing financial aid to the victims
- Restoration of electricity and other basic infrastructural needs to the affected people
- Providing medicines and other basic health care to the victims.
- Precautionary measures like vaccination, provision of safe drinking water to prevent epidemic outbreak

5.3.7 NUCLEAR EMERGENCIES:

Nuclear emergency leading to the accidental release of radioactivity to environment can arise from accident in the operating nuclear reactors at MAPS Kalpakkam.

Before Disaster

Structural:

- ▶ Defence-in-depth philosophy in design
- ▶ Quality assurance checks in all aspects of nuclear plant operation and regular in-service inspections of nuclear components
- ▶ Strengthening of plant defence mechanisms to cope with severe natural disasters

Non Structural:

- Continual review of plant operations and processes and improvements in plant processes and procedures
- Incorporation of best practices from abroad in plant operation and safety
- Continual training of nuclear plant personnel
- Periodic review of emergency preparedness programmes and conduct of emergency exercises for disaster response.

During Disaster:

- ▶ Effective coordination and communication among the district response machinery.
- ▶ Continual oversight of the response actions for prompt corrective actions

After Disaster:

- Restoration activities in the affected sectors/villages
- Providing financial aid to the affected persons
- Providing medicines and other basic health care to the affected public.
- Precautionary measures like vaccination, provision of safe drinking water to prevent epidemic outbreak

5.3.8 CHEMICAL INDUSTRIAL DISASTER

NDMA guidelines on chemical disasters have defined Levels of Emergencies which are useful in communicating the level of response needed to be provided.

- **Level – 0:** A non-emergency period when mock drills, trainings, exercises and other preparedness activities for effective response should be done.
- **Level – 1:** The emergency will spill over to off-site (outside the factory) and within the capabilities of the district administration to deal with.
- **Level – 2:** The emergency will require assistance and help from the State government and within their capability.
- **Level – 3:** A National level disaster requiring major direct intervention of the Central Government.

5.4 COMMUNITY AWARENESS AND INVOLVEMENT

5.4.1 Community Preparedness and Public Co-operation.

In Order to minimize the impact of the disaster on the community, it is necessary that there should be psychological preparedness on the part of the public to absorb the initial shock caused by a disaster and to gear up the relief machinery for timely action.

The primary mode of community preparedness is public education about the likely impact of various disasters on man and community and the proper response by man and the community to such disasters.

During the period of disaster (later part of monsoon for floods, May-June and September- October for Cyclone (etc.), people should be educated about the impact of such disasters and different ways to combat the disaster by audio-visual aids like films, posters, audio clips etc. It will be worthwhile if such programmes are extended to school level to educate the population from the early stages. Films should be screened in the vulnerable areas by the Field Publicity Organisation. These could also be shown in cinema houses in vulnerable towns. Films on cyclones floods should be made keeping the local background in view.

The Public may also be educated by organizing meetings at fairs, seminars and also by giving proper training in rescue and relief operations.

Public awareness programmes are regularly conducted by Kalpakkam DAE centre for public from the villages in and around Kalpakkam. The public are explained about the safety of the nuclear power plant operation, their societal benefits, accident preparedness measures, district action plans during disasters and role of the public. School children from the schools are taken for MAPS and briefed.

District administration has also conducted disaster management awareness programmes and exhibitions and displayed the disaster management capabilities for natural and man-made disasters.

5.5 Special Attention To Fishermen:

The officers responsible for communicating the messages and for enlightening the fishermen population have been furnished. These officers will on receipt of warning from their Assistant Director or Deputy Director as the case may be shall communicate the warning to the fishermen in the locality noted against them.

The Village Administrative Officers and Revenue Officers will also inform the fishermen in their jurisdiction drawing the particular attention to the warnings.

In addition to the procedure in vogue in the matter of communicating the weather warning messages received from the Metrological Centre, the Assistant Director of Fisheries Chengalpattu @ Neelangarai will immediately communicate the weather warning and cyclone messages to the Fishing Villages allotted to him under this programme.

The Assistant Director of Fisheries, Neelangarai will communicate the message to the respective fishing villages. The Assistant Director of Fisheries (Fisheries Training Centre), Neelangarai in addition to the village allotted to him will cover the area allotted to the Chief Executive Officer, Fish Farmers Development Agency. The weather warning or any other precautionary instructions may be communicated to the Presidents of Fishermen Co-operative Societies and in turn they may send messages about the prevailing situation to the entire villages.

5.6 HAZARD SPECIFIC CRISIS MANAGEMENT PLAN FOR THE DISTRICT:

<p>Heavy Rainfall (64.4 to 124.4mm)</p>	<p>Be updated - Actions to be taken and sustained till warning is withdrawn, in the villages/taluks/districts predicted to be affected by rainfall</p> <ul style="list-style-type: none"> • SEOC – All state level officers of the nodal departments informed • DEOC – Emergency time functions activated • District Control Rooms of Revenue & Police-24 hours functioning • All line departments and Revenue Officials to remain at Headquarters • Public advised to remain indoors and those in low lying areas/flood prone areas to move to safer locations.
<p>Very Heavy Rainfall (124.5mm to 244.4mm) Very Heavy Rainfall (124.5mm to 244.4mm)</p>	<p>Be prepared - Actions to be taken and sustained till warning is withdrawn, in the districts predicted to be affected by rainfall DEOC – Emergency time functions activated</p> <ul style="list-style-type: none"> • Deoc, District – taluk Control Rooms of Revenue and Police – 24 hrs functioning • SDRF and Fire and Rescue Service – pre-positioned as per the direction of State Incident Commander • Army, Navy, Air Force, Coast Guard and other central forces in the state informed • Hospitals and PHCs – ensure doctors and paramedical staff are available on call • Tahsildar – take control of the identified relief shelters; Quarry blasting to be banned until at least 24 hrs of rain free situation arises in the quarry locality based on evaluation by the village officers • Tahsildar-Evacuate public within 250m from the coastline to the relief camp and other safe higher ground and start the relief camps • Public advised to remain indoors and those in low lying areas/flood prone areas to move to safer locations. -District –Taluk Control

Extremely Heavy Rainfall (>244.4mm)

Most Vigil - Actions to be taken and sustained till warning is withdrawn in the villages/taluks/districts predicted to be affected by rainfall

- SEOC & DEOC – Keep checking the bulletins from IMD.
- State-District –Taluk Control Rooms of Revenue & Police- 24hours functioning
- NDRF, SDRF ,Army and Fire and Rescue Service – pre-positioned as per the direction of State Incident Commander
- BSNL and Police – deploy emergency communication systems
- Hospitals and PHCs in the villages predicted to be affected by rainfall – function at full strength 24hrs
- Tahsildar – Start the relief camps; Quarry blasting to be banned until atleast 24 hrs of rain free situation arises in the quarry locality based on evaluation by the village officers
- Local Self Governments – relocate vulnerable population to the relief camps and other safe locations
- Transport department – take control of all cranes and earth movers in the district for deployment in the event of major calamities
- TNEB & PWD – Emergency repair teams to be ready for deployment
- District Officers of TNEB, PWD, Health, Irrigation & Transport – to be available at the respective Head Quaters
- Police – Stop vehicular traffic other than that of emergency services via ghat roads prone to landslides and flash floods; ensure strict oneway system for vehicle movement
- Declare holiday for all educational institutions
- All mass gatherings and social events to be stopped
- Public advised to remain indoors and those in landslide/flood prone areas to move to safer locations

5.7 RISK COMMUNICATION STRATEGIES

All the offices have permanent landline numbers. Apart from this all the officials drafted for disaster management process are having Mobile Numbers. Further VHF sets have been provided in the following offices / officers

5.7.1 VHF sets

Sl No	Place of Installation
1	District Collector Chambar (Base), Chengalpattu
2	District Collector, Camp Office (Base), Chengalpattu
3	District Collector Mobile Station (Jeep), Chengalpattu
4	District Revenue Officer (Base), Chengalpattu
5	District Revenue Officer Mobile Station (Jeep) Chengalpattu
6	PA(G), Office (Base), Chengalpattu
7	District Emergency Operation Centre (Base), Chengalpattu
8	Revenue Divisional Officer's Office (Base), Chengalpattu
9	Revenue Divisional Officer's Office, Chengalpattu Mobile (Jeep)
10	Revenue Divisional Officer's Office (Base), Tambaram
11	Revenue Divisional Officer, Tambaram Mobile (Jeep)
12	Revenue Divisional Officer's Office (Base), Madurantagam
13	Revenue Divisional Officer, Madurantagam Mobile (Jeep)
14	Taluk Office (Base), Chengalpattu
15	Tahsildhar, Chengalpattu (Mobile)
16	Taluk Office (Base), Tambaram
17	Tahsildhar, Tambaram (Mobile)
18	Taluk Office (Base), Tirukalukundram
19	Tahsildhar, Tirukalukundram (Mobile)
20	Taluk Office (Base), Madurantagam
21	Tahsildar, Madurantagam (Mobile)
22	Taluk Office (Base), Cheyyur
23	Tahsildhar, Cheyyur (Mobile)
24	Taluk Office (Base), Tiruporur
25	Tahsildar, Tiruporur (Mobile)
26	Taluk Office (Base), Pallavaram
27	Tahsildar, Pallavaram (Mobile)
28	Taluk Office (Base), Vandalur
29	Tahsildar, Vandalur (Mobile)

5.8 LIST OF EARLY WARNING SYSTEMS

SL. NO	TALUK NAME	EARLY WARNING SYSTEM
1	THIRUPORUR	KANATHUR REDDIKUPPAM
2		KARIKATTUKUPPAM
3		MUTTUKKADU
4		SEMMANCHERIKUPPAM
5		PUDHIYA KALPAKKAM
6		NEMMELI KUPPAM
7		SULEERIKATTU KUPPAM
8		PATTIPULAM
9		PUDHIA EDAIYARKUPPAM
10		PUDHU NENNELI KUPPAM
11		KOVALAM
12	THIRUKALUKUNDRAM	SADRAS KUPPAM
13		PUDHUPATTINAM KUPPAM
14		UYYALI KUPPAM
15		PUDUPATTINAM HIGH SEC SCHOOL
16		DEVANERI
17		VENPURUSHAM
18		KOKKILAMEDU
19		MAMALLAPURAM
20	CHEYYUR	KADALLOOR CHINNAKUPPAM
21		KADALLOOR PARIYAKUPPAM
22		KADALLOOR ALI KUPPAM
23		KANATHUR KUPPAM
24		VATTINAMKUPPAM
25		THENPATTINAM KUPPAM
26		PERUNTHURAZHU
27		PARAMANKEENI KUPPAM
28		THAZHUTALI KUPPAM
29		PANAIYUR PERIYA KUPPAM
30		VELAMBUR KUPPAM
31		KADAPPAKKAM
32		ALAMPARAI KUPPAM
33		MUTTUKKADU
34		MEIYUR KUPPAM

5.9 MOCK DRILLS

Mock Drills are conducted at Taluk level and District level to ensure adequate preparedness in case of disasters such as floods. The mock drills are conducted by various departments including Fire and Rescue, Revenue department. The mock drills provide a precise account of the rescue operations that needed to be carried out in case of a disaster.

Disaster Management mock exercise (csr) by National Disaster Response Force (04 BN NDRF Arakkonam) at kalpakkam centre is on progress.





5.10 COMMUNITY & OTHER STAKEHOLDER PARTICIPATION IN PREPAREDNESS

5.10.1 Community Based Disaster Risk Management Project-II (CBDRM)

The Community Based Disaster Risk Management - II (CBDRM - II) is a continuation project of Community Based Disaster Risk

Management (CBDRM) Implemented by State Institute of Rural Development & Panchayat Raj (SIRD & PR) at State Level and the District Rural Development Agency (DRDA) at the District Level with the co-ordination of the District Disaster Management Agency (DDMA). The Manpower for the project has been given by Arivoli Iyakkam, Chengalpattu District. The Project is Monitored at the State level by the Tamil Nadu State Disaster Management Agency (TNSDMA) with World Bank funding. The regular activities has been Guiding, Facilitating and Monitoring at the District level by District Rural Development Agency (DRDA). The primary objective of CBDRM - II is – To prepare the Target Community for Handling and Managing the Vulnerable situation (Disaster), Reduce the Risk factors and Learn to maintain the existing and the new infrastructure being created under CDRRP (Coastal Disaster Risk Reduction Project) also the Mitigation works through various Capacity Building (Training) activities among them.

In Chengalpattu District, 35 Coastal Habitations – CHs-

1. 13 CHs in Thirupporur Block (Thirupporur Taluk),
2. 3 CHs in Maamallapuram TP (Thirukkalukundram Taluk),
3. 6 CHs in Thirukkalukundram Block (Thirukkalukundram Taluk),
4. 8 CHs in Lathur Block (Cheyyur Taluk) &
5. 5 CHs in Idaikkalinaadu TP (Cheyyur Taluk)

are identified and the Project's Coastal Disaster Management activities are carried out in the 35 Coastal Habitations (CHs) at the district level by the District Project Officer in the Block and CH level by the Block Development Officers concerned.

S.No.	Name of the Project / Coastal Villages / Habitations	Name of the Panchayat / Town Panchayat / Municipality / Corporation	Name of the Block / Name of the Taluk
1	Kaanathur reddy kuppam	Kaanathur Panchayat	Thirupporur Block & Thirupporur Taluk
2	Karikkaattu kuppam	Muthukkaadu Panchayat	
3	Kundrukkaadu	Kovalam Panchayat	
4	Puthu Majit Nagar		
5	Kovalam kuppam		
6	Ansaari Nagar		
7	Chemman chaeri kuppam		
8	Pudhu kalpakkam	Nemmaeli Panchayat	Thirupporur Block & Thirupporur Taluk
9	Nemmeli kuppam		
10	Sooleri kattukuppam	Pattipulam Panchayat	
11	Pattipulam kuppam		
12	Puthu Nemmeli kuppam		
13	Pudhu edaiyur kuppam		
14	Devaneri kuppam	Maamallapuram Town Panchayat	
15	Maamallapuram kuppam		
16	Venpurusham		
17	Kokkila maedu	Edaiyur Panchayat	Thirukkaluk kundram Block & Thirukkaluk kundram Taluk
18	Saduranga pattinam - North	Saduranga pattinam Panchayat	
19	Meiyur kuppam - (Umari kuppam)		
20	Saduranga pattinam - South		
21	Pudhu pattinam kuppam	Pudhu pattinam Panchayat	
22	Uyaalikuppam	Vaayalur Panchayat	
23	Kadalur Chinna kuppam	Kadalur Panchayat	Lathur Block & Cheyyur Taluk
24	Kadalur Periya kuppam		
25	Aalikkuppam		
26	Ankaalamman kuppam	Kaanaathur Panchayat	
27	Palaiya naduk kuppam	Vada pattinam Panchayat	
28	Pudhu naduk kuppam	Then pattinam Panchayat	
29	Perunthuravu kuppam	Mugaiyur Panchayat	
30	Paraman kaeni kuppam	Paraman kaeni Panchayat	
31	Panaiyur Chinna kuppam		

32	Thaluthaali kuppam	Edaikkali naadu TownPanchayat	Cheyyur Taluk
33	Panaiyur Periya kuppam		
34	Kadappaakkam kuppam		
35	Aalambarai kuppam		

The Five Teams are –

1. Early Warning Team – 236
2. Evacuation Team – 237
3. Shelter Management Team – 239
4. Search and Rescue Team – 238
5. First Aid Team – 241

Totally 1191 Local Volunteers prepared to manage any disaster in the Coastal Habitations in the previous CBDRM Project. As per the Instruction and Guidelines from Commissioner of Revenue Administration, 434 First Respondents swimming and tree climbing skills are identified and sensitized for managing any coastal related disasters until external help reaches these Coastal Habitation. The final list of the VDMC and the VDMTs has been provided after completion of their training programs.

5.11 LINKAGES WITH IDRN

IDRN is a nation-wide electronic inventory of resources that enlists equipment and human resources, collated from districts, states and national level line departments and agencies.

- IDRN is a web based platform, for managing the inventory of equipment, skilled human resources and critical supplies for emergency response. Primary focus of IDRN portal is to enable the decision makers to find answers on availability of equipment and human resources required to combat any emergency situation. This database will also enable them to assess the level of preparedness for specific disasters.
- NIDM is organizing training programs regularly to generate awareness about IDRN portal, its workflow and utilities. Along with providing knowledge about IDRN and its functionality training is also used to understand the user requirements and specific challenges in IDRN maintenance at district and

state

level.

- The online inventory of resources is hosted in the National Informatics Centre (NIC), New Delhi. Only the authorized Government officers have the access to uploaded data in the portal and the district authorities are the officials for facilitating data collection and updation . Data is monitored and maintained at the central level by National Institute of Disaster Management (NIDM). Besides NIDM is responsible for the overall administration of the portal.
- District Collectors/Magistrate are the authorized officials to get the latest information about disaster management resources available with various line departments/agencies and uploaded in the portal, using services of District Informatics Officers.

In Chengalpattu district the details of resources have been uploaded and the position of the inventory is also being updated from time to time as illustrated below;

**INDIAN DISASTER RESOURCE NETWORK (IDRN)
Department Wise Data Status Report**

DEPARTMENT TYPE	DEPARTMENT NAME	NO OF RECORDS UPDATED
Govt	Corporation	10
Govt	Fire Department	501
Govt	Health Department	299
Govt	Highways Department	249
PSUnits	Hindustan Petroleum Corporation Limited	6
Govt	Municipal Administration	262
Govt	NHAI-PIU	3
Govt	Rural Development	103
Govt	TNEB Chengalpattu	21
Govt	Town Panchayat	539
Total		1993

DISASTER RESPONSE PLAN

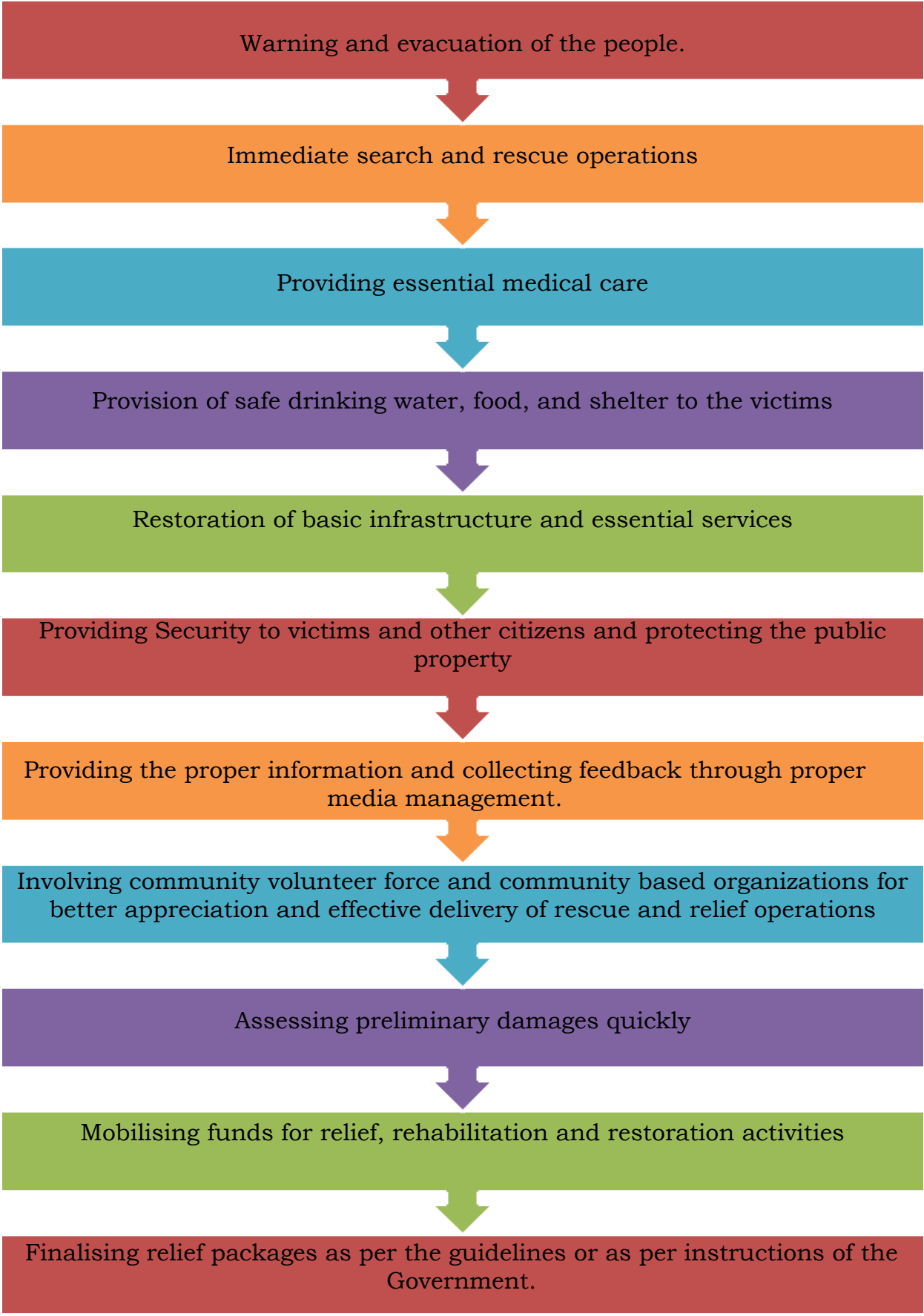
Disaster Response measures are built upon the precautionary actions taken up prior to and following, a disaster with an objective to reduce the loss of life and damages to the property, infrastructures and environment, besides, rescuing those who are affected or likely to be affected by a disaster. The Response process begins the moment it becomes apparent that a disaster is imminent and continues until the disaster is declared as over.

The management of response in disasters requires the Government, community, civil society and other stakeholders to carry out a large number of tasks. The activities involved in response management would depend on the nature and type of disaster.

The District Disaster Management Authority holds periodical meetings with concerned line departments to foresee emergency situations and puts in place, a system to deliver emergency support functions. Inter Departmental Zonal Committee comprising of multi departmental officials oversee the pre arrangements and monitor the functions of various systems such as Restoration of Electricity, Water supply and Sanitation system, Telecommunication, Road and Transportation Network, Supply chain of food and other essential items etc during disasters. Food being the quite essential commodity, the Tamil Nadu Civil Supplies Corporation keeps two months stock of food items especially in vulnerable areas at any given point of time. The public are also advised repeatedly to keep stock of Food, Water essential medicines and household items readily available

6.1 Disaster Response Flow Chart

When the disaster has actually struck, it is called the Impact Phase of a Disaster during which immediate Response is needed to reduce the loss of lives and property. During this phase the following activities should be taken up



6.2 INCIDENT RESPONSE SYSTEM IN CHENGALPATTU DISTRICT

The management of response in disasters requires the Government, community, civil society and other stakeholders to carry out a large number of tasks. The activities involved in response management would depend on the nature and type of disaster. The Government of Tamil Nadu is adopting Incident Response System (IRS) in the State to ensure the unification of efforts of all the stakeholders to ensure immediate response during disasters to protect people & their properties.

The Incident Response System provides a systematic, proactive approach guiding the concerned departments and agencies at all levels of Government, the private sector and Non- Governmental organizations to work seamlessly in disaster situations.

5

For effective, efficient and comprehensive management of disasters in the State of Tamil Nadu, IRS is critical. The aim is not only to minimize loss of life and property but also strengthen and standardize the disaster response mechanism in the State.

- ▶ The Five Systems used in Incident response Systems are as follows

6.2.1 OPERATION DESK:

Police and Fire & Rescue

- ▶ Monitoring field level rescue and evacuation operations
- ▶ Monitoring salvage operations
- ▶ Requisition of accommodation, transport and other necessary equipment for relief groups
- ▶ Maintain law and order
- ▶ Regular updates to the EOC regarding relief operations

6.2.2 INFORMATION DESK:

Revenue

- ▶ Communication of weather reports and warnings and subsequent updates
- ▶ Dissemination of information
- ▶ Keep contingency plans along with all necessary maps in ready to use condition
- ▶ Maintenance of important telephone numbers, database on available resources, list of key persons

- ▶ Send and receive messages and maintain records of the messages
- ▶ Maintain information of damage, materials sent and ongoing activities for immediate sharing with Emergency Operation Centre

6.2.3 LOGISTICS DESK:

Transport

- ▶ Assess the need in terms of manpower and resources and ensure regular supply
- ▶ Ensure proper storage and transport facilities for relief materials
- ▶ Maintain adequate supply of necessary transport and equipment
- ▶ Coordinate with private transport associations and boat association for emergency requirement
- ▶ Organize transportation for rescue party, evacuated people medical teams and injured or sick people

6.2.4 HEALTH DESK:

Health

- ▶ Organize treatment of injured and sick, disposal of carcasses
- ▶ Preventive Medicine and anti-epidemic measures are taken
- ▶ Maintain record of all activities

- ▶ Maintain adequate supply of medicines, equipment and personnel

6.2.5 RESOURCE & SERVICE DESK:

All Departments Co-ordination

- ▶ Overall coordination of rescue and relief operations
- ▶ Assessing the relief, search and rescue and cash compensation requirements
- ▶ Organize and co-ordinate setting up of relief camps
- ▶ Ensure adequate supplies to the camps
- ▶ Coordinate identified NGO activities to ensure community participation
- ▶ Reporting the procurement and disbursement of relief material received from all sources
- ▶ Organize construction of temporary shelters, school buildings, medical facilities etc.

6.3 RESPONSIBILITY MATRIX

The perils of hazard has to be negated with appropriate observation and focused activities, which necessitate the need of an ever vigilant forecasting system that will help in managing the disastrous effect of a hazard.

The structural frame work starts with identifying, evaluating and assigning well defined roles and responsibilities of various authorities in managing disasters. Experiences with previous disasters make it clear, that authorities have to be sensitized prior and subsequent to an unturned event. Thus, coordination among stakeholders for effective management of disasters is essential and to ensure this, preplanning must be done before the onset of a disaster and specific tasks must be assigned to each department so as to provide training in specific areas.

Time	Task	Department/ Agency
D-72 Hr	Warning and analysing the information.	IMD, SEOC, INCOIS.
D-48 Hr	Evacuation, Arrangement of temporary shelters.	Revenue, Police, Coast guard.
D-24Hr	Mitigation Measures.	Revenue, Police, Fire& Rescue, Health, Navy, Coast Guard, NGO's, PWD.
D-0Hr	Activate the Incident RESPONSE System.	DDMA, Police, fire& Res-cue, Health.
D+15 Min	Search and Rescue Providing aids to affected people.	Revenue, Police, fire& Res-cue, Health, Navy, Coast Guard, NGO's, PWD.

6.4 FLOOD RESPONSE

In Chengalpattu District flood during the monsoon season is a MAJOR disaster and occurs almost every year. Hence a comprehensive departmental wise plan of action for the whole year is inevitable. By effectively planning and executing the responsibilities and by successful coordination this disaster can very well be tackled. Hence an elaborate activity calendar is prepared as follows.

6.4.1 ACTIVITY CALENDAR

DEPARTMENT	PRE-MONSOON	DURING MONSOON	POST MONSOON
HEALTH	<p>Training to all staff.</p> <p>Awareness campaign and intersectoral co-ordination.</p> <p>Identifying outbreak prone areas from experience of previous year.</p> <p>Identifying high risk areas as per vector index.</p> <p>Breeding container elimination campaign.</p> <p>Clean public place campaign.</p> <p>Clean water campaign. Formation and rejuvenation of rapid response team.</p> <p>Stocking necessary drugs, insecticides, allied materials, test kits, disinfectants, larvicides, equipment etc.</p> <p>Repair of fogging machines, sprayer etc. Advocacy and sensitization meetings</p>	<p>Intersectoral co-ordination meetings.</p> <p>Strengthening treatment facility.</p> <p>Surveillance of diseases and outbreaks.</p> <p>Dry day observation.</p> <p>Intensive screening of immigrants for Malaria.</p> <p>Release larvivorous fishes in wells and other water sources.</p> <p>Aedes surveillance work.</p> <p>Super chlorination of water sources.</p> <p>Indor Residual Spray in Malaria reported areas. Indoor space spray and thermal fogging at Dengue reported areas. Supply of Doxycycline for the prevention of Leptospirosis to high risk groups.</p>	<p>Improve active and Passive blood collection for Malaria detection.</p> <p>Conducting regular screening of migrant to detect Malaria and Filarias.</p> <p>Detection and elimination of breeding sources of Aedes Mosquitoes.</p> <p>Detection and elimination of breeding sources of Anopheles mosquitoes.</p> <p>Identify water scarcity area and work to avail safe drinking water.</p> <p>Conduct D&O trade Inspection regularly.</p>
	<p>Plantation owner Meetings.</p> <p>Active DISASTER RESPONSE TEAM for community action.</p>	<p>Public Health Act Implementation</p> <p>D&O Trade inspection.</p> <p>Active DISASTER RESPONSE TEAM if may required</p>	

DEPARTMENT	PRE-MONSOON	DURING MONSOON	POST MONSOON
REVENUE	<p>Maps and Survey sketches are provided to concerned departments so as to enable easy operation and administrative convenience</p> <p>Identifying low lying Areas</p> <p>Inspection of cyclone prone Villages & Low lying Areas</p> <p>Forming a Team for upcoming monsoon</p> <p>Co-ordinating with line departments</p> <p>Monitoring water bodies & reservoirs of the District</p> <p>Inspection of Manpower & Resources in the District</p> <p>Operating emergency operation centre in 24x7 pattern with round the clock manpower availability</p> <p>Maintaining close contact with line departments and NGO's</p> <p>Updating DDMP with updated contact numbers</p> <p>Preparing action plans</p> <p>Forming emergency response teams</p>	<p>The Chairman of DDMA forms a Disaster team and TRIGGER Mechanism in order to avoid major damages</p> <p>All Line Department officials, Army, Navy, SDRF, NDRF, Helicopter Teams and Revenue officials work in Co-ordination to rescue people.</p> <p>Activating DEOC</p> <p>People from low-lying areas are immediately rescued and transformed to safer places</p> <p>Temporary restoration Shelter homes are formed for affected peoples</p> <p>Evacuation Teams are in charge for evacuating peoples from risk prone areas</p> <p>Medical Camps are formed for treating injured persons and for prevention diseases</p> <p>Rapid response teams are in action along with local bodies and NGO's and volunteers</p> <p>Water breaches and other damages in tank or any other</p>	<p>Creating an activity calendar of the district with reference to past disaster</p> <p>Forming Disaster Response Team which includes all line department officials along with considerable revenue officials</p> <p>Enumeration and Inspection of low- lying areas</p> <p>Enumeration of flood affected villages and cyclone prone villages</p> <p>Temporary and permanent restoration</p> <p>Damages caused crop, roads, bridges and tanks are permanently restored by the concerned officials</p> <p>Mapping and sketching of past disaster affected areas</p> <p>Desilting of channels</p> <p>Making available resources &</p>

DEPARTMENT	PRE-MONSOON	DURING MONSOON	POST MONSOON
	<p>Devising emergency response methods Monitoring IMD warnings Formating shelter, evacuation plans Developing a trained team of volunteers Monitoring early warning systems, cyclone shelters, multipurpose evacuation shelters</p>	<p>water bodies are temporarily restored in order to avoid losses Damages in roads, bridges are temporarily restored by the line departments. Food packets, water bottles and other essential needs are immediately delivered to affected people Hospitals and PHCs in the districts function at full strength 24hrs Reporting human loss, cattle loss, hut damages & crop damages Relief fund will be immediately given to the beneficiaries</p>	<p>inventories Preparing action plans based on the experienced gathered in the past are prepared</p>
PWD/HW	<p>Clearing drain, choked culvert etc. to avoid flood during monsoon and to make roads traffic worthy.</p>	<p>Making roads which have been formed during monsoon and pothole have making them traffic worthy. Cutting and removing branches of tree and fallen trees.</p>	<p>Resurfacing to the damaged road surface.</p>
POLICE	<p>Equipment and vehicles would be inspected ensuring the working condition. Men and officers will be alerted and briefed.</p>	<p>Police patrolling would be intensified. On emergencies, a control room become operational at district police office.</p>	<p>Executing availability of manpower Ensuring availability of resources and inventories Forming Search</p>

DEPARTMENT	PRE-MONSOON	DURING MONSOON	POST MONSOON
		<p>Activating flood control rooms in 24x7 pattern</p> <p>Rescue and evacuation teams</p> <p>Reporting any Losses immediately</p>	<p>and Rescue Teams in case of emergencies</p>
FIRE	<p>Vehicles and equipment's are being kept ready to meet any eventuality.</p>	<p>Attends emergency calls and taking follow up actions.</p> <p>Rescue and evacuation teams</p> <p>Ensuring availability of manpower</p> <p>Ensuring availability of resources and inventories</p>	<p>Co-ordination with volunteers and ngo's with contact no's</p> <p>Conducting mock-drills periodically</p> <p>Ensuring availability of manpower</p> <p>Ensuring availability of resources and inventories</p>
AGRICULTURE	<p>Buffer stock of paddy seeds are made available by seed authority for resowing in the flood damaged paddy areas.</p> <p>Removal of silt and cleaning of water bodies with the assistance of village panchayats (to avoid flood)</p> <p>Popularizing construction of rain water harvesting structures.</p> <p>Moisture conservation by mulching, husk burial etc.</p> <p>Improving drainage system- drainage channels are deepened</p>	<p>Providing proper drainage clearing canals near paddy fields.</p> <p>Crop damages Relief</p>	<p>Providing compensation for crop loss due to natural calamities.</p>

DEPARTMENT	PRE-MONSOON	DURING MONSOON	POST MONSOON
	<p>before the onset of monsoon in all possible areas.</p> <p>Propping of bananas/ collar ringing method to avoid damage to bananas by wind.</p>		
ANIMAL HUSBANDRY	<p>Vaccination and deworming of animals & birds, Conducting awareness</p>	<p>Assessing & reporting of losses due to natural calamities</p> <p>Conducting medical camp for treating infected cattles</p> <p>Vaccination and deworming of animals & birds</p> <p>Ensuring adequate medicines in stock for emergency</p>	<p>Vaccination</p> <p>Conducting awareness</p>
TNEB	<p>Removing all tree branches touching along HT and LT lines, tightening all jumper connections and re- shacking lt lines wherever necessary, clear all transformer stations, replacing faulty lightning arrestors, breathers, earth connections etc.</p> <p>Good quality transformer oil is filled in transformers wherever necessary.</p> <p>Reconstituted d/m cell with one convener, two joint conveners and five members.</p>	<p>Staff engaged at all Sections for 24 hours with vehicle to attend any line breakdown and untoward incidents.</p> <p>Supply rectification being carried out on war footbasis.</p> <p>Individual complaints are rectified by Section staff and major HT/LT breakdown cases are rectified by engaging contract workers.</p>	<p>HT and LT lines to be cleared from creepers and touchings.</p> <p>All transformer stations to be cleared off vegetation.</p> <p>Supply restored on temporary basis if any to be made pukka using standard accessories.</p>

DEPARTMENT	PRE-MONSOON	DURING MONSOON	POST MONSOON
TWAD	<p>Twad officials are given adequate alerts through circulars and conferences regarding maintaining all treatment plants, machineries in good working condition by overhauling and also to ensure the water quality as per standards.</p> <p>Constituting a Blue Brigade team for pipe lineworks</p> <p>Completing trenching works and other activities for pipe line maintenance works.</p> <p>Procure bulk quantity of PVC pipes as ready stock for drawing or tapping water from nearest available source on emergency situations.</p> <p>Instructing to TNEB officials to provide an uninterrupted power supply.</p> <p>Constructing street fire hydrants at various locations for providing tapping facilities to fire engines or other agencies</p>	<p>All stand by arrangements are made ready and Level of treatment is carried out maintaining the desired level of residual chlorine to fight epidemics or waterborne diseases.</p> <p>Water sample analysis is also carried out in District Quality control labs as well as in treatment plants.</p> <p>Arrangements for super - chlorination wherever contaminations are noticed in the water supply distribution systems.</p> <p>Keeping ready stock of sufficient quantity of bleaching powder for super chlorination where ever required.</p> <p>carrying out immediate action for repair works with the help of Blue Brigade team or alternate arrangement for water supply facility. carried out .Refilling of the pipe linetrenches where rectification works</p>	<p>Any corrective measures to be taken are carried out and the regular water supply maintaining the required quality and quantity is ensured.</p> <p>Constructing street fire hydrants at various locations for Providing tapping facilities to Fire Engines.</p> <p>Any corrective measures to be taken are carried out and the regular water supply maintaining the required quality and quantity is ensured.</p>

DEPARTMENT	PRE-MONSOON	DURING MONSOON	POST MONSOON
		are where soil erosion occurred due to major pipe line bursts	
IRRIGATION	<p>Joint inspection of engineers from mechanical electrical and civil divisions to evaluate the preparedness for monsoon.</p> <p>Directions for the operation during monsoon issued to the engineer in charge of the dam. (Separately attached).</p> <p>Trial run of the motors and hoisting mechanism conducted to verify the operability during emergency.</p> <p>Trees/ branches of trees, or similar objects that may endanger the safety of dams and buildings are identified and actions taken to cut and remove them.</p> <p>Alert messages are given to EB to provide un interrupted power supply for the shutter operation at all the time during monsoon.</p> <p>Warning message given to the public</p>	<p>Operator, workers and officers constantly watch the water level and control the water level to avoid any possibility of a flood disaster.</p> <p>Operators /workers arranged for night watch and duty log book is maintained for recording the incidents and to bring to the notice of the Engineer in Charge immediately.</p> <p>During heavy rains water level is recorded for every hour.</p> <p>Water storage level brought down to get enough time for opening all the shutters in case of an emergency. At the same time the required water level is maintained for the pumping of Water Authority.</p>	Maintenance of the shutters, motors and hoisting mechanism dam body and related structures.

DEPARTMENT	PRE-MONSOON	DURING MONSOON	POST MONSOON
	regarding the shutter opening. Generator arranged ready for hire to use in case of an emergency.		
IMD	To monitor and compute meteorological parameters for the district/ state. Carry over simulation and establish daily forecasting. To increase numerical modelling, precision and accuracy. To send daily report to DCR/ EOC of Collectorate and other departments.	To monitor and compute meteorological parameter for the district/ state. Give the necessary response to SEOC, DCR/ EOC of respective Collectorates.	To monitor the meteorological parameter and give daily reports to concerned departments.

6.5 RESPONSE FOR CHEMICAL DISASTER IN MAH UNITS

The Directorate of Industrial Safety and Health is enforcing the Factories Act 1948 and other allied Labour laws in the factories registered under Factories Act. Factories are registered under section 2m(i) and 2m(ii) of the Factories Act.

Section 2m(i) – in a Factory where 10 or more workers are working with the aid of power.

Section 2m(ii) – in a Factory where 20 or more workers are working without the aid of power

Factories in which storage and Handling of Hazardous Chemicals may lead to a major Accident (eg.Toxic emission, Fire or Explosion) are called Major Accident Hazard Factories. i.e., in a Factory ,where Isolated Storage and Industrial activity involving

hazardous chemicals equal to or in excess of the threshold quantities specified in column 3 of schedules 2 and 3 respectively of the Manufacture ,Storage and Import of Hazardous Chemicals Rules,1989(MSIHC Rules, 1989) ,is a Major Accident Hazardous factories .

Manufacture, storage and use of hazardous substances pose a serious risk to industry, people in the neighbourhood and the environment. Accidental release of hazardous chemicals, which are flammable, explosive or toxic, may lead to emergencies. Depending upon the nature of the substance and magnitude of the release, emergency could either be confined within the industry(On-site Emergency) or could transgress the boundary of the industry and affect the public in the neighbourhood in which case it would be an Off –site Emergency.

6.5.1 On –site Mitigation Measures:-

Actions to be taken in case of occurrence of Emergency in handling / storing of Hazardous Chemicals which are having fire explosion or toxic gas release hazard.

6.5.2 Detection of Emergency

The detection of Emergency may be made through the automatic detection system such as smoke detector for the fire mud gas sensors for the toxic release.

6.5.3 Responsibility of person noticing the Emergency.

The person noticing the emergency should immediately communicate it to the superiors by the available means (eg) intercom, Fire alarm, Manual call points etc., He should clearly identity himself and explain the nature of emergency and the exact location of such hazard.

6.5.4 Emergency Siren

On confirmation about the incidence of emergency, the concerned person will immediately operate the Emergency siren.

6.5.5 Mobilization of the Action team (Emergency Task Force)

In day time, the Chief Executive will be the “Site controller” in his absence, the General Manager will act as the site controller. After general shift hours. The over – all in charge of the shift operations will take over the charge of site

controller. The site controller is the ultimate Authority to give directions and instructions in regard to Emergency response procedures. He will function in the Emergency Control Centre.

The Manager (Works), who is the “Incident Controller” will reach the site and pass on the message and the gravity of the situation to the Site – Controller. The officer in charge of the fire crew/toxic gas release combat crew will reach the site with the team, with the equipments and appliances as required for the emergency.

Safety officer / Chief safety officer will arrange for necessary safety /

personnel protective equipments to the personnel handling the situation.

The site Controller will request the services of Tamilnadu Fire Service and police as well as the neighbouring factories for the help if required.

6.5.6 Fire fighting:

To fight fire, the following fire protection system are used:-

Fire hydrants and fixed fire monitors

Fixed water sprinkler system

First – Aid fire fighting equipments

6.5.7 Arresting the toxic Gas release:

Arresting of toxic gas release will be carried out by following the laid – down procedures. Generally the following precautions are followed, while arresting the toxic gas release.

Adequate protective clothing should be donned before entering an emergency zone, or other appropriate safety measures should be established.

In the event of escape of toxic gas, repairs or investigations should only

be performed by qualified persons having the correct equipment.

Approach from the windward side so that escaping gas is carried down wind to a lower level.

6.5.8 Statutory Authorities:

Government Departments Participation in mitigation of on-site Emergency:

The following Government departments participate in

mitigation of on-site Emergency.

Fire service

Police

Health

Transport

Directorate of Industrial Safety and Health

Tamil Nadu Pollution control Board

Fire service department helps in fire – fighting, police department helps in maintaining law and order, Health department helps in giving medical assistance and the Transport department helps in providing transport pollution Control Board will render expert suggestions in respect of Safety & Environment respectively.

6.5.9 Guide lines followed by the Director of Industrial Safety and Health while recording the on-site Emergency Plan.

Before recording the Onsite Emergency plan as received from the Major Accident Hazard Factory, the following guide lines are followed.

The on-site emergency plan is checked by using the check list for Assessment to preparedness, which is given in Annexure-II.

It is checked, whether the Onsite Emergency plan received from Major Accident Hazardous factories contains the details given in schedule 11 of the Manufacture, storage and import of Hazardous chemicals Rules, 1989 (Amended in 1994)

The field level officer, viz., the Joint Director of Industrial Safety and Health or the Deputy Director of Industrial Safety and Health shall make a personal inspection in the concerned factory and physically verify with the On-site Emergency plan as to whether the emergency facilities are actually provided and maintained; when a mock-drill is conducted in the factory premises, he will observe the exercise and make specific remarks in his report to the Director of Industrial Safety and Health about the merits and short comings of the On-site Emergency Plan.

6.5.10 Off-site Emergency Plan

An offsite emergency arising out of chemical hazards is one, which has the potential to cause serious damage or loss of life beyond the plant boundary. In addition, accidents during transportation of hazardous chemicals by road, rail, pipeline, etc. can also cause offsite emergencies. Emergency services such as police, fire, medical, etc. need to be prepared to handle such situations promptly and effectively. The snowballing of a small incident into a major chemical disaster and the subsequent effects on the life and property can be mitigated if there is a readily implementable emergency preparedness plan available with the concerned district authorities. In order to be in a state of preparedness to respond to the accidents and minimize their adverse impacts on the off-site population, Rule 14 of the Manufacture, Storage & Import of Hazardous Chemical (MSIHC) Rules, 1989, amended in 2000, under the Environment (Protection) Act (EPA) 1986 amended in 1991, requires an Off-site Emergency Plan to be prepared by the District Collector of Industrial Area, as applicable.

6.5.11 Role of executives (at factory) and Government Department in Off-Site Emergency control Rescue and Mitigation Executives at Factory

► Incident Controllers

He will be at the site of emergency. He will intimate about the prevailing situation at site to the Site Controller.

► Site Controllers

He will inform the District Collector about the incident with details of the Magnitude of emergency, the name of the Chemical, Probable quantity involved, the possible event of damage the direction of the plume travel and the action taken at the factory for control. Also he should specifically advise the District Collector whether Off-Site Emergency Should be declared or not. In addition to Collector, he will report the incident to the superintendent of Police, District Fire Officer, District Medical Officer and Others.

6.5.12 Government Department:

Government Departments Participation in mitigation of off-site Emergency:

- District Collector

- Revenue Department,
- Police Department,
- Medical Department,
- Fire Services,
- TNEB,
- Pollution Control Board,
- Town Panchayat,
- Directorate of Industrial Safety and Health,
- Transport Department,

In TamilNadu there are 166 factories coming under the Major Accident

Hazardous Category. These Major Accident Hazardous factories are mostly located in 5 chemical belts. Viz Manali – Ennore, Ranipet, Mettur, Cuddalore and Tuticorin. A Major Accident Hazard control cell formed at Head quarters is recommending suitable safety measures to the Major Accident Hazardous factories to prevent industrial disasters and to develop mitigative measures so as to minimize the pollution and environmental disturbances.

6.5.13 Emergency Scenarios:-

Major industrial hazards are generally associated with the potential for toxic chemical release, fire or explosion.

- Events involving release of toxic materials
- Slow or intermittent release of toxic substance from a leaking valve,
- Rapid release for limited duration due to fracture of pipe leading to a toxic cloud which may travel or dissipate,
- Massive release of toxic substance due to failure of large storage or process vessel or uncontrolled chemical reaction.
- Loss of containment for a plant threatened by a fire.
- Events involving spillage of flammable liquids or loss of containment of flammable gases

- Confined spill
 - Unconfined spill
 - Major fires with no danger of explosion Hazards from high levels of thermal radiation and smoke, for example:
 - Pool fire,
 - Flash fire,
 - Jet fire etc.
 - Explosion.
 - Explosion Events
 - Hazards from blast waves, flying debris, high level of thermal radiation.
 Serious emergencies that can be envisaged are
 - Confined explosions,
 - Unconfined vapour cloud explosion,
 - BLEVE
 - Assessment of possible incidents is to be carried out for each MAH installation, in terms of:
 - The quantity of hazardous material which could be released
 - The rate of release
 - Effects of such a release
 - Thermal radiation from a fire at different distances
 - Blast over-pressures due to an explosion as function of distance from the incident spot
 - Toxic effects affecting the vulnerable zone (circle showing concentrations)
 - Number of people likely to be affected

6.5.14 Control Measures: Fire:-

- Automatic medium velocity sprinklers installed.
- Foam pourers are provided.
- Emergency DG set is provided for power supply to critical equipments.
- Fire fighting equipments are provided like hydrants, monitors, portable foam tankers etc. sensors / smoke detectors:
- Personal Protective Equipments.
- Monitoring of leakages in the parking area of trucks by using explosimeter.
- Spark arrestors will be fitted to all vehicles.

Explosion:

- Rupture discs and safety valves are provided.
- Storage tank area is isolated from rest of the plant and entry of personnel is restricted.
- Gas monitoring system, explosimeter are provided.
- Remote operated shut off valves are provided.
- Gas detectors are provided at strategic locations.
- Work Permit System is followed.

Toxic Leakage:

- Sensors with alarm is provided.
- Scrubbing arrangements are provided to neutralise toxic gas release.

6.5.15 Personal Protective equipments

- Safety equipments like safety shoes, safety helmets, goggles, earplug / muff, safety belt, safety harness, fire proximity suit, self contained breathing apparatus and water jet blankets etc., are provided.

6.5.16 Emergency Control Centre

- A copy of the Onsite Emergency Plan

- Topographical Plan
- Name, Address & Telephone numbers of employees
- Emergency lights
- Standard Operating Procedure
- Communication facilities
- Medical facilities
- Ambulance facilities.
- Details of trained person
- Facilities available at first aid centre
- Anti dotes and emergency medicine
- A copy of mutual aid agreements that has been made between the organization.
- Escape routes and Evacuation zones
- Emergency shutdown system
- Fire fighting system
- Fire and gas detection system
- Self contained breathing apparatus
- Fire proximity suit

6.5.17 Medical Facilities

All hazardous factories are provided & maintained Occupational Health Centres with all facilities including appropriate antidotes with respect to the chemicals stored / handled and also provided with ambulance van as stipulated in Rule 62-P of TamilNadu Factories Rules 1950

6.5.18 Fire fighting facilities

As per rule 61 (11) (e) of Tamilnadu factories rules 1950 the factories have been provided with fire water storage of capacity 4,50,000 litres of water supply and the hydrant system is maintained at a minimum pressure of 7kg / cm² .

6.5.19 Onsite Emergency Plan

In order to assess the emergency response measures, each

unit has to prepare an Onsite Emergency Plan. In Kancheepuram district Onsite Emergency Plans for 26 MAH Units have submitted their reports to Directorate of Industrial, Safety and Health. Onsite Emergency Plan submitted to Directorate of Industrial, Safety and Health are scrutinized from time to time & suitable safety & health measures have been suggested to the management for necessary implementation & updation.

6.5.20 Off -Site Emergency Plan

With regard to Off-Site Emergency Plan, Ministry of Environment & Forests, New Delhi has entrusted the projects for preparing the Plan for Kancheepuram District is under process by M/s Techno safe consultant Private Limited, New Delhi.

6.5.21 Safety Reports

As per the requirement of rule 10 of MSIHC , rules 1989 safety reports are submitted by the managements .In Kancheepuram district as per the requirement of above said rule out of 20 MAH units , 3 Units are required to submit a safety report and now these 3 units submitted their reports to Directorate of Industrial , Safety and Health.

6.5.22 Safety Audit Reports

As per the requirement of rule 10(2) of MSIHC , rules 1989 Safety Audit are conducted by an External Auditor who is approved from DGFASLI ,recognised by Directorate of Industrial , Health and Safety and the reports are prepared as per IS 14489 of 1998 . In Kancheepuram district as per the requirement of above said rule out of 19 MAH units , 3 Units are required to Conduct safety Audit and now these 3 units submitted their Safety Audit reports to Directorate of Industrial , Safety and Health.

6.5.23 Safe Operating Procedures

Each MAH units have prepared SOP for their factory based on the Hazardous Substances handled and it has been prepared both in Tamil and English Workers to follow during their work. A copy of SOP has also been displayed near the work area in each factory.

6.5.24 Training

In each factory in plant Training is given to each worker before

employment. During the course of occupation they have been given training by the officials of the Directorate of Industrial Safety and Health regularly by taking Safety Training Classes, Conducting Safety Awareness Programme. Apart-from this workers have been trained to handle any emergency in their factory by way of addressing MockDrill.

6.5.25 Rehearsing Emergency Procedures

Once the Emergency Plan is finalised and documented, it should be made known to all personal concerned, so that each knows his role in the event of an Emergency. It is essential that the plan is regularly tested because it is only by such rehearsals , defects become apparent which can be rectified then and there.

As per Rule 13(4) of the Manufacture, Storage and the Import of Hazardous Chemicals Rules,1989(Amended in 1994) the occupier shall ensure that a full scale mock drill of the Onsite Emergency plan is conducted every six months in his factory

Adequacy of emergency response measures and the level preparedness of the key personnel are monitored by management by the way of conducting Mock drill periodically once in 6 months. In addition National Disaster Management Authority is also conducting Mock drills in the Major accident Hazardous industry.

6.6 DETAILS OF FIRST RESPONDERS – TALUK WISE

Status report of First responders & Disaster relief guards		
Sl.	Taluk name	First responders

No		Genders			Category	
		Female	Male	Transgender	Individuals	Belongs to Organization
1	CHENGALPATTU	124	412	0	498	38
2	CHEYUR	32	791	0	822	1
3	MADHURANTAKAM	104	613	0	713	4
4	PALLAVARAM	21	286	0	306	1
5	TAMBARAM	103	327	0	421	9
6	THIRUKKALUKUNDRAM	113	666	0	778	1
7	THIRUPPORUR	25	567	0	592	0
8	Vandalur	51	299	0	343	7
	TOTAL	603	4046	0	4473	61

6.7 DETAILS OF FIRST RESPONDERS – SKILL WISE

+Sl. No	Taluk name	First responders													
		Skills													
		Swimming	Snake Catching	Tree Cutting	Livestock Maintenance	Electrical Works	Plumbing Works	Medical Aids	Field Surveying	Street play	Photography	Computer Operations	MIME	Typing Works	Driving
1	CHENGALPATTU	207	0	254	16	0	0	0	0	0	0	0	0	0	
2	CHEYYUR	230	36	56	83	0	0	0	0	0	0	0	0	0	
3	MADHURANTAKAM	106	6	20	107	0	0	0	0	0	0	0	0	0	
4	PALLAVARAM	16	0	0	0	0	0	0	0	0	0	0	0	0	
5	TAMBARAM	205	78	47	79	0	0	0	0	0	0	0	0	0	
6	THIRUKKALUKUNDRAM	109	5	39	37	0	0	0	0	0	0	0	0	0	
7	THIRUPPORUR	259	16	37	75	0	0	0	0	0	0	0	0	0	
8	Vandalur	49	1	53	94	0	0	0	0	0	0	0	0	0	
	TOTAL	1181	142	506	491	0	0	0	0	0	0	0	0	0	

DISASTER RELIEF AND REHABILITATION PLAN

7.1 DISASTER RELIEF AND REHABILITATION

As and when a disaster strikes or an early warning is issued the first priority is to ensure that the affected or likely to be affected, are evacuated/rescued from the danger zone to pre-identified Relief Shelters. Evacuation to relief shelters ensures that valuable lives along with their most valuable assets are protected.

Once people are shifted to the Relief Shelters, the Government extends, relief measures which play a critical role in providing much needed succour to those affected during the disaster and are temporarily accommodated in the relief centres.

The Government of Tamil Nadu follows the minimum standard prescribed by NDMA to provide relief to those accommodated in the relief centres.

The objective of Disaster Relief and Rehabilitation is to provide immediate relief and rehabilitation to the affected Community. The focus of the relief strategies adopted in Tamil Nadu is to ensure that those evacuated and shifted to the relief centres are provided with food and other basic necessities as well as ensuring that their health is taken care.

The special needs of Women, Children, Aged and differently abled are given distinctive attention. The security of Women and Children, rebuilding their emotional equilibrium are also part of the priorities of the Government.

7.1.1 MULTI - PURPOSE EVACUATION SHELTERS/CYCLONE SHELTERS / OTHER RELIEF CENTRES

They have facilities like kitchens, water storage and toilets for men & women thus providing a safe and hygienic shelter. To accommodate livestock, separate infrastructure has been created. These structures are planned as multipurpose utility buildings and can be used for activities like classrooms, community function hall, meeting rooms for SHGs, community meetings,

vocational trainings and other such community activities on a regular basis, making this infrastructure a vital part of the development of the communities.

- In multipurpose Evacuation Shelters (MPES) recently completed under CDRRP, provision for cooking food, adequate and safe water supply, as well as proper sanitation as per NDMA guidelines, Generators with fuel for power back up, etc. are provided in all the relief shelters.
- In areas where permanent structures are not available, to avoid delay in setting up of temporary centres and exorbitant billing of essential supplies, MoU will be entered with manufacturers / suppliers for supply of factory made fast track pre-fabricated shelters / tents / toilets / mobile toilets and urinals which can be dismantled and taken back by the supplier after the deactivation of the camp.
- 3.5 Sq. m of covered area per person with basic lighting facilities are provided to the inmates of relief centres as far as possible. In mountainous areas and in those areas where no other public building is available, minimum covered area will be less.
- High Mast lights (wherever possible), emergency lamps, search lights and candles are arranged in sufficient quantity.
- Special care is taken for the safety and privacy of inmates, especially women, widows and children as their needs are distinct in nature.

LIST OF MULTIPURPOSE EVACUATION CENTRES

<u>S.NO</u>	<u>DETAILS OF LOCATION OF THE MPES</u>	<u>TYPE OF BUILDING</u>	<u>SCHOOL AUTHORITY</u>	<u>LOCAL IN-CHARGE</u>
<u>1</u>	<u>NEMMELI</u>	<u>SCHOOL (1000)</u>	<u>HEAD MASTER, NEMILI</u>	<u>TAHSILDAR, THIRUPORUR</u>
<u>2</u>	<u>PATTIPULAM</u>	<u>SCHOOL (500)</u>	<u>HEAD MASTER GOVT.ADIDRAVIDA WELFARE HIGH SCHOOL, PATTIPULAM</u>	<u>TAHSILDAR, THIRUPORUR</u>
<u>3</u>	<u>KANATHUR (KODAPATTINAM)</u>	<u>COMMUNITY HALL (1000)</u>	<u>BDO, LATTHUR</u>	<u>TAHSILDAR, CHEYYUR</u>

7.1.2 Temporary and Intermediary Shelters

In case of devastating disasters, when the period of stay in temporary shelters is likely to be long and uncertain, or where extreme weather conditions can be life-threatening, construction of intermediary shelters are undertaken as was done during post tsunami in 2004.

In 2004, when Tsunami necessitated relocation of people from their normal place of living; every effort was made by the Government to provide the most suitable site for proving alternative accommodation from the available options. People, whose principal residence was damaged or destroyed badly by the disaster, were provided temporary accommodation.

1	PERMANENT SHELTERS	290
2	ANIMAL SHELTERS	61

LIST OF RELIEF SHELTERS

Status report of Relief Centers										
Sl. No	Taluk name	Details of relief centers		Building type						
		No. of relief centers	No. of rooms	Room Capacity	Multipurpose Evacuation Shelter	Community Hall	School	College	Thirumana Mandapam	Other Buildings
1	<u>CHENGALPATTU</u>	25	293	9302	0	1	19	1	3	1
2	<u>CHEYYUR</u>	24	119	4005	1	0	20	0	1	3
3	<u>MADHURANTAKAM</u>	72	210	6740	0	5	62	1	1	3
4	<u>PALLAVARAM</u>	47	706	13665	0	2	41	0	4	0
5	<u>TAMBARAM</u>	49	528	11650	0	12	31	1	4	1
6	<u>THIRUKKALUKUNDRAM</u>	26	149	5935	0	10	14	0	1	1
7	<u>THIRUPPORUR</u>	28	106	6940	2	4	20	1	0	1
8	<u>Vandalur</u>	19	202	9640	0	5	10	0	4	0
TOTAL		290	2313	67877	3	39	217	4	18	10

7.1.3 Management of Relief Centres

Provision of basic shelter, food, water and health care are essential services that are extended to the people in the relief centres. While providing relief other issues, such as privacy, safety, security and specific gender needs are also addressed in these shelters. The National Disaster Management Authority has framed guidelines for providing Minimum Standards of Relief to the victims of disasters. As a measure of adopting the above guidelines, the District Collectors have been mandated to follow the above said NDMA guidelines vide this office letter NEM Circular No.N.C.1 (4) / 3137 / 2017, dated 8-9-2017.

- In addition to the 121 MPES, that have been constructed in coastal districts, 3172 public buildings like schools, Anganwadi centres, Cyclone shelters, community centres, marriage halls etc., have been identified which can be used as Relief Shelters for accommodating the people affected by any natural calamity in Tamil Nadu.
- Special arrangements are made for differently-abled persons, old and medically serious patients with chronic disease as their needs are also distinct in nature.
- All the electrical installations are checked for safety.

The Guidelines for providing Minimum Standards of Relief to the victims of disasters issued by NDMA relating to food & nutrition, Drinking Water and sanitation are being adopted in the State.

List of cyclone shelters :

S.NO	NAME OF THE TALUK	NAME OF THE VILLAGE
1	THIRUPORUR	MUTTUKKADU
2		KELAMPAKKAM
3		SALAVANKUPPAM
4		KOVALAM
5		NEMILI
6	THIRUKAZHUKUNDRAM	PUDUPATTINAM

S.NO	NAME OF THE TALUK	NAME OF THE VILLAGE
7		UIYYALIKUPPAM
8		MEYYURKUPPAM
9		SADRASKUPPAM
10		KOKILAMEDU
11		VENPURUSHAM
12		DEVENERIKUPPAM
13		MAMALLAPURA KUPPAM
14	CHEYYUR	VADAPATTINAM
15		ALAMBARAIKUPPAM
16		KADALURKUPPAM
17		PARAMANKENI
18		MUDALIARKUPPAM
19		KOTTAIKADU
20		MUGAIYUR

7.1.4 Minimum Standard of Relief (Food and Nutrition)

- Milk and other dairy products are provided to the children and lactating mothers.
- Steps are taken to ensure that hygiene is maintained in the camp kitchens.
- It is ensured that Men and women are supplied food that provides a minimum of 2,400 Kcal per day and children / infants a minimum of 1,700 Kcal per day.
- The date of manufacture and the date of expiry on the packaged food items are verified before distribution.

- The community and camp kitchens have adequate facility for large number of people.

7.1.5 Drinking Water, Dewatering and Sanitation

Supply of clean drinking water to disaster affected areas is extremely essential to prevent any incidence of water borne diseases. The minimum standards prescribed by the State for supply of drinking water to people affected by disasters are adhered to in the relief centres. 3 litres of safe drinking water per person per day is provided to the inmates of the centres.

Providing proper sanitation facilities to men, women and children and ensuring privacy concerns is an important challenge met in the relief centres. The minimum standards prescribed by the NDMA have been adopted by the State for providing sanitation services to people affected by disasters.

In respect of Sanitation, the following standards are maintained in the Relief centres

- 1 toilet per 30 persons.
- Separate toilet and bathing facilities for women and children.

15 litres of water per person for toilet / bathing requirements.

Dignity Kits for women are provided with sanitary napkins and disposable paper bags with proper labelling.

Necessary arrangements are put in place for clearing the solid waste and for keeping the premises clean.

7.1.6 Relief Logistics and Supply Chain Management

The Tamil Nadu Civil Supplies Corporation (TNCSC) transports essential commodities of two months requirement to inaccessible and vulnerable / highly vulnerable and its nearby areas, as part of preparedness measures.

7.1.7 Health and Mental Health Care

Health care of disaster affected pregnant women and lactating mothers, neo-natal, aged and terminally ill and those suffering from chronic diseases receive utmost priority as they suffer from double jeopardy. The District Collectors have been directed to follow the above said NDMA guidelines vide this office letter No.N.C.1 (4) / 5779 / 2016, dated 28.10.2016.

7.1.8 Emergency Preparedness for Health Response

- Mobile Medical Teams visit the relief centres to attend the affected people. All precautionary Steps are taken to avoid spread of communicable diseases.
- Necessary basic arrangements are made for pregnant women for safe delivery.
- Arrangements are made well in advance to ensure the availability of Doctors / Para Medical Staff from Government / Private Hospitals with sufficient quantity of essential medicines to attend to the health needs and concerns of the affected people in relief centres.
- Referral and transportation of the affected people for further treatment / hospitalization etc., are arranged, wherever necessary by the medical team.
- Advance contingency plans for management of multiple casualties shall be derived.

The Social Welfare Department with technical support from mental health wing provides the support for diagnosis and treatment of mental care of affected people who suffer from Post-Traumatic Stress Disorder (PTSD). The past experience in Tsunami revealed that the State has handled the issue with a systematic approach.

In respect of Relief for Widows and Orphans,

- Special care to be given to widows and orphans, who are separated from their families.
- Widow Certificate to those widowed during disaster is issued within 15 days of disaster. Similar certificate to the children Orphaned by disaster is issued.
- For Relief to be given to Orphaned children, guidelines and G.O. issued by Government of Tamil Nadu will be followed scrupulously. Interest received should be given to the child.
- Guardian every month for his / her proper upkeep.
- Ex-gratia assistance for loss of life, assistance on account of damage to houses is given immediately as per the norms approved in G.O.Ms.No.380, Revenue Department, dated 27.10.2015 or any orders / guidelines issued subsequent to the publication of this plan.

7.1.9 Veterinary Care

Veterinary care for disaster affected livestock and animals, including wild animals and arrangements for their evacuation, shelter, fodder / feed etc. are important for rehabilitation of animals. In respect of Veterinary care the DDMA's have been advised to instruct the Joint/Deputy Director, Veterinary Services to ensure the availability of adequate stocks of veterinary medicine in Veterinary Hospitals and to ensure availability of essential drugs. The availability of adequate stock of fodder will be reviewed regularly. In the event of any emergency, the availability of stocks of fodder identified well in advance before the onset of monsoon will be transported to the needy places.

RECOVERY AND RECONSTRUCTION

Disasters can and do destroy property, adversely affect the livelihood of people, undo development initiatives and damage public infrastructure and facilities. The affected people and the communities often require support, both in tangible and intangible form, to regain normalcy and start life afresh from where it got disrupted. Each disaster could be considered as an opportunity to reinforce the resilience of the communities and the resistance of the infrastructure, so that adversity of the future disasters could be minimized.

8.1 VARIOUS ASPECTS OF RECOVERY AND RECONSTRUCTION

Recovery is defined “as assisting of persons and communities affected by emergencies to achieve a proper and effective level of functioning.” In the immediate aftermath of an emergency, and over the longer term, recovery is concerned with:

- The physical aspects of restoration and reconstruction of damaged community infrastructure and private housing;
- The economic aspect of restoration of productive activity and local employment;
- The social, financial and psychological aspects of personal, family and community functioning

Recovery arrangements are designed to embody an enabling and supportive process that allows individuals, families and communities to move through the recovery process. This is achieved by the provision of information, specialist services and resources. The Recovery process is therefore a long-term process in which everyone has a role – the Government including the local self-government institutions, the NGOs, and especially the affected people, their families and the community.

An emergency may be localised in its effects such as in a single house fire or a road or train accident, or it may have much more widespread consequences, as in the case of a major cyclone, flood, tsunami, or nuclear accident. There may be a need for community support, whether the cause is ‘natural’ or ‘man-made’. The capacity of people to recover from a disaster using their own resources varies, depending on the circumstances of the disaster as well as on the nature of their community. Repeated occurrence of disasters, on one hand, has fortified the coping mechanism of the communities, but on the other, has trapped them in a vicious cycle of socio- economic vulnerability. It is required to take up long-term disaster proofing measures to enable the communities to get out of the vicious circle and minimise their vulnerability.

Assistance provided will be adapted to meet the basic needs of those

affected, with a focus on the most vulnerable sections of the people. After disasters, special recovery measures are necessary for vulnerable groups like people with disabilities, widows, orphans, children and uncared elders. The recovery plans will also be gender sensitive and include cultural and biodiversity components. This requires sensitivity and extensive consultation with the affected people and communities and the inclusion of psychosocial expertise in the recovery team. Assistance may include material aid, temporary accommodation, financial assistance, counselling and personal services, information and community support and can come from a range of sources.

Experience demonstrates that recovery is best achieved when affected communities exercise a high degree of self-determination. It should be seen as a developmental process through which communities attain a proper level of functioning rather than merely returning to the previous level of functioning.

Recovery involves much more than replacing what was destroyed and rehabilitating individuals. It also involves a complex social process, which involves the whole community, and is best achieved when the affected communities exercise a high degree of self-determination. Recovery should be regarded as a developmental, rather than merely as a remedial process.

8.2 PRINCIPLES FOR RECOVERY

Agencies responsible for recovery management will be encouraged to incorporate the following principles into their recovery plans.

Recovery from a disaster is an enabling and supportive process that allows individuals, families and communities to attain a proper level of functioning through the provision of information, specialist services and resources.

- The process has to be properly planned, clearly understood and effectively executed by recovery agencies, response agencies and the community. For this purpose requisite training need be imparted to the community and the people executing it.
- Recovery management arrangements are most effective when the complexities and dynamics of recovery processes are properly recognised and are dovetailed into the changing needs of affected individuals, families and groups within the community. Evolution of the recovery process with the participation of the community and with use of local resources and expertise is best suited for over all community development.
- Recovery management is most effective when agencies providing

services in health, education, social welfare sectors play a major role in all levels of key decision making.

- For holistic recovery, environmental, social and psychological recovery processes should be integrated with infrastructural and economic recovery.
- Recovery process is more effective when the plan is comprehensive, executed at the earliest and as per the planned time schedule and the distribution is equitable

8.3 ROLE OF DIFFERENT DEPARTMENTS POST DISASTER

Functin	NodalAgency / Team Leader	Participating functionaries / agencies
Coordination (Incident –Commander)	District Administration (District Collector)	SP, DFO, ADM, RDO, DMO, Tahsildars, Municipal corporation, NCC and otherrelated Agencies.
Communication	Bharat Sanchar NigamLimited	Existing wireless operators (Police, Fire) Telecom Dept., mobile operators, FM Radio, Signals Regiment –, VHF, satellite communication, Community Radio.
Law and Order	Police Dept.	Civil Defence and Home guards,Coast Guard
Search and Rescue	Fire & Rescue Service (Divisional Fire Officer)	Department of Revenue, TN Police,Civil Defence, Directorate of HealthServices, Quick Response Team, DDMT, Coast Guard.
Evacuation	Revenue Divisional Office	TN Police, Fire Service, Directorate of Health Service, Civil Defence, AirForce, DDMT, Coast Guard.
Relief (Food, Damage Assessment, Donation,Shelter)	District Administration	Department of Food and Civil Supplies, NGOs, DDMT, Other Organizations. Municipal Corporation,Electricity Board, TWAD, Health dept,Education dept, PWD, BSNL, Animal Husbandry, Agriculture. NCC, Blood Bank, Red Cross, NSS, Rotary Club, Lions Club

Function	Nodal Agency / Team Leader	Participating functionaries / agencies
Emergency Medical Response	Department of Health (DMO)	Dispensaries, Mobile Dispensaries, Hospitals, Ambulance Service, Blood Bank, NSS, Rotary Club, Lions Club, IMA. Private medical association, Medicine Stockiest. Indian Red Cross, Civil Defence, Fire Service, DDMTs, NGOs.
Public Works TNEB, Equipment support, debris and road Clearance.	PWD	Municipal Corporations, Water Authority, PWD, Builders Association, Railway, Fire force.
Relief – Shelter	Revenue	Tahsildars, Municipality, TWAD, Local Body, Civil Supplies. PWD, Developmental Authorities, NGO representatives.
Cattle Resource Recovery and Care	Animal Husbandry (District Animal Husbandry Officer)	Animal medicine stockiest, Poultry Corporation NGOs and other organizations.
Logistics (Electricity- Water	Electricity – TNEB Water - TWAD	DC Office, Electricity Board, Transport Department, TWAD, Municipality, Private Road Ways, PWD, National Highway, Fire Force Dept, Police services, DDMTs, NGOs

Function	Nodal Agency / Team Leader	Participating functionaries / agencies
Transport	Motor Vehicle (RTO)	TNSTC, Railway, PWD, Police, Municipality, Private Bus Owners, Scout, NCC etc.
Public Information and Help lines Warning Dissemination	Public Relations Department	Media (print/audio-visual), NSS, Scouts & Guides, Education Dept., Department of Information and Publicity, BSNL, AIR etc

8.3.1. Recovery of Electricity:

- An initial assessment of damages caused to the electrical infrastructure due to the disaster is given by the nodal officer/team.
- Based on this restoration of electrical power in the possible affected area is planned, coordinated and execution works are started and restoration of supply made available one by one.
- Reconstruction and recovery plan will be developed with the following priority according to the extent of damage:
 - Supply will be restored in the order as
 1. in all EHT lines
 2. in all Substations
 3. in all HT lines
 4. in all DTs

Finally supply will be restored to all consumers.

8.3.2. Recovery of Telecommunication:

- In coordination with BSNL and electricity board, all the disrupted lines have to be cleared and poles have to be changed and low lying lines have to be replaced and bring back the towers by locality one after the other.

8.3.3. Recovery of Traffic: (clearing logs on roads)

- With the coordination of TNSTC, RTO, PWD, Local bodies and local community people, mobile JCBs, Saws and other equipments to clear the logs and fallen trees from the roads in cooperation with Revenue and Police and clear the traffic.

8.3.4. Mooting the medical services to prevent communicable and other diseases:

- Reduction of source of infection and identification of infected areas, houses and persons.
- Investigation of water borne diseases
- Immediate isolation and treatment
- Checking the disinfection and chlorination
- Health Education
- Strengthening of surveillance system

- District level team will keep close touch with Commissioners of Panchayat Unions, Municipalities, Executive Officers of Town Panchayats for additional requirement of drugs and disinfectants for flood relief works.
- District level team will be provided with one vehicle and equipped with enough drugs, disinfectants vaccines and other equipments.
- One cholera combat team at the office of the DDHS will be deputed to the places wherever outbreak of epidemic is reported.
- Water quality testing and treatment
- Psychosocial Care and support
- Action against vector borne diseases
- Hygiene promotion in camps as well as behaviours change communication for hygiene and sanitation
- Inclusive Sanitation solutions such as Portable Bio toilets.
- Regulation of antibiotic usage in camps
- Drug supply – Including critical-For skin ailments, ORS, Zinc, TB, ART, Ointment for Foot sores/ alcers
- MISP kits distribution to pregnant women

8.3.5. Preventing the spread of diseases for animals:

- Removal and disposal of carcasses, vaccination, cattle treatment, supply of fodder, etc

8.3.6. Assessment of Damages to crop and recommend for relief measures:

- Proper reporting and requesting fund for the affected crop area

8.3.7. Food security and livelihoods

- To identify and support the poorest and the most vulnerable families with supply of dry rations that will cover their food security requirements for at least three months from now. This will enable them cope up and return to normalcy gradually
- For the poor households living on the river banks in Chennai, support for purchase of cooking vessels, stove and gas would help them tide over this situation. However, such families need to be first identified and extended this support. Direct cash transfers to these families can be tested.

- “Cash for work” programs can be initiated in the rural areas that are severely affected by the floods. Restoration of community infrastructure such as strengthening of bunds in irrigation tanks, ponds and drainage canals are some of the works that can be initiated.
- Support these families for rescheduling of their loans from their SHGs and other MFIs that are operational in their areas.

8.3.8. Wash & Sanitation

- Provision of individual household water purifications.
- Providing the chlorine powder solution and aqua tabs for Water purification.
- Provision of containers for drinking water storage and disinfection.
- Temporary/Mobile toilets, Immediate cleaning of septic tanks
- Immediate draining of water
- Eradication of mosquito larvae using neem oil or other larvicides
- Immediate cleaning of solid waste Mapping of Solid Waste management related issues and linkages with Chennai Corporation.
- Portable Drinking water stations/chlorination/flushing of hand pumps/ spot chlorination/boiling water
- Sensitization program on Hand Washing with soap.

8.3.9. Shelter

- Need for supplementing the compensation offered by the Government, especially for those who lost their houses fully or partially.
- Cash transfers for identified families from the most marginalized communities, particularly those from the „Dalit“ communities will support them rebuild their houses.
- This could be further combined with support of building materials supply and linkages where required.
- Support for construction of toilets will help women and children for improving their health standards and well-being.
- Inclusive toilets and temporary shelters for PWD
- Linkages for credit for housing can be further more supportive to these communities.

8.3.10. Education

- Schools need to allocate resources, time and space to provide psycho – social care for children in their premises. This has to be integrated in regular school hours for a reasonable time period
- Schools need to allocate resources, time and space to provide psycho – social care for children in their premises. This has to be integrated in regular school hours for a reasonable time period
- Training personnel for multi-hazard disaster resistant school planning, design, monitoring, maintenance, inspection and approval at community- and all levels of government
- Resume the functioning of Anganwadi centre or makeshift centres in order to meet the nutritional needs of pregnant and lactating mothers and children below 2 years
- Set up child Friendly centres to provide psycho social support for children
- Prioritize the needs of children with vulnerabilities while providing

DISASTER PREVENTION AND MITIGATION PLAN

The Government of Tamil Nadu have initiated several measures as part of its prevention and mitigation strategies. The preventive measures aim at risk avoidance, wherever it is feasible, taking into account social cultural and economic practices of the communities that are highly vulnerable to the hazards.

For instance a conscious effort was made to relocate the houses of the fisherman community between beyond 200 m to 1000 m from the high tide line so as to make these housing colonies risk proof to Tsunami, Cyclones and storm surges.

Even the houses of those families who were unwilling to relocate have been repaired and reconstructed in-situ with multi hazard resistant specification.

The integrated strategies adopted on watershed basis by Government of Tamil Nadu aim to prevent exposure of the communities to the risks of drought and landslides.

The River Grading / Stream Training works in several locations have prevented the exposure of the communities to floods.

However, due to the construction of several habitations in low-lying areas & flood plains as well as the geographic location of the State, prevention of disaster risks in entirety is extremely difficult.

The problems get accentuated due to the extreme weather even on the one hand and dependence of the State on upstream States for release of its rightful share of river water.

Therefore the Government has been according highest priority to fund, mitigation measures to lessen / limit the adverse impacts of hazards and disasters.

9.1 THE PREVENTIVE AND MITIGATION MEASURES UNDERTAKEN FALL UNDER TWO BROAD CATEGORIES.

Structural Measures	Non Structural Measures
Housing <ul style="list-style-type: none"> <input type="checkbox"/> Disaster Resistant Housing <input type="checkbox"/> Multi - Purpose Evacuation Shelters 	Economic measures <ul style="list-style-type: none"> <input type="checkbox"/> Diversification of Economic Activity <input type="checkbox"/> Subsidies <input type="checkbox"/> Credit Waiver
Water resources <ul style="list-style-type: none"> <input type="checkbox"/> Restoration Of River drainage systems 	Risk Transfer Insurance Credit & Tax Polices
<ul style="list-style-type: none"> <input type="checkbox"/> River Grading /Stream Training, Flood Routing <input type="checkbox"/> Clearing inflow channels 	
Infrastructures <ul style="list-style-type: none"> <input type="checkbox"/> Roads, <input type="checkbox"/> Bridges, <input type="checkbox"/> Drinking water, <input type="checkbox"/> Power, <input type="checkbox"/> Communication, <input type="checkbox"/> Education, <input type="checkbox"/> Heritage, <input type="checkbox"/> Tourism 	Societal Measures <ul style="list-style-type: none"> <input type="checkbox"/> Public Information Campaigns <input type="checkbox"/> Non formal Education <input type="checkbox"/> Community Involvement
Structural Measures	Non Structural Measures
Ecosystem restoration <ul style="list-style-type: none"> <input type="checkbox"/> Raising Shelter Belts along Coast, <input type="checkbox"/> Afforestation, <input type="checkbox"/> Restoring fragile interface Ecosystems viz., creeks, marshlands, wetlands etc, <input type="checkbox"/> Enhance Ecosystems' Health 	Physical Planning Measures <ul style="list-style-type: none"> <input type="checkbox"/> Land use Planning, <input type="checkbox"/> Safety in Designs, <input type="checkbox"/> Retrofitting
	Safety Audit Disaster Resilient Public Infrastructure (Buildings Roads,Bridges,Water Bodies & Reservoir)
	Management & Institutional Measures (Educational Training - School/College Disaster Research Strengthening Technical Expertise, Strengthening of local Authorities)

9.2 STRUCTURAL MEASURES

A wide range of structural measures are being contemplated covering most of the sectors being contemplated covering most of the sectors viz., Housing, Irrigation, Agriculture, Public Infrastructure, Power, Public buildings etc. The major measures implemented are detailed below:-

9.2.1 DISASTER RESISTANT HOUSING - MULTI - HAZARD RESISTANT HOUSES

Government of Tamil Nadu have always been in the forefront in creating durable assets for the poor and over the years has been replacing huts with concrete houses. Taking into account the devastating destruction caused by Tsunami, as part of the Tsunami Rehabilitation measures, the houses for the poor who lost their houses were designed as Multi-Hazard Resistant with cyclone and earthquake proof features. All the houses were provided with rainwater - harvesting structures.

9.2.2 MULTI-PURPOSE EVACUATION SHELTERS:

During the response and rehabilitation of the community to Tsunami, it was found that the existing number of cyclone shelters in Tamil Nadu along the coast were insufficient to accommodate the vulnerable population in coastal areas. Based on a study of the location, catchment area population, community needs, 121 Multipurpose Evacuation shelters have been constructed with statutory CRZ clearance.

To accommodate livestock also separate facilities have been provided. These shelters are multipurpose utility buildings and can be used for activities like class rooms, community functions, meeting rooms for SHGs, community meetings, vocational trainings and other such activities, making this infrastructure a vital part of the development of the communities.

9.2.3 FLOOD CONTROL & DROUGHT MITIGATION MEASURES

The structural measures under the broad water resources segment to combat Flood and Drought are complimentary to each other. The Flood control measures include, River Grading, River/Stream training, construction of new as well as Rehabilitation of Reservoirs, Dams, Anaicuts, Check Dams, Instream Reservoirs, Riverine Reservoirs, Tail end Regulators etc., Flood routing through diversion Canals/Channels and creating new storage facilities to store excess runoff. These structure are constructed on a priority basis in the river basins known for recurring floods.

9.2.4 REMOVAL OF ENCROACHMENTS

The problems of flooding in several locations is due to the structural anthropogenic interventions which obliterate the existence width of the water ways, constrict the water ways and In some locations block the water ways. The structural interventions are due to the authorized construction of public buildings in the ester years as well as due to illegal encroachments by people of different strata.

Removable of the encroachments and the relocation of the authorized structure plays a very important role in maintaining the integrity of the water ways and minimize the risks due to floods. The Government of Tamil Nadu will launch a special drive to remove the encroachments on a priority basis in all water bodies and water ways.

9.2.5 KUDIMARAMATHU

The State Government revived the ancient system of Kudimaramathu - maintenance of water bodies with community participation. The local community will contribute 10% of the project cost and take up works of desilting of tanks and channels. An allocation of Rs 100 Cores was provided in 2016- 17 and is enhanced to Rs.300 Crore during 2017- 18. The Kudimaramathu scheme paves

the way for the people's participation and creates a sense of ownership in the Community besides serving the purpose of Flood Control, Drought Mitigation and Ground Water recharge and improved *on farm* water management.

9.2.6 INTEGRATED WATERSHED MANAGEMENT PROJECT

This scheme aims to promote balanced use of Natural Resources through Watershed approach. The various soil moisture conservation and water harvesting strategies of the Integrated Watershed Management project serve the purpose of drought proofing rain fed agriculture, provide irrigation during critical periods of crop growth thus preventing crop failure and also facilitate recharge of ground water. Integrated Watershed Management project is being implemented at a cost of Rs.781.731 crores in 26 districts through 24 DWDAs covering 2770 watersheds.

9.2.7 MISSION ON SUSTAINABLE DRY LAND AGRICULTURE (MSDA)

The Mission for Sustainable Dry land Agriculture is a major initiative towards drought proofing of the Rain fed areas of Tamil Nadu. The Mission on Sustainable Dry land Agriculture (MSDA), focuses on improving the production and productivity of millets, pulses, oilseeds and cotton in an extent of around 25 Lakh Acres of dry land in a phased manner from 2016-17 to 2019-20 with a funding support of Rs.802.90 Crore. The programme implemented on a cluster approach focuses on capacity building, developing water harvesting structures, adopting new agronomical interventions, mechanization besides value addition technologies to fetch remunerative returns to the dry land farmers. The synergistic benefits of the integrated measures will enhance the resilience of the poor farmers to withstand drought.

9.2.8 ROAD INFRASTRUCTURE

Proper maintenance of all National State Highways and Rural Roads Clearing blockages under culverts bridges including 1000 meters upstream and downstream to enable free flow of flood waters. The Government has also

decided to increase the vent ways to cover the full width of the River/Stream and convert the existing pipe culverts to Box Type Culverts and also construct elevated bridges at appropriate locations as part of its prevention and mitigation strategies.

9.2.9 DRINKING WATER

The extremely severe hydrological drought which impacted the drinking water supply throughout the State, was managed by the State Government with minimal inconvenience to the public by the adoption of a multipronged structural interventions which included creation of new sources, repair & restoration of the existing sources, replacement of distribution lines and micro management of drinking water distribution up to the household level. During the pre-disaster phase, noticing that deficit during South West Monsoon was 20% and taking into account forecast of normal Northeast Monsoon 2016, advance action was taken to desiltwater bodies, construct checkdams, recharge structures, conversion of defunct borewells into recharge structures rainwater harvesting structures to augment drinking water resources in areas prone to water stress. In addition new sources were also developed such as Infiltration wells, ring wells, deep bore wells during the disaster phase.

9.2.10 MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE SCHEME (MGNREGS)

The core objectives of this scheme is to provide not less than one hundred days of unskilled manual work as a guaranteed employment in a financial year to every household in rural areas. This was enhanced to a minimum of 150 days during the unprecedented drought of 2017. The scheme is judiciously used to build assets that lend support to water conservation, rain water harvesting, afforestation and holistic Natural Resources Conservation

On the other hand it aims to provide employment to the rural people

9.3 NON STRUCTURAL MEASURES

The Structural measures can be effectively translated on field only with appropriate Non - Structural measures such as policies, guidelines and standards, community participation, regulatory mechanism, prescribed from time to time in accordance with the changing patterns of disasters.

The non-structural measures being implemented for prevention and mitigation are detailed below:

9.3.1 PUBLIC AWARENESS AND MASS CAMPAIGNS.

Imparting Disaster Risk Knowledge and bringing attitudinal and behavioral changes to the early warning messages play a significant role in Risk Reduction especially in minimizing loss of lives. Considering the importance of the need for enhancing the knowledge levels of different stakeholders, to tackle different disaster situations GoTN have been according very high priority in building the capacities of the community and other stakeholders. In order to spread the awareness at various levels, all possible channels of communication such as print, electronic, social and traditional media are being used by GoTN.

9.3.2 COMMUNITY BASED DISASTER MANAGEMENT

The community is the first responder to any Disaster. The Community has its own traditional wisdom and local knowledge to withstand the impact of disasters. Harnessing leadership and volunteerism among the Community and developing a team of trained community volunteers through participatory approach for special tasks of early warning, Search, Rescue Transport Arrangements& Evacuation, First Aid, Shelter and Relief (Food, Water and Sanitation) are essential for successful Disaster Management. Involvement and participation of the communities will ensure a collective and coordinated action during emergencies.

9.3.3 GUIDELINES FOR PLANNING, DESIGN AND CONSTRUCTION OF MULTI HAZARD RESISTANT BUILDINGS

Disaster prevention involves engineering intervention in buildings and structures to make them strong enough to withstand natural hazard so that the exposure of the society to hazard situation could be avoided or minimized. Public Works department buildings organization is committed to Plan, design, construct and maintain the Public Buildings and monitor the stability of the public buildings.

9.3.4 BUILDING STABILITY

A Hazard Safety Cell (HSC) under the direct supervision and control of the Engineer-in-Chief of the State PWD as an advisory body was established for proper enforcement of the buildings code in all future constructions, thereby ensuring the safety of buildings and structures from all hazards such as earthquakes/ cyclones etc.,

9.3.5 STRUCTURAL STABILITY OF THE PUBLIC BUILDING

The Structural stability of the public buildings is ensured through the Tamil Nadu Public Building Licensing Act 1965 and Rules 1966. The Public Buildings have to renew their licenses periodically. These licenses are issued / renewed after inspection of the buildings and satisfying structural stability certified by the PWD.

9.3.6 ROAD SAFETY AUDIT

Safety status in the roads upgraded under Tamil Nadu Road Sector Project has been reviewed to identify safety related problems, deficiencies and shortcomings for suggesting remedial measures. The suggestions from the Road Safety Audit, for 724 Km of roads recently in 2015 are implemented. Efforts are being taken to extend the road safety audit to select stretches every year.

9.3.7 FIRE SAFETY AUDIT

A Multi Departmental Committee under the head of the District Officer of Fire Services Department conducts inspection in all cinema theatres in the Districts once in a year and forwards its report to the licensing authorities for taking appropriate action.

The Revenue Department also conducts fire-safety audits in Government buildings to ensure fire-safety. Apart from this, other buildings during issuance anciently various Acts and Rules from fire-safety point of view.

**PREPAREDNESS
AND RESPONSE
PLAN FOR
NUCLEAR OFF -
SITE EMERGENCY**

10.1 Indian Nuclear Power Programme

India entered the commercial nuclear power programme in the year 1969, when two Boiling Water Reactors (BWRs) were commissioned at Tarapur, Maharashtra. These nuclear reactors were built by M/s General Electric Company (GEC) of USA on turnkey basis. The main objective of setting up these units was, largely to prove the techno-economic viability of nuclear power and to obtain experience in operation & maintenance of nuclear power plants and to demonstrate technical viability of operating the nuclear power stations with Indian regional grid system.

However, as a long term strategy, the Indian Nuclear Power Programme was envisioned as 3-stage nuclear power programme, linking the fuel cycle of Pressurised Heavy Water Reactor (PHWR) and Fast Breeder Reactor (FBR) for judicious utilisation of our reserves of Uranium and Thorium. The emphasis of the programme is self-reliance and thorium utilisation as a long-term objective.

The three stages of Indian Nuclear Power Programme under the Department of Atomic Energy (DAE) are:

- ▶ **Stage-I** envisaged construction of Natural Uranium fueled, Heavy water moderated and cooled Pressurised Heavy Water Reactors (PHWR). Spent fuel from these reactors is reprocessed to obtain the fissile material Plutonium.
- ▶ **Stage-II** envisages, construction of Fast Breeder Reactors (FBR) fuelled by Plutonium and depleted U produced in Stage-I. These reactors would also breed another fissile material Uranium-233 from Thorium loaded in the reactors.
- ▶ **Stage-III** would comprise power reactors using Uranium-233 as fuel and Thorium which is used as a blanket in these types of reactors.

Nuclear Power Corporation of India Limited (NPCIL) is a Public Sector Enterprise under the administrative control of the Department of Atomic Energy (DAE), Government of India. NPCIL also has equity participation in BHAVINI, another Public Sector Undertaking of Department of Atomic Energy (DAE) which implements Fast Breeder Reactors programme in the country.

NPCIL is responsible for design, construction, commissioning and operation of nuclear power reactors. NPCIL is presently operating 21 nuclear power reactors with an installed capacity of 6680 MW. The reactor fleet comprises two Boiling Water Reactors (BWRs), 17 Pressurised Heavy Water Reactors (PHWRs) and two 1000 MW Pressurized Water Reactor (VVER type) at Kudankulam. In addition, at present NPCIL have four reactors (PHWR type, 700 MW capacity) and two reactors (VVER type, 1000 MW capacity) under various stages of construction totaling 4800 MW capacity.

The short-term goal of programme was to complement generation of electricity at locations away from coal mines. The long-term policy is based on recycling nuclear fuel and harnessing the available Thorium resources to meet country's long term energy demand and energy security.

10.2 NPP in the district-location-brief details (like type of Reactor, Power levels safety provisions etc.)

In the Chengalpattu District, the site at Kalpakkam village also known as Kalpakkam DAE Site, comprises 2 operating reactors of Madras Atomic Power Station (MAPS) operated by NPCIL, one Prototype Fast Breeder Reactor (PFBR) under construction by BHAVINI, Fast Breeder Test Reactor (FBTR) and Fast Reactor Fuel Cycle Facility (FRFCF) under construction by IGCAR and Kalpakkam Reprocessing Plant (KARP) under BARC Facilities.

Brief description of the active Nuclear Facilities at Kalpakkam DAE Site is as follows:

a) MADARS ATOMIC POWER STATION (under NPCIL)

Madras Atomic Power Station (MAPS), one of the operating stations under Nuclear Power Corporation of India Limited (NPCIL), consists of two identical Pressurized Heavy Water Reactors (PHWR) commissioned in 1983-85 with installed power generation capacity of 220 MWe each. Each reactor is fuelled with natural Uranium Dioxide fuel and uses heavy water as moderator and coolant.

The reactors are of pressure tube type design, using natural uranium dioxide as fuel and heavy water as coolant and moderator. The reactor consists primarily of Calandria, a horizontal cylindrical vessel. It is penetrated by a large number of zircaloy pressure tubes, arranged in a square lattice. These pressure tubes are also called coolant channels and contain the fuel and coolant. End shields are provided at each end of the Calandria to attenuate the radiation emerging from the reactor,

permitting access to the fuelling machine vaults when the reactor is shutdown. The Calandria is housed in a concrete vault for shielding purposes.

The heat in the coolant is transferred through steam generators to conventional steam circuit. The power generating equipments are same as a conventional steam-driven turbine-generator, which produces electrical power.

Each unit has its own Reactor and turbine buildings; however, the twin units share common facilities such as service building, spent fuel storage bay and other auxiliaries. Separate safety related systems and components are provided for each unit.

The reactor, the steam generators and most of their associated auxiliary equipment and systems are located in the Reactor Building. In addition to its primary function of housing the equipment and providing shielding, the Reactor Building is designed to contain all radioactive effluents, which might result from any reactor system failure. The reactor building containment is partial double containment type. The primary (inner) containment wall is Pre-stressed Cement Concrete while the partial secondary (outer) containment wall is rubble masonry type. Primary containment has a vapor suppression system which has sufficient free volume to prevent abnormal pressure rise during accident condition and has sufficient stored water to absorb the heat energy released during accident condition.

b) Prototype Fast Breeder Reactor (under BHAVINI)

Prototype Fast Breeder Reactor (PFBR) is a 500 MWe capacity reactor under construction by Bharatiya Nabhikiya Vidyut Nigam Limited (BHAVINI), a Govt. of India Enterprise under DAE. This plant is undergoing commissioning activities as of the year 2020. PFBR uses mixed oxide fuel (MOX) comprising a mixture of plutonium and uranium oxide. It uses liquid sodium as coolant and no moderator. The reactor is provided with several advanced safety features including core catcher.

c) Fast Breeder Test Reactor (under IGCAR)

Indira Gandhi Centre for Atomic Research (IGCAR) is a premier research centre under DAE in the field of nuclear energy and operates the 40 MW (thermal) capacity Fast Breeder Test Reactor (FBTR) at Kalpakkam site. The plant uses mixture of uranium and plutonium carbide as the fuel and liquid sodium as the coolant. Successful operation of the FBTR since its first criticality in 1985 has demonstrated the capability of DAE in harnessing the fast breeder reactor technology and laid the foundation for development of the PFBR.

d) Fast Reactor Fuel Cycle Facility (under IGCAR)

IGCAR is building the Fast Reactor Fuel Cycle Facility (FRFCF) for reprocessing the spent fuel from the PFBR and the future FBRs at Kalpakkam site. The facility is currently under civil construction and expected to play a major role in nuclear fuel cycle of fast reactor fuels.

e) Kalpakkam Reprocessing Plant (under BARC)

Nuclear Recycle Board (NRB) under Bhabha Atomic Research Centre (BARC) is operating the Kalpakkam Reprocessing Plant (KARP) for recycling of spent nuclear fuel. NRB reprocesses the spent nuclear fuel from the Indian PHWRs at KARP and provides the fuel supply for the fast reactor programme.

10.3 National – Safety and regulatory framework

The Atomic Energy Commission (AEC), the apex body, lays down the overall policy for the Department of Atomic Energy. An independent body, namely the Atomic Energy Regulatory Board (AERB) reporting to the AEC, has been established as the regulatory body.

Pursuant to the objectives outlined in the Atomic Energy Act, the Government has constituted the Atomic Energy Regulatory Board (AERB) to carry out regulatory and safety functions for installations within Department of Atomic Energy as well as outside it. Nuclear power stations follow safety codes, guides and standards formulated by AERB.

10.4 Site location

Kalpakkam site is located on the east coast of India on the Bay of Bengal, at Kalpakkam in Thirukalukundram Taluk, Chengalpattu District, Tamil Nadu. The site is about 70 km south of Chennai city and about 30 km south east of Chengalpattu town which is the district headquarters and also has the nearest Railway Station. The site has got access from Chennai through NH-45 up to Chengalpattu and then through SH-58. The second access is through East Coast Road (ECR) via Mamallapuram. Access from Puducherry is through ECR (90 KM). The nearest Airport is at Chennai.

The area of 1.6 km radius surrounding MAPS/PFBR has been completely acquired by DAE. To the north, in the area confined between the sea coast and the Buckingham canal, casuarina groves are common. Agriculture viz. cultivation of paddy and maize is carried out in the western side of the canal making use of rain-fed tanks. Except plant buildings, other industrial, commercial, residential buildings are prohibited within site boundary. Adjacent to site boundary, the nearest village Sadurangapattinam (Sadras) is having access road from Chennai, the nearest city.

Kalpakkam DAE Centre lies in a zone which is well developed in terms of infrastructure support required to handle disasters. Its proximity to the state capital Chennai, well developed road transportation network, numerous industries in the district, more than 25 PHCs in the district, large number of public and private hospitals including medical college at district headquarters, transport bus depots at district headquarters besides Kalpakkam – all these aspects enable robust support for Kalpakkam DAE Centre in the event of any nuclear emergencies arising at the Kalpakkam site.

10.4.1 Facilities available around the site eg. Transport, shelters medical facilities, trained man power etc., that may prove to be good resources

Kalpakkam DAE Centre has following facilities available around the site-

- 10.4.1.1 Medical Facility: Hospital facility is available at Kalpakkam DAE Township with separate Radiation Emergency Medical Centre. Trained staff to handle such patients are available at DAE Hospital. The nearest PHC is at Sadras, 3 km from the site. Government and private hospitals are available in the 16-km emergency planning zone (EPZ).
- 10.4.1.2 Fire stations: Centralized fire station is located within the site boundary. It is having three numbers of fire tenders, fire fighting personnel and other facilities to cater fire at site as well as DAE townships. In addition, if required, Fire stations at Thirukkalukundram and Madurantakam can be called upon to assist the site firefighting squads in accidents involving large fire.
- 10.4.1.3 Transport: Transport facilities with a combined fleet of more than 35 buses are available with Kalpakkam DAE Centre which is sufficient for transport of personnel working at site. TNSTC Bus depot is available at Kalpakkam Township.
- 10.4.1.4 Shelters: There are approx. 126 villages within 16-km radius of EPZ. Number of shelters mainly school buildings, grampanchayat offices, anganwadis and community Halls have been identified as shelters in the villages. Shelters provide reasonable shielding against the radiation and have operable windows and doors. These are mainly concrete buildings. These will be used as common assembly points before evacuation.

10.4.1.5 Trained Manpower: District Officials/ staff like police, medical & paramedical staff, civil defence, revenue dept staff, education dept staff are trained on radiation emergency preparedness and response once in 2 years. Trained staff participate in offsite emergency exercises conducted in public domain.

10.5 Nuclear Off-site Emergencies and Response Action Plans

10.5.1 Types of Emergencies that can occur in the NPP and the agencies that are tasked to respond during Offsite Emergencies.

Nuclear power plants are sited, designed, constructed, commissioned and operated as per stringent requirements and regulations to ensure health and safety of the plant and personnel as well as members of the public. Nevertheless, in spite of all the care and precautions that are taken, a remote possibility of some failure of equipment or error in operation or evolution of natural calamities resulting in accident condition leading to a nuclear emergency situation cannot be ruled out. This may involve unacceptable release of radioactive material or radiation exposure having adverse effect on personnel and property at the site of the plant and also in the public domain. It is therefore most essential to plan in advance the actions to be taken during such emergency so as to limit the adverse effects.

Radiation Emergencies are classified based on the nature and severity of the incident. The emergency situation of nuclear facilities is classified as:

i) Plant Emergency:

For Plant Emergency, the radiological consequences are expected to remain confined to the plant buildings and the affected areas within the plant boundary. Station Director of the affected plant is the Plant Emergency Director and will respond to the emergency.

ii) Site Emergency:

In case of site emergency, the consequences are likely to extend beyond the plant but remain confined to the site boundary (1.6 km exclusion zone). Station Director, MAPS will be Site Emergency Director (SED). Here Kalpakkam Emergency Committee (KEC) under the Leadership of SED will respond to the emergency.

iii) Off-site Emergency:

In case of off-site emergency, areas in public domain beyond the exclusion zone are likely to be affected in addition to site boundary. Here, Site Agencies of Kalpakkam DAE Centre along with District Administration will respond to the emergency.

Plant and Site Emergency situation will be assessed and handled by the Emergency management organizations at the plant/site. While each of the major active facilities has its own Plant Emergency Organization to handle the plant emergency at the affected plant, the site emergency will be handled by the Kalpakkam Emergency Committee (KEC). The KEC headed by Station Director, Madras Atomic Power Station (MAPS) who is also the Site Emergency Director (SED) has all the key officials of the Kalpakkam site facilities as members to coordinate the response actions.

Offsite Emergency is declared by the Site Emergency Director and immediately notified to the District Collector, Chengalpattu. Handling off-site emergency situation in public domain becomes the responsibility of the District Disaster Management Committee (DDMC) headed by the District Collector who is the Responsible Officer / Incident Commander (RO/IC) and having officials of the district organization as the members. DDMC will function from the District Disaster Management Control Centre / Emergency Operation Centre (EOC).

District Administration is responsible for implementing all the protective actions in the public domain. Technical guidance/advice for implementing the protective actions in the public domain will be provided by Site Emergency Director.

During Offsite Emergency Situation, RO/IC will function from the Emergency Operation Centre (EOC)/ District Disaster Management Control Centre. The technical assessment of the emergency conditions at the affected NPP and the environmental radiological conditions (projected / existing) and the desired protective action in the public domain due to the accident will be assessed by the technical committee available at the site headed by the Site Director. This committee will function from the Site Emergency Control Centre (SECC) available at the site. Based on the assessment of the emergency conditions by the technical committee, the affected areas and the desired protective action (Sheltering / Iodine Thyroid Blocking / Evacuation) to be initiated in the affected areas will be communicated to RO/IC by the SED through Protective Action Recommendation (PAR).

The District officials/agencies that will be intimated by DDMC for responding to offsite Emergency are given at Table

NUCLEAR OFF-SITE EMERGENCY PHASES

Early (hours - days)		Intermediate (days - months)	Late (months - Years)
Pre-Release	Release	Consequence Management and transition to recovery (recovery planning)	Recovery / long term measures
Emergency Exposure			Existing Exposure
Early protective actions (includes precautionary and urgent actions)	Check revoke early actions and prepare for long term actions	Adjustment to prevailing conditions	

Phase of Nuclear Emergency

For the management of a nuclear emergency, the timeline of the accident can be divided into various phases considering aspects such as the status of the release, the type and urgency of measures, the type and availability of resources, and the relevance of exposure pathways. Accordingly, the response to a nuclear emergency can be planned in line with the following phases.

a) Early Phase

This phase consists of a pre-release phase and, if applicable, a release phase. Decision making and communications on off-site emergency declaration and protective action recommendations to RO/IC in the early phase rests with the SED, Kalpakkam DAE Centre.

i. Pre-release phase:

The pre-release phase starts at the point in time where a nuclear plant operator identifies that a major radionuclide release may occur, and ends with the onset of such a release or by bringing the incident under control. The pre-release phase may last for hours or days. The main tasks to be performed during this phase include initiation of crisis management, informing the public and taking action to protect the public. During this phase, precautionary measures should be implemented to avert a significant amount of expected dose to public.

ii. Release phase:

The release phase follows the pre-release phase and may last for hours, days or even a few weeks. If a “precautionary action” was not or could not be carried out, measures to significantly reduce radiation exposure are urgently required in the dispersion area of the radioactive cloud. During this phase, special attention must be paid to the exposure pathways directly associated with the passing radioactive cloud.

b) Intermediate Phase

This phase covers the period where radiation from the cloud, direct inhalation of radioactive substances and deposition have ended or are at least of no further relevance, and reliable environmental measurements are available for use as a basis for protective actions decisions.

In this phase, the command and control for protective action recommendations is transferred to the Radiation Emergency Response Director (RERD), DAE from Site Emergency Director.

In this phase the decisions on whether to lift, ease or change the early phase protective measures and on introduction of new protective measures are made. Necessary actions to reduce long-term radiation exposure and to reduce the radioactive contamination of the environment are initiated.

Contamination values for foodstuffs, drinking water, surfaces, soils, plants and bodies of water can be determined during the transition phase by performing a sufficient number of reliable measurements in order to gain a clear picture of the radiological situation. The termination of the off-site emergency marks the end of the transition phase and the beginning of either an existing exposure situation or a planned exposure situation.

This phase may overlap the early phase and Late Phase and may last from weeks to months.

c) Late Phase

This phase, which can be categorized as an existing exposure situation where the activities of people and the society are adjusted to the prevailing condition and the focus is to bring back the society to new normal condition. The period beginning when recovery actions designed to reduce radiation levels in the environment to acceptable levels are commenced and ending when all recovery actions have been completed. The duration of Late phase may last for months to several years.

Recovery typically includes actions taken to reduce public exposure and to this end, the affected population and businesses should be provided

with practical information on implementing radiation protection. Long-term restrictions regarding the use of land and water areas are implemented if necessary.

10.5.2 Protective Actions during Off-site Emergency by the various agencies

Various Protective or Response Actions to be taken in public domain as per the technical guidance of Site Emergency Director are -

i. Sheltering:

The members of public are advised to remain inside their houses or nearby closed buildings or public shelters to protect them from direct plume exposure. It is advisable to keep the windows of shelter closed and keep handkerchief over the nose and mouth.

ii. Iodine Thyroid Blocking (ITB):

ITB refers to oral intake of Potassium Iodate (KIO₃) tablets. This is given to suppress the uptake of radioactive iodine by thyroid. These tablets will be administered to the members of public by the ITB distribution teams when decided by DDMC as advised by SED. The guideline for administration of Potassium Iodate tablets is given at Annexure -18.7.1.

iii. Evacuation:

Evacuation would involve movement of the population from the affected area to radiologically safe location. Evacuation is carried out in rare cases to keep the exposure to public within prescribed limits. Evacuation is achieved by transporting members of public as per pre-arranged plans to temporary shelters (called Rallying posts) beyond 16 km. The Evacuation plan with Rallying posts for public in case of evacuation during off-site emergency at Kalpakkam site are listed in Table - 10.4.3

iv. Control on Consumption of Contaminated Food & Water:

This includes banning the consumption of locally produced milk and vegetables and, if required, closing intakes of rainwater supply and removing cattle from grazing in contaminated pastures.

10.5.3 Emergency response Teams

In the event of an actual or projected excessive uncontrolled release of radioactive material in the environment the surrounding areas are likely to get contaminated. In order to mitigate the adverse effects on the surrounding population, various protective measures will be taken by

District authorities under the technical guidance of Site Emergency Director.

For Implementation of protective action in public domain, various teams will be formed and these teams will perform assigned tasks in public domain as per directive of RO/IC. The team members will report to District Headquarters at Chengalpattu. The teams formed are -

1. WARNING AND ADVICE TEAM :

On notification by the RO/IC, representative of SP, Chengalpattu will form the warning and advice team to alert and warn the public about emergency. Alerting and warning the public will be done through any or all methods as listed below.

- a) Siren. (available on Police vehicles)
- b) Public address announcement/Megaphones (available on Police vehicles).
- c) Radio and Television system.

The team deputed for each of the affected villages will typically consist of one Head constable and one police constable. Depending on no. of affected villages, multiple teams shall be formed to meet the intent. The details of the police stations assigned for different villages as per the emergency plan are given in Table 10.2.2

The information to be given to the public should be about the nature of incident, the steps taken to control the situation and the protective measures advised. Advice to the public should be crisp, unambiguous, reliable and rapid. The emergency protective actions will be advised in the standard format. The announcement should be in both English and Tamil. A sample of such a message (in English) is given below:

For Sheltering

“Attention please. On (Date) at hrs. Offsite emergency has been declared at Madras Atomic Power Station. There has been/is likely to be a release of radioactive material from the plant. Detailed analysis and steps to control the situation are in progress. In the mean time you are advised to:

For Affected Sector(s) on land

- i. Stay indoor and refrain from going outside until further advice
- ii. Refrain from taking water from outside pools, open wells and reservoirs. Do not eat food exposed to air.
- iii. Take the cattle into the shed.

iv. Wait for further information through radio, TV or direct announcement.”

For Affected Sector(s) in sea

The following advice shall be given to the fishermen on land in the EPZ in case the affected sector is in the sea.

“Fishermen are advised not to set out to sea for fishing. Please wait for further information through radio, TV or direct announcement.”

The Superintendent of Police shall seek the help of the Coast Guard to warn the fishermen already at sea and direct them to return to safer locations.

2. TRAFFIC CONTROL TEAM

On notification by the RO/IC, representative of SP, Chengalpattu will form traffic control team (preferably consisting of traffic police) to control the access in the affected village. During emergency as a first measure, ingress control of outside public and vehicles in the affected area / village has to be exercised by establishing traffic diversion points outside the affected village by the traffic control team. Depending on no. of access points in the village and the traffic density in the sectors, number of teams with requisite manpower can be formed.

Following are the responsibilities of the team

- a) Team will proceed to the designated traffic Control point by available vehicles along with the requisite materials like road blockers, diversion signs etc.
- b) They will not stop the movement of the vehicles that are being used for emergency purpose. Table-2.3 gives the assessment of police manpower required for the different sectors for implementing traffic control/diversion measures.

ACCESS AND EGRESS CONTROL :

In case some areas around the Plant become contaminated due to radioactive plume, Access and Egress control will be exercised depending upon the direction of the wind. The road blockade will be set up in the appropriate places for access control in EPZ.

Secter wise access control points are given at Table-2.4.

Barricading material for blocking the road, in addition to sign boards, posters, red lights etc are required for Access and Egress control

3. SHELTER TEAM

The RO/IC or his designate forms the Shelter teams under the leadership of Tahsildar/Dy. Tahsildar/Equivalent functionary available. The team members will be moving to the affected allotted sectors with the available vehicles and carryout the following duties

- i. The team should make emergency shelter available and accommodate the affected persons residing in kachha houses, tin roof houses and huts etc. Team should help other teams in faster implementation of protective actions.
- ii. The personnel on duty should ensure that there would be no panic and chaos in the public.
- iii. There should be orderliness in the whole process.
- iv. People belonging to affected areas should be escorted safely and they should carry their valuables and clothes with them.
- v. Officers & men deployed at Shelter place should ensure that move-ments of people remain orderly and quick. Preference should be given to Children, Women and senior citizens while evacuating.
- vi. Complaints like missing valuables, children, and cattle would also arise; in such a situation the same needs to be registered.

The typical composition of the Shelter team is shown below:

Sl.No	Post	Required No.
1	Deputy Tahsildar (Convoy Officer)	1
2	Assistant	1
3	Office Assistant	1
4	Sub-inspector of police	1
5	Head constable	1
6	Health inspector	1
7	Health visitors	2
8	Medical attendant	2

4. IODATE TABLETS DISTRIBUTION TEAM

On notification of the RO/IC, Dy. Director, Health Services (DDHS) forms the Iodate tablets distribution teams under the leadership of available Medical Officer(s). Following are the responsibilities of the distribution team:

- i. Team will proceed to the designated village by the vehicle designated for their transport.
- ii. On instruction from DDHS, they will distribute prophylactics to the villagers along with the SHELTER TEAM members.
- iii. Potassium Iodate (KIO₃) tablets are available at Primary health centers and Kalpakkam township as shown below:

Sl.No	Unit / PHC	No. of tablets	Target Users
1.	Primary Health Centre, Sembakkam	6000	Public
2.	Primary Health centre, Thiruporur	6000	Public
3.	Primary Health centre, Koovathur	6000	Public
4.	Primary health centre, Nerumbur	6000	Public
5.	Primary Health centre, Sadras	18000	Public
6.	DAE Hospital, Kalpakkam	5000	Public
7.	Environmental Survey Lab	1500	Site Personnel
8.	Off-Site Emergency Control Centre	4000	Site Personnel
	Sub-total	52500	

The team headed by Medical Officer will consist of 4-5 nursing

staff and attendants who will carry out the distribution.

ADMINISTRATION OF ITB

In the event of an actual or projected release above the intervention levels of radioactive nuclides from the plant, Stable Iodine in the form of Potassium Iodate tablets will be distributed to the persons who are likely to get affected from these radionuclides. The distribution of these tablets will be done under the supervision of DDHS/his designate. Medical officers and staff from different Public Health Centres will assist him.

5. EVACUATION ADVICE TEAM

Following are the responsibilities of this team

- i. Team will proceed to the designated village by the available vehicles with the Police.
- ii. For evacuation and advice in the village, they will be using the written message given to them by RO/IC.
- iii. For announcement in the village, the team will be provided with mega-phones or siren mounted police vehicles.

The team composition will be similar to the shelter team.

The Evacuation action will be advised in the standard format. The format of such messages in English is given below:-

Evacuation Advice Team Message

NOTE- All these announcements should be repeated thrice in tamil and english languages at the key locations of the affected villages.

TEXT FOR PUBLIC ADDRESS WILL BE AS FOLLOWS

English Version

“Authorities have recommended evacuation of all the residents of village to shelter place. Please lock the houses and go to the buses parked nearby. Kindly take essential belongings like clothes, cosmetic items, medicines, money, ATM card, cellphone, etc. Police will guide you in evacuation. Please board the buses in an orderly manner. Keep the windows/shutters of the buses closed. Police will ensure the security of your houses and properties during your absence.”

6. CONVOY TEAM

Following are the responsibilities of the team

The team members will be moving to the affected allocated sectors with the available vehicles and report to the team leader of the Shelter Place in the designated village along with the convoy of the buses. After the people board the buses they will escort the convoy to the Rallying Post. Health surveyor will monitor the contamination of the public boarding the buses. If persons found contaminated he will make necessary arrangement to transport the contaminated persons for decontamination in consultation with the emergency response authorities. Health surveyor will again monitor all the evacuees after bus arrives in low background radiation area.

Shelter team posted for the affected village(s) will also carry out the functions of convoy team.

7. DECONTAMINATION TEAM

The team members will be moving in the available vehicle along with the decontamination kit to the contamination checkpoint, on the route through which the evacuation convoy will be moving from the affected sector to their designated Rallying Posts. They will be performing contamination check on all the vehicles, which are coming out of the affected sector for presence of contamination. If they are found contaminated, necessary arrangements are to be made for decontamination.

The team will consist of persons drawn from District Fire service, NDRF (if available), Health physicist from and decontamination expert from Kalpakkam DAE Centre.

8. RALLYING POST TEAM

The team will be moving to the designated Rallying Posts in the available vehicles and make necessary arrangement for receiving the evacuees. All the evacuees are to be registered and details like name, sex, age are to be noted down. Law and order is to be maintained at the Rallying Posts. Report regarding total no. of evacuees and their medical status is to be given by team leader to OERCC.

The team composition of the Rallying Post team is similar to that of shelter team. In addition, separate deployment of police personnel at each rallying post for law and order duties is provided as per the details in Table-2.5

9. PATROL TEAM

Following are the responsibilities of patrolling team

- i. Team will proceed to the designated village by the available vehicles with the Police.
- ii. The team will be guarding the property of the evacuees from theft etc. Depending on the prevailing radiological conditions on the advice of SED, OED will be replacing the team.

Table-10.2.6 gives the composition of the patrol team for protection of public properties.

10.5.4 Agencies and task groups to be alerted by District Collector and Action plan of the District Officials.

The agencies and task groups that needs to be alerted by DC are given at Table-10.2.1.

Action plans for the district officials forming part of the DDMC during nuclear off-site emergency are given in this section. As Kalpakkam site and the 16-km EPZ fall only under Chengalpattu District, the District Collector, Chengalpattu will be the RO/IC and will respond to the offsite emergency situation at Madras Atomic Power Station.

10.5.2.1 ACTION PLAN OF DISTRICT COLLECTOR/ ADDITIONAL COLLECTOR, CHENGALPATTU

Officials Responsible for implementation of Emergency Preparedness Plan

- a) District Collector, Chengalpattu RO/IC
- b) DRO/Additional Collector, Chengalpattu Alternate to RO/IC

The above officials are responsible for following actions during the Offsite Emergency at Kalpakkam DAE Centre

- Notification of Offsite Emergency at Kalpakkam DAE Centre to DDMA/DDMC

Handling of Emergency situation in public domain.

Keeping response machinery required for handling of emergency in operational condition

- To ensure that conduct of Offsite Emergency Training of District Officials involved in implementing emergency plan and upkeeping of the emergency plan is carried out by respective agencies.

Action Plan

S.No.	ACTIONS TO BE CARRIED OUT BY
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RO/IC	
1.	On receipt of information about SITE EMERGENCY from the SED, alert DRO, SP, RDO and PRO about Site Emergency
2.	On receipt of declaration about OFF-SITE EMERGENCY from SED
3.	Obtain the following information from SED a) Sectors affected b) Villages affected c) Type of Emergency d) Recommended protective actions (Sheltering/Sheltering & ITB/ Evacu-ation)
4.	Send acknowledgement of the information received, to SED
5.	Inform PA(General) about the emergency for alerting the DDMC members.
6.	Inform RDO about the Off-site emergency and ask him/her to activate DEOC
7.	Inform RDO to contact the Members of DDMC and pass on all the information obtained from SED to them and instruct for immediate action depending on level of Emergency
8.	Discuss the situation with SED and KEC members.
9.	Obtain confirmation of following actions carried out by DDMC during Emergency at regular intervals. a. Warning and Advice in affected sectors b. Arrival of Medical Official to form convoy Team c. Arrival of Police Official to form convoy Team d. Arrival of Revenue Official to form convoy Team e. Police teams sent to traffic diversion points f. Convoy Team constituted at DEOC g. Buses arranged by Branch Manager TNSTC, Chengalpattu. h. Buses reach DEOC from TNSTC bus depot i. Buses leave DEOC for the affected sector with convoy j. Buses reach affected villages k. Evacuation is done in an orderly manner l. Rallying Post is ready to receive the public m. DSO/TSO arrange for supply of food and water to evacuees n. Administration of Prophylactics, Public Health & Sanitation arrangements are taken care by DDHS/DDMS at Rallying Posts o. Dean, CMCH, is ready to extend medical assistance anytime p. Access control to the affected area is taken care by Police q. Evacuation of Livestock if advised, and identification of area for the

	<p>livestock shelter near RP by JD,AH</p> <p>r. Fodder requirement arranged by JD,AH</p> <p>s. Collection of samples from affected sector and handing over to ESL teams by concerned department persons</p> <p>t. Blockade/confiscation of standing crop and stored crop by JD, Agri</p> <p>u. Setting up of decontamination posts near the border of EPZ</p> <p>v. Supply of petroleum products by Divisional Officer, IOC,Chennai</p> <p>w. Blockade/confiscation of marine products by AD, Fisheries</p> <p>x. Uninterrupted power supply ensured by SE, TNEB</p>
10.	Acknowledge the handover of charge from SED to RERD-DAE during in-termediate phase.
11.	Receive and implement the protective action recommendations from RERD-DAE during the intermediate and late phase.
	On receipt of information from RERD-DAE about Termination of Off-Site Emergency
12.	Declare Termination of Off-Site Emergency
13.	Ensure all evacuated public are rehabilitated
14.	Ensure all emergency officials return to base
15.	Ensure that normalcy is returned

DDMC Members to assist RO/IC (with their Responsibilities)

S. No.	DDMC Official	Responsibility
1	Superintendent of Police	<p>Provide warning & Advice to the public in the affected areas.</p> <p>Diversion of traffic going towards EPZ and regu-lating the crowds in EPZ during evacuation.</p> <p>Enforcment of Law & Order at RP.</p> <p>Ensure Security in evacuated villages & Rallying Post.</p> <p>Extend a helping hand to RDO when information is received from District Collector, Chengalpattu.</p>
2	Public Relation Officer	Liaision with AIR & DDK for broadcasting public announcement when information is received from District Collector, Chengalpattu.
3	Station Director, All India Radio,	Arrange for broadcasting the instructions/ infor- mation when information is received from PRO, Chengalpattu District.

	Chennai	
4	Station Director, Door-dharshan Kendra, Chennai	Arrange for telecasting instructions/information when information is received from PRO, Chengal-pattu District.
5	Divisional manager, TNSTC, Chengalpattu	Mobilisation & Supply of buses, with fuel at full tank level, at the Parking Yard, Chengalpattu. (RDO, District command centre, Chengalpattu).
6	Divisional Manager, IOC Chennai	Ensure adequate supply of petroleum products.
7	Regional Transport Officer, Chengalpattu	Mobilise additional transport facilities, if required, by RDO (Buses, covered lorries for transportation of provision, water and essential commodities).
8	Deputy Director, Health Services, Saidapet HUD	Administration of ITB. Arrange supply of sanitary items, soap phenyl, lime etc.
9	District Medical Officer Chengalpattu	Keep the District and Taluk Hospitals in readiness.
10	Dean, CMCH, Chengalpattu	Keep the CMCH Hospital in readiness.
11	District Fire Officer Chengalpattu	Arrange fire protection and rescue operation, if required.
12	District Supply Officer, Taluk Supply Officer, Chengalpattu	Catering to the evacuees at the Rallying Post
13	Joint Director, Animal Husbandry, Chengal-pattu	Transportation of livestock out of EPZ and their care during emergency. Monitoring of radiation level in milk meat & poultry products from EPZ and regulation of their consumption.
14	Joint Director, Agriculture Chengalpattu	Coordination of assay of radioactive contamination in agriculture products and regulation of their consumption.
15	Joint Director, Fisheries, Chennai	Provide assistance in monitoring of marine products and advice blocking them if necessary.

16	Area Commander, Home Guards, Chen- galpattu	Provide assistance to Superintendent of Police, if required.
17	Area Commander, Coast Guard	Provide assistance to Superintendent of Police, if required.
18	Superintending Engi- neer, TNEB, Chengal- pattu	Ensure availability of power
19	Revenue Divisional Officer- (Sub- Collector) Chengalpattu	Nodal officer for DDMC. Coordinate actions by Revenue & DMM department Organise Rallying Posts and Parking Yards. Orderly transportation of the population out of the EPZ in the event of an evacuation being ordered by the DC.
20	District Forest Officer	Provide assistance to DC/RDO, if required.

10.2.5.1 ACTION PLAN OF DDMC NODAL OFFICER, CHENGALPATTU

Nodal officer for implementation of Emergency Preparedness Plan under the command of RO/IC is

- a. Sub-Collector/Revenue Divisional Officer, Chengalpattu - Member of DDMC
- b. Sub-Collector/Revenue Divisional Officer, Maduranthakam -Alt. Member On receipt of notification about declaration of the Offsite emergency in Kalpakkam DAE centre he will proceed to DEOC and report to RO/IC.

S. No.	ACTIONS TO BE CARRIED OUT BY Sub-Collector/RDO
	On receipt of information about SITE EMERGENCY from the RO/IC
1.	Alert all subordinate Officers
2.	Alert DDMC members to be on standby
	On receipt of information about the OFF-SITE EMERGENCY from RO/IC

3.	Receive the following information from the RO/IC/SED a) Affected Sector b) Affected Villages c) Type of Emergency d) Stage of Emergency response-Sheltering, ITB, Evacuation e) Rallying Post
4.	Provide this information to Superintendent of Police sufficiently in advance to enable him to plan for advising the public accordingly (Coordination with SP/DSPs).
5.	Inform DDMC members to reach District Emergency Operations Centre (DEOC) at RDO Office, Chengalpattu.
6.	Activate DEOC to coordinate all the activities and ensure the communication systems are working.
7.	Ensure all the personnel entrusted for work in the affected areas are provided with protective clothing, Prophylactics and radiation dosimeters (Coordination with SED & DDHS may be done).
8.	Ascertain whether the public have been duly advised regarding announcement of emergency by the police officials (Coordination with SP/ DSPs).
9.	Arrange assistance to police through local revenue officials, if required
10.	Ascertain whether necessary enforcement of access control in respect of the affected sector is made by the police (Coordination with SP/DSPs).
11.	Arrange assistance to police in this regard, if required
12.	Ensure all the public buildings within the EPZ identified for use as shelters are kept open to receive and accommodate the general public during the time the emergency is in force (Coordination with RI/VAO & Village Assistants).
13.	Ensure adequate numbers of buses for evacuation are sent to Parking Yard at DEOC by the Branch Manager, TNSTC, Chengalpattu with fuel at full tank level (Coordination with Branch Manager, TNSTC, Chengalpattu).
14.	Ensure that adequate number of water tankers with diesel operated pumps are mobilized and stationed at the boundary of EPZ of all roads from EPZ so as to enable decontamination of the buses and all vehicles leaving the affected sectors. (Coordination with RTO, Chengalpattu).
15.	Ensure that adequate number of drivers is mobilized from among the Home Guards, Police or the Defence Services in case of requirement. (Coordination with SP/DSPs).

16.	Ensure that adequate numbers of convoy teams are mobilized to handle the evacuation in each affected sector (Coordination with SP & DDHS for Police & Medical Staff).
17.	Ensure that briefing of the following to the convoy teams and bus drivers is done clearly: a) Affected sector in which they would operate b) Names of villages to be evacuated in the sector c) Boarding points at each village d) Location of the Rallying Post outside the EPZ to which the population from each village is to be moved. e) Routes to be taken from the parking Yard to the villages and then from the villages to Rallying Post f) Records to be maintained about the population evacuated (Number of Men, Women & Children in each bus). g) PA System, stretcher, First Aid Box, Route map and Destination indicators etc. to be carried in the bus.
18.	Ensure proper accounting of inflow of vehicles and crews.
19.	Ensure proper accounting of dispatch of vehicles with crew
20.	Keep track of the details of vehicles such as time of arrival, time of departure, names of crew members, OIC of the vehicle, time of leaving the village, time of reaching the Rallying Post, time of leaving the RP, time of reaching the village, time of arrival at Parking Yard, etc.
21.	Ensure Medical facilities and sanitation arrangements at Boarding Points and at Rallying Posts. (Coordination with DDHS/DDMS).
22.	Ensure adequate numbers of Kalpakkam DAE Centre personnel are available at decontamination posts to check the contamination levels and undertake decontamination operation (Coordination with SED).
23.	Ensure all the identified Rallying Posts outside the EPZ are manned and well provided with food supplies, water, clothing, medical facilities and security arrangements. (List of personnel required at RP is enclosed). (Coordination with DSO/TSO, SP/DSPs, DDHS, VAOs).
24.	Ensure that necessary arrangements are made by Superintendent of Police for the security of the property of the evacuees during their absence. (Coordination with SP/DSPs).
25.	Ensure that necessary arrangements are made for taking care of the livestock left behind by the evacuees and evacuation of live stock. (Coordination with JD, AH)
26.	Provide help for collection of samples of water, soil, standing crops as well as stored stock of food crops and other commodities by scientists of Kalpakkam DAE Centre for analysis of radioactive material concentrations. (Coordination with JD, Agri & SED).

27.	Ensure blockade of food items and water supplies until the radioactive material content is analysed and found to be within prescribed limits. (Coordination with JD, AGRI & SED).
28.	Receive information from RO/IC about the termination of OFF-SITE EMERGENCY.
29.	Ensure orderly return of all the evacuees to their respective villages after the Termination of Off-Site Emergency by the RO/IC. (Coordination with convoy officers).
30.	Receive Normalcy return message (All emergency staff return to base).
31.	Convene review meeting of DDMC at DEOC

12.2.5.1. Action Plan for Revenue Department Officials

The Revenue Divisional Officer, Chengalpattu is responsible for organization of the district/state machinery for the entire off-site emergency period and implementation of protective actions in a timely manner. He/she is the nodal officer responsible for overall coordination of emergency response in the public domain and is a member of the DDMC. Revenue & DMM department is the nodal agency for giving warning to villagers, supply of prophylactics, setting up of Rallying Posts and Parking Yard and orderly transportation of the population out of the EPZ in the event of an evacuation. These actions will be coordinated by RDO in coordination with DDMC and different departments of district/state administration. The following is the action plan for RDO during an off-site emergency:

1. The RDO shall ensure that all those officials who will be assisting him in carrying out the above tasks, are properly trained.
2. On receipt of intimation from the District Collector/RO-IC about the Emergency, the RDO shall alert his/her subordinates.
3. RDO shall activate the DEOC on RO/IC directions from where he/she will coordinate the activities.
4. RDO shall ascertain as to whether the public have been duly advised regarding announcement of Off-Site Emergency, Sheltering, ITB, Evacuation as applicable, by the Police Officials and extend necessary help to Police.
5. RDO shall ascertain as to whether necessary enforcement of access control in respect of the affected sectors has been made by the Police Officials and if necessary provide them help.

6. RDO shall ensure that all the public buildings in the affected sectors identified for use as shelters are available to receive and accommodate the general public.
7. RDO shall ensure orderly distribution of prophylactics through health department staff in case of recommendation of ITB.
8. In the event of evacuation being ordered, RDO Chengalpattu shall ensure the following:
 - i. Adequate numbers of buses are sent to the Parking Yard at Chengalpattu by the Branch Manager, TNSTC, Chengalpattu with drivers.
 - ii. Additional drivers are mobilised, if required, from among the Home Guards, Police or the Defence Services for operating the buses.
 - iii. Convoy teams are mobilised to handle the evacuation in each affected sector.
 - iv. Convoy teams and the bus drivers are clearly briefed as to the sector, in which they would operate, the names of villages to be evacuated in the sector, the locations of the Rallying Posts outside the EPZ to which the population from each village is to be moved, the boarding points at each village and the routes to be taken from the Parking Yards to the villages and then to the Rallying Posts.
 - v. Information regarding the bus schedules, the boarding points and the location of the Rallying Posts are made available to the SP, sufficiently in advance, to enable him to advise the public accordingly.
 - vi. Facilities for First Aid and medical attention are available at the boarding points and at the Rallying Posts.
 - vii. All the emergency response personnel are provided with necessary protective clothing, prophylactics and radiation dosimeters.
 - viii. Adequate number of water tankers with diesel operated pumps are mobilised and stationed at the boundary of the EPZ on all the roads from the EPZ for decontamination of the buses and other vehicles leaving the affected Zone.
 - ix. Adequate numbers of personnel from the Kalpakkam DAE Centre are stationed at the above points to check contamination levels before and after decontamination.
 - x. All the identified Rallying Posts are manned and well provided with food supplies, water, medical facilities and security arrangements for receiving the evacuees.
 - xi. Necessary arrangements are made by the SP, Chengalpattu for the

security of the evacuees' property during their absence.

- xii. Necessary arrangements are made by Animal Husbandry personnel for evacuating the livestock alongwith the evacuees.
- xiii. Samples of water, soil, marine products, fish, meat, standing crops as well as stored stocks of food crops and other commodities are made available to the ESL at Kalpakkam for analysis of radioactive material concentrations.
- xiv. Material from within the EPZ is not allowed to be exported outside unless the radioactive material content is found to be within prescribed limits.
- xv. Arrangements are made for orderly return of all the evacuees to their respective villages, after the termination of Off-Site Emergency.

An Officer in the cadre of the Tahsildar shall be in-charge of each Rallying Post. He/she shall be assisted by the local Revenue Inspectors, Village Administrative Officers and Village Government Servants. He/she shall ensure that sufficient number of police personnel, medical teams, Health inspectors and community health nurses are available at the parking yard, convoy team and Rallying post.

He shall instruct the Officer-in-charge, Rallying Post to maintain a record of the evacuees (under the heads - men, women and children). The OIC shall be solely responsible for the overall activities of the Rallying Posts and arrange for rehabilitation of the Evacuees as soon as the Off-Site Emergency is terminated.

RDO shall instruct the Officer-in-charge, Parking yard who is fully responsible for coordinating the activities at DEOC for dispatch of vehicles to the villages for evacuation. He shall instruct the OIC to maintain proper accounts of inflow of vehicles, crews and dispatch of vehicles with convoys for evacuation. The OIC shall also keep track of the details of the vehicle, time of arrival, names of crew members and officers in charge of the convoys.

Each Convoy Officer shall ensure that a public address system is fitted to the vehicle for announcement to the public in the affected villages, of the arrival, the place of parking, the time of departure of vehicles, etc., so as to minimise delays. Alternately the police PA system can be used for announcement in the village. He shall further ensure that the destination and route to be followed are prominently displayed on the vehicle. He shall also ensure that all the personnel attached to his team have undergone prophylactics and are provided with protective clothes and dosimeters before embarking on their tasks.

12.2.5.2. Action Plan for Police department personnel

Superintendent of Police (SP), Chengalpattu has the overall responsibility for:

1. Providing warning and advice to the public during sheltering and evacuation stages of response
2. Diversion of traffic going towards EPZ and regulating the crowds in EPZ during evacuation.
3. Enforcing law and order at rallying posts
4. Ensuring security in evacuated areas

In the absence of SP, the ADSP, Chengalpattu will carry out the duties of SP.

On receipt of the information about the Emergency from the RO/IC, the Police department and Home Guards personnel under the overall command of SP will carry out the required response actions. In consultation with RO-IC/DDMC, the SP shall take the following actions depending on the protective actions recommended by RO/ IC.

Site emergency at Kalpakkam DAE Centre

1. Instruct all the Inspectors of the Police Stations and other Police Officers involved in the response actions to brief the police personnel on the radiological precautions to be taken and protective gear to be used, while working in the affected sectors. Necessary assistance in this regard will be provided by RO/IC.
2. Alert the 3 Deputy SPs (Mamallapuram, Chengalpattu and Mathurantagam) and the 5 Police Circles, responsible for control of traffic proceeding towards affected sector, to enable them to mobilise the needed personnel.
3. Alert the Inspector of the Police Station, responsible for providing warning and advice in the affected sector, to enable him to mobilise the personnel and equipment. The list of police stations responsible for different sectors is given in Table-2.5.
4. Instruct the DSP, Mamallapuram to arrange for vehicles and equip them with portable battery operated public address system to be in readiness for deployment in the affected sectors. The DSP shall ensure that the public address systems are kept operational at all times.
5. Alert the Coast Guard to be on standby for making announcements to fishermen at sea, in case the affected sector is in the sea. Provide the text of the announcement in advance to Coast Guard.
6. Alert the concerned officers from Chengalpattu District, nearby

districts and Chennai City Police and 2nd/5th Battalions of Tamil Nadu Special Police to mobilise Police Constables trained in heavy vehicle driving.

Off-site emergency Sheltering

1. Ensure that police personnel are posted at all the road junctions outside EPZ leading to the affected sectors.
2. Direct the Inspector of Police Station concerned, to commence the announcement in the affected sectors by deploying motor cycles equipped with portable battery operated public address system and VHF sets.

The Inspector of Police Station concerned shall ensure that:

- a. These mobile vehicles are activated with a crew of 2 constables each for making the announcement,
 - b. The proper written message for sheltering as per instructions of SP is given to the crew in each mobile vehicle and announced correctly,
 - c. Each mobile vehicle covers the affected areas that lie within the jurisdiction of the Police Station from where the mobile vehicle is deployed and
 - d. The vehicles and all accessories fitted in each vehicle are always maintained in good working order.
3. Issue instructions to the DSP, Mamallapuram to proceed with the announcements in those affected sectors. The SP shall ensure that the DSP is provided with the appropriate messages to be released to the Public.
 4. If the wind conditions warrant it, instruct the Coast Guards to proceed with the announcements to fishermen at sea.
 5. Alert the various Police Stations and Armed Reserve (AR) to mobilise personnel for deployment for traffic regulation within EPZ, supervision of evacuation and security duty at Rallying Posts/affected sectors.
 6. Alert the 3 DSPs to take charge of security in affected areas to enable them to mobilise their teams.
 7. Alert the Area Commander, Home Guards, to mobilise personnel.

Administration of ITB

1. Ensure support provided for Health departmental personnel issue of stable iodine tablets to public by going door-to-door.

2. Provide security support for health department staff during their duty.

Evacuation

1. Ensure that adequate numbers of police personnel are sent to form part of the Convoy Teams.
2. Ensure the personnel who will be driving the buses for evacuation of the population receive the correct and clear instructions regarding the villages to be visited, routes to be followed to reach the destination.
3. Ensure that all police personnel who have been assigned security duty at the Rallying Posts are at their positions.
4. Ensure that in each affected sector, one Inspector takes charge of the security duty during and after evacuation. The Inspectors shall ensure that law and order is maintained during the emergency. They shall make adequate arrangements for security at the villages in the affected sectors and at the boarding places when evacuation is ordered. They shall oversee orderly and quick evacuation of the public, arrange for patrolling to prevent crimes at the bus stops during evacuation and guard the affected areas round the clock by intensive patrolling and posting of pickets.
5. The officers on duty shall also guard the properties at the Rallying Posts and regulate the crowds there and ensure law and order.
6. The SP shall ensure that separate investigating teams begin functioning in each of the Police Stations that lie in and around the EPZ.

Sl. No	Mamallapuram Sub-Division	Chengalpattu Sub-Division	Maduranthagam Sub-Division
1.	Mamallapuram	Chengalpattu – Town	Madurantagam
2.	Kalpakkam	Chengalpattu – Taluk	Padalam
3.	Koovathur	Otteri	Cheyyur
4.	Thirukalikundram	Guduvancheri	Chunambedu
5.	Sadras	Maraimalainagar	Chithamur
6.	Thiruporur	Palur	Melmaruvathur
7.	Manamathi	-	Acharapakkam
8.	Kelambakkam	-	-
9.	Thazhambedu	-	-

These teams will have strength of 1 Inspector, 2 Sub-Inspectors, 4 Head Constables/Grade-I P.Cs and 10 Gr. II P.Cs and one Police Mini bus/lorry each. In addition, each of the nine sectors will be provided with a similar strength and a vehicle to function as mobile patrolling teams within the respective sector.

These teams will deal with cases of all types reported at the police stations, bus stands and boarding places. Vehicles for these teams will be made available by the Police department. These investigation teams should also render all possible help to the emergency needs of the public. The Station and mobile patrol teams will function under the supervision and control of two DSPs who will be stationed at Kalpakkam and Thirukalukundram.

General:

1. The SP shall be in constant touch with the RO/IC (District Collector) to ascertain the current status of the emergency and transmit the same to the police personnel for further announcements. He may call for the help of DSP, Madurantakam in carrying out the action plans.
2. The SP shall ensure that all the police personnel on emergency duty within EPZ receive proper prior briefing regarding the radiation levels and possible effects. While on emergency duty they shall be provided with suitable protective wear and radiation dosimeters. They shall be administered ITB if required.
3. The SP shall ensure that adequate staff is mobilised and available for round the clock operations.
4. The SP shall also arrange for police assistance in control of contaminated commodities moving out of the EPZ, traffic control at the decontamination post and restrictions on food and water sources inside affected areas.
5. The total strength of police force required for emergency handling operations is given in Table-2.7.
6. In addition to the TNSTC staff, as many police constables as possible would be trained as Heavy Vehicle Drivers. Police personnel with requisite training in heavy vehicle driving would also be made available from the Chennai City Police and from the 2nd and 5th battalion of the Tamil Nadu Special Police based at Avadi.

12.2.5.3. Action Plan for Branch manager, TNSTC, Chengalpattu

Branch Manager, Tamil Nadu State Transport Corporation (TNSTC) is responsible for mobilisation and supply of buses at Parking Yard. On receipt of the information about the Emergency from the District Collector, he shall take the following actions depending on the Emergency

recommendations indicated in the RO/ IC's message.

More than 600 numbers of bus trips are operated by TNSTC from Depots in the vicinity of Kalpakkam. These buses operate with a limited route length from the base depots. In an emergency, some of these buses can be withdrawn from these depots and sent to the identified Parking Yard within six hours from the time of receipt of the message.

It must be noted that an estimated 4000 vehicles (Government buses, Private Buses and Trucks) pass through Chengalpattu in 24 hours in either direction. In an emergency it is possible to transfer passengers travelling in buses operating on short distance routes to other buses operating on long distance routes such as those belonging to the Tamil Nadu State Express Transport Corporation (SETC) so that the former vehicles can also be released. However, this contingency is not anticipated since the number of buses available with TNSTC is found to be quite adequate to meet the evacuation requirements in an emergency.

Upon receipt of the information about the Emergency, the Branch Manager, TNSTC, Chengalpattu shall take the following actions:

Sheltering:

Alert the depots to be ready to mobilise the buses and to get ready the buses under maintenance

Administration of ITB

1. Alert the depots to be ready to mobilise additional buses and to get ready the buses under maintenance.
2. Intimate the RDO about the despatch of buses to the Parking Yard.
3. Alert the Divisional Officer, Indian Oil Corporation (IOC), Chennai to ensure adequate supplies of fuel for the buses.

Evacuation

1. Mobilise the buses from the terminus and direct them to report to Parking Yard with full fuel tanks.
2. Intimate the RDO about the despatch of buses to the Parking Yard.
3. Keep in touch with the District Collector.
4. Standby to mobilise additional buses if the situation demands.

12.2.5.4. Action Plan for Health Service personnel

Kalpakkam is situated in the Thirukalukundram Taluk. The

Government Hospitals at Thirukalukundram and Mamallapuram are the nearest public hospitals to respond to the Off-Site Emergency situation. During off-site radiation emergency, the Deputy Director, Health Services, Saidapet Health Unit District (HUD) is responsible for

- ▶ Administration of Iodate Tablets (Prophylactics)
- ▶ Public Health and Medical Care at the Affected Villages/Rallying Posts.

On receipt of the information about the Emergency from the RO/IC, DDHS and department staff under his/her command shall take, in coordination with DDMC, the following actions depending on the recommendations indicated in the RO/IC message.

1. In the event of Off-Site Emergency, DDHS initiates action for Public Health and Preventive Measures on advice from the RO/IC. During the emergency, DDHS will be the nodal officer for implementing protective and relief measures.
2. During the emergency, if so instructed by the RO/IC, Iodate tablets will be given to the population in the affected sectors. The Iodate tablets will be stored in the Primary Health Centres (PHCs)/hospitals as shown below:

Sl. No	Unit / PHC	No. of tablets	Target Users
1.	Primary Health Centre, Sembakkam	6000	Public
2.	Primary Health centre, Thiruporur	6000	Public
3.	Primary Health centre, Koovathur	6000	Public
4.	Primary health centre, Nerumbur	6000	Public
5.	Primary Health centre, Sadras	18000	Public
Sub-total		42000	

3. The Block Medical Officers (BMO) will ensure stock of supplies and their periodic renewal by Kalpakkam DAE Centre.
4. The BMOs will also organise the distribution of Iodate tablets to the people in affected villages for use during emergency. A team of staff from the PHCs/hospitals with the BMO as the leader will administer Iodate tablets as prescribed. Instructions are inscribed on each bottle indicating the dose for adults, pregnant women and children and the shelf life of Iodate tablets.

5. For distribution of medicines and relief measures, all the available vehicles of the Primary Health Centres in Chengalpattu and Kalpakkam will be utilised. The vehicles will be put into service within 2 hours. In case additional requirements are identified, RTO should be informed to arrange for additional vehicles.
6. The DDHS shall ensure that all the field level functionaries are properly briefed on the radiological precautions to be taken. The total number of staff in the different categories available for deployment in emergency shall be readily available with DDHS.
7. Temporary shelters for the evacuated persons may house a minimum of 1000 evacuees per shelter. For maintenance of sanitation at the shelters, DDHS shall assign 6 sanitary workers and a sanitary supervisor to each shelter.
8. In addition to the above, the services of Health Inspectors and Sanitary Inspectors from the State may be sought.
9. Arrangements shall be made for the procurement of sufficient quantity of phenyl and bleaching powder for use at the shelters.
10. The shelters shall have bore-wells for supply of water for the evacuees and arrangements made for chlorination of the water. Alternatively, arrangements should be made in coordination with revenue officials for provision of clean water to public.

12.2.5.5. Action Plan for Medical Service personnel

During off-site radiation emergency, the Deputy Director, Medical and Rural Health Services and Family Welfare, (hereafter referred as DDMS) and the staff under DDMS are responsible for

Administration of medical care at Rallying Posts/Shelters

Medical management and trauma care for the evacuees at Rallying post

Providing psychiatric counseling at the shelters

In the absence of DDMS, Dean, Chengalpattu Medical College Hospital will discharge the duties.

On receipt of the information about the Emergency from the RO/IC, the DDMS shall take the following actions depending on the recommendations given by RO/IC.

1. In the event of Off-Site Emergency, DDMS shall alert Chengalpattu Medical College Hospital and Govt. hospitals at Thirukalukundram and Mamallapuram and keep the medical and para-medical staff to be on standby for response.

2. DDMS shall ensure that sufficient doctors are available and treatment wards are kept poised in the hospitals to receive patients evacuated from the affected sector. The evacuated patients shifted from PHCs in the affected sectors should be provided prompt medical attention and trauma care.
3. DDMS shall ensure that all the medical/para-medical staff are properly briefed on the radiological precautions to be taken while taking care of the patients. The total number of staff in the different categories available for deployment in emergency shall be readily available with DDMS.
4. DDMS shall provide assistance/support to DDHS for handling any medical emergencies in the affected sectors including provision of vehicles and for medical care at the rallying posts.
5. DDMS shall arrange for psychological counseling and care for the evacuees to address their anxieties, fears, etc. and assure them about their well being.
6. The availability of anti-diarrhoeal drugs, antibiotics, dressings and tranquilisers required for use at the Rallying Posts will be ensured by DDMS.

12.2.5.6. Action Plan for Fire Service personnel

District Fire Officer (DFO) is responsible for fire protection, rescue and for providing help in decontaminating the evacuees before transporting to Rallying post. He will be assisted by the Station Fire Officers under his command.

On receipt of the information about the Emergency from the RO/IC, he shall take the following actions depending on the protective actions recommended by RO/ IC:

1. During the emergency, trained personnel from Chengalpattu Fire Service Station will be mobilised first to attend to fire and rescue operations in the EPZ and the Rallying Posts. They will also attend to the relief work according to the orders issued by the RO/IC. If required the services of Fire Stations at other centres within the District will be requisitioned. In addition, if the situation warrants, assistance will be sought from Chennai Fire Service Stations. The DFO shall ensure that all the Fire Service Staff in the District are fully briefed on the radiological aspects of response actions and provided with necessary protective gear.

2. Upon receipt of information from RO/IC/District Collector, the DFO shall take the following actions:

Sheltering - Remain alert and ready for action Administration of ITB - Remain alert and ready for action Evacuation

1. Keep in touch with the RDO / RO/IC and await instructions.
2. If request for service is received, send out teams to the places specified by the RO/IC or the RDO.
3. Organise additional help, if needed, from Chennai Fire Service Stations.
4. Be a part of the convoy team to the affected villages for rescue operations and help the handicapped persons to board the buses.
5. Carry out the decontamination of persons and vehicles during evacuation, with assistance from the staff of Kalpakkam DAE Centre. Decontamination should be done without spread of contamination from the operations.

12.2.5.7. Action Plan for Civil Supplies personnel

District Supply Officer (DSO) is responsible for supply of essential commodities and catering arrangements at the rallying posts and in the affected villages. On receipt of the information about the Emergency from the RO/IC (District Collector), he/she shall take the following actions depending on protective actions recommended by RO/IC.

Sheltering

1. Alert the Taluk Supply Officers to be ready for emergency response actions.
2. Mobilize food, water and milk supplies for daily distribution in the affected villages when the shelter-in-place duration extends for more than a day.
3. Alert the Regional Transport Officer, Chengalpattu to be ready to mobilise the vehicles needed for transport of the supplies to the affected villages.

Administration of ITB

1. Alert the Taluk Supply Officers to be ready to mobilise the equipment and machinery to transport supplies of essential commodities to the Rallying Posts.
2. Remain in contact with the RDO to ascertain the availability and state of readiness of the Rallying Posts to receive the supplies.
3. Alert the Regional Transport Officer, Chengalpattu to be ready to mobilise the vehicles needed for transport of the supplies to the Rallying Posts.

Evacuation

1. Organise the transport of essential commodities to the Rallying Posts for the affected sectors.
2. Prepare the Rallying Posts to cater to the evacuated persons from the affected sectors.
3. Organise the catering operations at the Rallying Posts after the arrival of the evacuees. Experience may be utilized for arriving at the requirement of the essential commodities. The same may be stored at the Rallying Posts.

Note: The Estimated requirements to feed the population from each sector for the initial 24 hours during the emergency are derived from past experience in handling flood situations in the District and also as per capita consumption rate given by National Statistical Organization, Ministry Of Statistics and Programme Implementation in their report named "Level and Pattern of consumer expenditure 2009-10 – NSS 66th Round". As per the calculation, the requirement per man/month is as follows:

Cereal -9.298 kg / man / month, Pulses – 0.911, Milk - 3.195, Sugar-0.6, Salt-0.306, Oil – 0.610, Vegetables-5.41

Teams with the following composition will be available to monitor the operations at each Rallying Posts:

i) Deputy Tahsildar	-	1
ii) Revenue Inspector	-	1
iii) Assistant	-	3
iv) Helper	-	2

12.2.5.8. Action Plan for Animal Husbandary department personnel

Joint Director of Animal husbandary is responsible for

1. Transportation of cattle out of EPZ and their care during Emergency.
2. Monitoring of radiation levels in milk, meat and poultry products from EPZ and regulation of their consumption.

On receipt of the information about the Emergency from the District Collector and as per the instruction from RDO at DEOC, he shall take the following actions.

1. Evacuation of livestock from the affected villages to safer areas in the Rallying Posts. The detailed consideration of the various

possibilities indicates that the safe and sure method of transport of livestock out of EPZ would be to walk them to the Rallying Posts. The livestock can be expected to cover a distance of about 5 to 6 Kms. in one hour and most of the rallying posts are within a few hours from the sectors concerned. The choice of cross country routes would minimise the distance to be walked and the time needed for evacuation. The available bullock carts in the villages can also be used for the transportation of sheep, goats and poultry. The operations for evacuation of livestock are proposed to be initiated after the transportation of the human population out the affected sectors is completed. However it would be preferable to transport the livestock along with the human population which is dependent on the livestock. Details of cattle in each sector and the requirement of fodder for cattle care are given in Table-2.8.

2. The services of all personnel of the Animal Husbandry department of the affected areas will be utilised for the emergency operations. Four persons would be required for each 100 head of livestock and two for every 100 sheep for escorting them to rallying post. The services of 2 Veterinary Assistant Surgeons, 8 Livestock Inspectors and 6 Animal Husbandry Assistants from these Centres would be readily available. Additional staff would also be drafted and the village heads provided prior briefing/ training.
3. The paddy straw requirements are furnished in Table-6 for each sector. The requirement of 3 to 4 Kg. of paddy straw per day per animal as maintenance ration has been taken as the basis. Available grazing areas and forest land in the rallying posts are also to be thrown open for use by the livestock.
4. Joint Director for Animal Husbandry also has the responsibility for organising, in coordination with the Officer In-Charge, Environmental Survey Laboratory, Kalpakkam, periodical analysis of the milk, meat and poultry products from within the EPZ and to regulate/ban the consumption of these products depending upon the results of the assay.

12.2.5.9. Action Plan for Agriculture department personnel

Joint Director (Agriculture) is responsible for Coordination of assay of radioactive contamination in agriculture products and regulation of their consumption. On receipt of the information about the Emergency from the RO/IC (District Collector) and as per the instruction from RDO at DEOC, he shall take the following actions.

1. Upon receipt of information from the RO/IC about the

Emergency, the Joint Director shall alert all the Assistant Directors (ADs) and Agricultural Officers (AOs) under his command.

2. The ADs and AOs shall visit their respective sectors and provide assistance to the environmental survey teams from Kalpakkam in the collection of crop, water and soil samples from the affected sectors. They shall also arrange to apprise the farmers of the results of the assay and advise them about the implications.
3. If the radioactive levels in food crops are such as to warrant blocking of harvesting operations, sale and consumption of the crops, JD (Agriculture) shall arrange to take over the standing crops, harvested products or the stored products as the case may be. He shall also furnish the RO/IC the estimated value of the produce so blocked.

12.2.5.10. Action Plan for Regional Transport Officer, Chengalpattu

Regional Transport Officer, Chengalpattu is responsible for mobilisation of additional transport for emergency actions.

On receipt of the information about the Off-site Emergency from the RO/IC/ District Collector, he shall take the following actions depending on the protective actions recommended by RO/IC.

Sheltering

1. If request is received from the RDO, Chengalpattu, mobilise vehicles including private vehicles for emergency duty viz., providing warning and advice to the population within the EPZ.
2. Mobilize and provide additional vehicles with drivers for the district officials required to work in the affected areas.

Sheltering and Administration of Prophylactics

1. Remain in touch with the RO/IC for instructions.
2. Depending on the requirement, mobilize and provide additional vehicles with drivers for the health department personnel and convoy teams to go to the affected sector, as informed by RDO.
3. Inform Branch Manager, TNSTC if buses are required for transport.

Evacuation

1. If request is received from the RO/IC or the RDO Chengalpattu, mobilise additional private vehicles for transporting people out

of the EPZ.

2. Similarly if request is received from the Taluk Supply Officer, mobilise private vehicles for transportation of provisions needed to the affected areas or Rallying Posts.
3. Mobilise vehicles including private vehicles for transportation of live stock/fodder and water to meet the needs of cattle at Rallying Posts.

12.2.5.11. Action Plan for Officer-in-Charge, Decontamination services

District Fire Officer (DFO), Chengalpattu has the overall responsibility for providing assistance to decontamination Services in the off-site domain. Plant Superintendent, Centralized Waste Management Facility (CWMF), Kalpakkam will provide assistance to decontamination Services in the off-site domain.

On receipt of the information about the Emergency, DFO shall take the following actions:

1. DFO and OIC, Decontamination services, CWMF shall alert their respective staff and brief the crews.
2. In case evacuation of persons residing in the EPZ is planned, OIC, Decontamination Services shall assist the District Authorities in the decontamination of vehicles both public and private, used for the transportation of residents outside the EPZ.
3. The decontamination operation for the four wheelers including the buses shall be carried out with the passengers seated inside and with all the windows closed. The district Authorities shall provide adequate number of tankers filled with water, suitable diesel engine operated pumps and hoses for carrying out the decontamination. About 6 teams with 3 operators and 1 Supervisor in each team shall be made available to carry out the operation at different stations. Supervisors shall be provided by OIC, Decontamination Services. District authorities shall provide the operators.
4. The vehicles after decontamination shall be checked by Kalpakkam DAE Health physics personnel before their release.
5. OIC, Decontamination Services shall stock and provide the necessary protective ware and equipment for the crew of the

Decontamination Services. The crew Members shall be provided with dosimeters and if required, prophylactics.

12.2.5.12. Action Plan for Fisheries department personnel

Asst. Director (Fisheries) is responsible to provide assistance in monitoring of marine products and advise on fishing activities during off-site emergency.

On receipt of notification about declaration of the Offsite emergency in Kalpakkam DAE centre, he/she will be available for coordination of the emergency response.

Based on the advice of RO/IC, Assistant Director of Fisheries shall be responsible for:

- i. Assisting Environmental Survey Laboratory, DAE in collection of fish and other samples from the different fishing centers located in the affected areas.
- ii. Arrangements for impounding of the fish and control / discontinuation of further fishing, in case of detection of contamination.
- iii. Ensuring that the sales of contaminated fishes from the affected area are banned.
- iv. Confiscation of contaminated fishes.

12.2.5.13. Action Plan for Public Relations Officer, Chengalpattu

On receipt of notification about declaration of the Offsite emergency in Kalpakkam DAE centre, PRO, Chengalpattu will either proceed to OECC at Kalpakkam or stay back at District Headquarters as directed by RO/IC. He shall be available for coordination of the emergency response.

The PRO, Chengalpattu shall:

- i. Alert All India Radio and Doordarshan about the emergency.
- ii. Keep himself in constant touch with the RO/IC throughout the emergency.
- iii. Prepare and release emergency related news bulletins, when directed by RO/IC, through All India Radio, Doordarshan and Newspapers. After releasing such bulletins, he/she shall also communicate them to DEOC.
- iv. Call press conference as per the directives of RO/IC to brief the press/ media personnel.
- v. Communicate the feedback on the news coverage details back to

RO/IC.

12.2.5.14. Action Plan for Station Director, All India Radio/ Doordarshan

On receipt of notification about declaration of the Offsite emergency in Kalpakkam DAE centre, he/she shall proceed to his/her office and be available for coordination of the emergency response with RO/IC & PRO, Chengalpattu. During off-site emergency, Station Director, AIR/Doordarshan shall

- i. Maintain Close liaison with the Offsite Emergency Director and District Public Relations Officer throughout the emergency.
- ii. Prepare news bulletins in consultation with PRO and get it approved by RO/IC before its broadcast/telecast.
- iii. Make necessary arrangements for broadcast/telecast in English and Tamil after RO/IC's approval.

12.2.5.15. Action Plan for Superintending Engineer, TANGEDCO,

On receipt of notification about declaration of the Offsite emergency in Kalpakkam DAE centre, he/she will proceed to DEOC, Chengalpattu and be available for coordination of the emergency response.

Superintending Engineer, TNEB shall ensure supply of electric power in the District, particularly in Parking Yards and Rallying Posts. He/she should ensure that any scheduled maintenance work in the affected areas is immediately suspended. He shall also ensure that the persons deputed for emergency maintenance works in the affected areas receive adequate briefing on the radiological precautions to be taken in the affected areas and necessary protective gear.

12.2.5.16. Action Plan for Divisional Engineer, BSNL, Chengalpattu

On receipt of notification about declaration of the Offsite emergency in Kalpakkam DAE centre, he/she will proceed to District Command Centre at the office of RDO, Chengalpattu and be available for coordination of the emergency response.

Divisional Engineer, BSNL shall

- i. Ensure that the communication links from OECC or DCC through telephone or fax or available and deficiencies promptly rectified.
- ii. Arrange for additional communication facilities (phone, fax, etc.) at OECC or DCC when required.
- iii. Arrange to attend on priority any communication system deficiencies

in the affected areas to facilitate the response actions.

- iv. Ensure issue of necessary personal protective gear and adequate briefing to the response personnel on the radiological hazards/precautions while working in the affected areas.

12.3. Zoning

12.3.1. Toposheet (digital map) of the Emergency Planning Zones around the Kalpakkam DAE Centre

12.3.1.1. Exclusion Zone (1.6km):

The exclusion zone extends up to a distance of 1.6 Km around the plant where no public habitation is permitted. This zone is physically isolated from outside areas by plant fencing and is fully under the control of Nuclear Power Plant (NPP).

12.3.1.2. Emergency Planning Zones and Distances

Based on the Hazard Assessment, the area around the Kalpakkam DAE Centre is divided into following zones and distances based on hazard category, anticipated release, atmospheric parameters and time for response action.

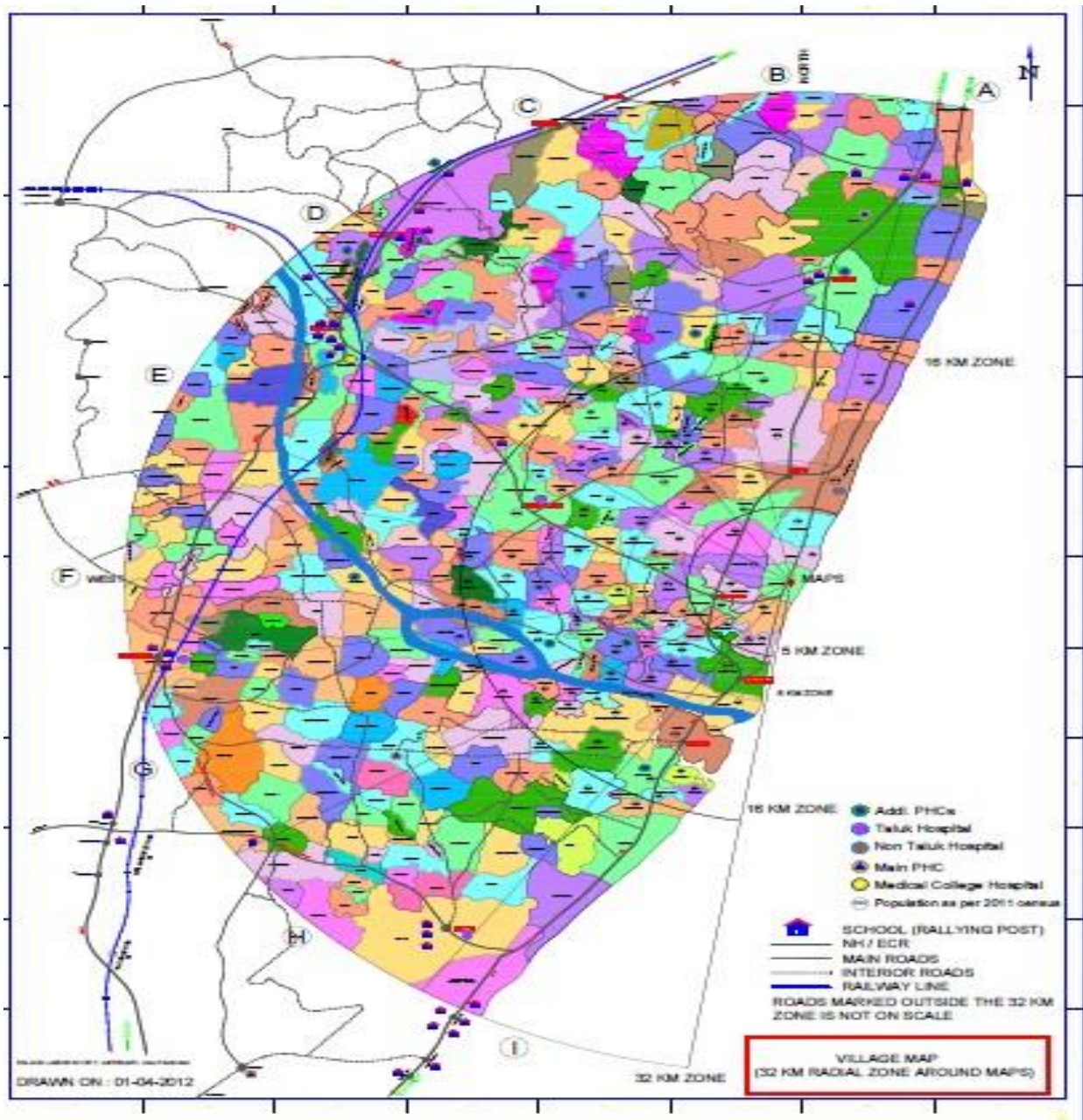
- a. **Precautionary Action Zone (PAZ):** In order to reduce the risk of severe deterministic health effects the PAZ is established on the basis of emergency conditions at the facility for taking precautionary urgent protective actions i.e. before or shortly after a release of radioactive material. The PAZ for emergency preparedness purpose can extend up to 2 km.
- b. **Urgent Protective Action Planning Zone (UPZ):** In order to reduce the risk of severe deterministic health effects and stochastic effects the UPZ is established for taking urgent protective actions. The protective actions, which must be taken promptly (normally within hours). The UPZ for emergency preparedness purpose can extend up to 16 km.
- c. **Extended Planning Distance (EPD):** EPD is identified for early monitoring of deposited radioactivity and, to determine areas warranting protective actions including:
 - (i) Evacuation within a day following a release or
 - (ii) Relocation within a week to a month following a release.

The EPD, for emergency preparedness purpose extends up to 30 km.

- d. Ingestion and Commodities Planning Distance (ICPD): ICPD will be established around Kalpakkam DAE center within hours of being notified of the off-site emergency for temporary control of food stuffs until further environmental assessments are performed.

The protective actions in ICPD include:

- i. Placing animals on covered feed and protecting drinking water supplies that use rainwater (e.g. to disconnect rainwater collection pipes); and
- ii. Restricting consumption of local produce and non-essential food, milk from grazing animals and rainwater.



The ICPD for emergency preparedness purpose extends up to 30 km. The 32-km radius Environmental Map for Kalpakkam DAE Centre showing above distances along with location of Rallying posts, shelter places, cattle camps, sectorwise population is shown in Figure-3.1. Figure-3.1 (EPZ Map)

12.3.2. Location with respect to the nearest natural and man-made features such as rivers, lakes, dams, railway station, State and National Highway with relevant detailed map.

Kalpakkam site is located on the east coast of India on the Bay of Bengal, at Kalpakkam in Thirukalukundram Taluk, Chengalpattu District, Tamil Nadu. The site is about 70 km south of Chennai city and about 30 km south east of Chengalpattu town which is the district headquarters and also has the nearest Railway Station. The site has got access from Chennai through NH-45 up to Chengalpattu and then through SH-58. The second access is through East Coast

Road (ECR) via Mamallapuram. Access from Puducherry is through ECR (90 KM). The nearest Airport is at Chennai.

A 16-km radius zone around the site is considered as the Emergency Planning Zone (EPZ) for preparation of emergency procedures and action plans. The EPZ has been divided into 9 sectors each covering 22.50 and centered on the corresponding main direction. All the 9 sectors are labeled alphabetically in the counter-clockwise direction. In case of any evacuation needed, the main routes are ECR to Puducherry and Chennai and SH-58 to Chengalpattu from where to other areas of Tamilnadu. Approach roads exist as shown in Figure-3.1 from individual villages to any of the above routes which can be used for evacuation. On the eastern side up to around 1600, the site is surrounded by Bay of Bengal. No major commercial, industrial or recreational structure exists in the Emergency Planning Zone. No national highway passes through the EPZ except for the East Coast Road. The state highway SH-58 passes through the EPZ.

12.3.3. List of the nearby installations like factories, oil/gas pipelines, defence installations, airports and other vital installations.

- Factories: No major factories nearby.
- Oil/gas pipelines: Nil
- Defence installations: No defence installation exists in 16Km zone
- Airports: No airport exists in 50Km zone
- Other vital installations: Other than the nuclear facilities at Kalpakkam DAE site, there are no other vital installations.

12.3.4. Nearby installations, such as hazardous chemical where, if an emergency were to occur, it would have a bearing on the functioning of DAE Center and the actions to be taken by DAE Center:

There are no such installations.

12.3.5. All the nearby establishments including schools, hospitals, process industries, emergency services etc. have their contingency plans ready for any NPP OSE.

12.4. Demographic Data

12.4.1. Details of population centres (villages, cities etc) (sex, age and distance wise), road / rail network, facilities, (like rallying points, shelters, medical facilities, decontamination centres) in each sector, of 22.5⁰ around NPP up to UPZ.

a) Details of population data:

The site and its environment up to 16 km are divided into sixteen Sectors, each of 22.5 degree. Out of the sixteen sectors, 9 sectors (sector A to I) lie in the land while the remaining 7 sectors fall in the sea.

Total population residing in Emergency Planning Zone (EPZ) i.e. 16 km is 2,22,111 as per 2011 Census. There are 3 population centres of more than 10,000 people viz. Mamallapuram town panchayat (15,172), Thirukkalukundram town Panchayat (29,391) and Pudupattinam (21,151) which includes Kalpakkam DAE township. The breakup of the Emergency Planning Zone (EPZ) population details as per Census-2011 data is given below:

Emergency Planning Zone Population details

Sector	No. of villages	Total population	No. of villages in 5 KM	Population within 5 Km	No. of villages in 5-8 KM	Population within 5-8Km	No. of villages in 8-16 KM	Population within 8-16 Km
A	6	21072	2	1918	1	15172	3	3982
B	6	11885	0	0	0	0	6	11885
C	18	17548	1	1774	2	2314	15	13460
D	17	15893	1	2965	2	789	14	12139
E	14	47919	1	1713	3	4070	10	42136
F	17	22054	1	1039	3	7133	13	13882
G	23	14397	1	1448	5	2459	17	10490
H	15	25912	2	4500	3	4646	10	16766
I	10	45431	1	6301	1	21151	8	17979
Total	126	222111	10	21,658	20	57734	97	142719

The detailed population data in 16-km Urgent Protective Action Planning Zone (UPZ) is given in Table- 4.1.

b) Shelter Place And Rallying Post

Shelter places have been identified for different villages up to 16 Km. Rallying posts have been identified outside 16 km radius zone where the evacuees will be shifted. Sector wise evacuation details containing Shelter places and Rallying posts along with Evacuation Route are given at Table - 4.2 & 4.3 Sanitation, water supply, food, and medical facility will be arranged by District Supply Officer and District Health Officers. Requirements for essential commodities and supplies are given in Tables- 4.4 & 4.5.

c) Medical facilities

Medical facilities are available at DAE Hospital in Kalpakkam Township with separate Personnel Decontamination Room and Radiation Emergency Medical Centre. Trained staff to handle contaminated patients is available at DAE Hospital.

Govt. hospitals, Private hospitals and Primary Health Centers (PHCs) are available in EPZ.

12.4.2. Nature of Land (like agricultural, grazing etc) and Produce (food, fishing, water source etc.)

Kalpakkam is located in Chengalpattu district, Tamilnadu. Topographically this area is elevated at the centre and slopes towards east and west direction. The district mainly depends on the seasonal rain and faces distress conditions in the event of the failure of monsoons. Though the district is one of the high rainfall regions in the state, during the past two decades the district has received only sub-normal rainfall. The only river that flows thorough the district is the river Palar, originating from Nandhi Durg in Karnataka. The Palar river basin gets an annual average rainfall of 1036 mm. No major dams and reservoirs have been constructed across Palar river in the district except for check dams. Palar is essentially a dry river and flows are noticed for a few months in the monsoon period. Agriculture is the main occupation of the people with 47% of the population engaged in it. Paddy is the major crop cultivated in this district. Groundnuts, Sugarcane, Cereals, Millets and Pulses are the other major crops. Marine fishing is practiced in 39 fishing villages of the district.

12.4.3.Livestock :

a) Livestock Handling and Evacuation

Animal Husbandry Department is equipped with data on the number of livestock and other domestic animals in the area. They will assist in sampling meat, poultry and milk from the major production centers for analysis. Joint Director, Animal Husbandry shall arrange for evacuation of animals from the affected areas during emergency.

During off-site emergency, Joint Director of Animal Husbandry will

- i. Depute adequate number of persons to look after the cattle left behind in the evacuated sectors and ensure that the cattle/livestock are kept in sheds.
- ii. Assist DAE Personnel for collection of samples of animal products like milk from the affected areas.
- iii. Ensure briefing to all personnel involved in response actions on the radiological precautions while working in the affected areas
- iv. Identify and prepare a list of areas for utilisation as cattle shelter during the Emergency.
- v. Arrange for fodder, animal feed, clean water, etc. for the animals that are evacuated and transported to the cattle shelters.
- vi. Arrange for veterinary care of the animals at the shelters.

b) Sheltering For Livestock

During Emergency cattle may be required to be transported to cattle camps. Sector wise villages, cattle population and the cattle camps and their distance from the village is given in Table -2.8. JD(AH) is the officer responsible for transportation of cattle.

c) Availability of Veterinary Doctors / Trained Staff

Veterinary doctors are available with Animal Husbandry department.

12.5. Evacuation

12.5.1.Sector wise plan for handling of vehicular traffic, especially, during evacuation and movement of emergency vehicle.

Evacuation is an 'ultimate' measure to protect the people and would have to be used after proper consideration of risks and benefits of the measure. In some cases, particularly those in close proximity of plant this measure could be the only protective action to avoid excessive doses to people.

Preferential evacuation of critical groups like children and women of

reproductive age would be desirable.

Evacuation would involve movement of population from affected area to radiologically safe location. Mobilisation of transport facilities and selection of radiologically safe location would be essential task.

For evacuation of Public, transport facility of Tamil Nadu State Transport Corporation (TNSTC) will be provided. Branch manager, TNSTC, Chengalpattu will be the Official responsible for arranging transport for evacuation. Action Plan for Branch manager, TNSTC, Chengalpattu is given at Section-2.5.

Shelter places have been identified for different villages up to 16 Km. Rallying posts have been identified outside 16 km radius zone where the evacuees will be shifted.

Sector wise evacuation Plan containing Shelter places, Rallying posts, village population, Number of buses required for evacuation, main and alternate evacuation route is given at Table – 18.4.3.

12.5.2. Evacuation Declaration:

Depending on the prevailing radiological conditions in the affected sectors, RO/IC will be advised by SED to implement evacuation. RO/IC will then declare for evacuation and will take following action –

- i. Arrange to form Evacuation Advice Teams and dispatch them to the affected villages.
- ii. Alert the Branch manager, TNSTC or his alternate (Member of DDMC) and ask for the arranging requisite number of buses for transporting affected people from Shelter Place in affected village to Rallying post.
- iii. He shall arrange to form the transit teams at the earliest. These transit teams will receive convoys for carrying evacuees and assist the evacuees in boarding buses and send them to their respective Rallying Posts. The convoy team shall always accompany the evacuees to their Rallying Post.
- iv. Form the Rallying Post teams and dispatch them to Rallying Posts to make necessary arrangements to receive evacuees at rallying post.
- v. Form the Convoy Teams and send them with convoys of buses to rallying points.

For implementation of Evacuation following teams will be formed.

1. Evacuation advice team
2. Convoy team
3. Rallying post team
4. Decontamination team
5. Patrol team

Action plan and composition of these teams are described in detail in Section 18.2.2

12.5.3. Evacuation routes and alternate routes in each sector up to shelters

Evacuation routes in each sector up to Rallying Post are given in Sector wise evacuation Plan at Table – 18.4.3.

12.5.4. Estimated transport support required for evacuation.

Estimated transport support required for evacuation is given in Sector wise evacuation Plan at Table – 18.4.3.

12.5.5. Resource mapping.

Buses required for evacuation can be arranged from Bus depots at Chengalpattu and Kalpakkam and other bus depots of the District. Additionally if required buses can be requisitioned from Bus Depots at Kancheepuram, Tambaram and Chennai.

12.5.6. Security personnel needed to provide security to the properties of evacuees and resource mapping.

Police would start patrolling in the villages evacuated. The houses and properties would be protected from thefts, mischief, looting and arson. Round the clock patrolling in three shifts is required in the evacuated areas. Requisite deployment of police force may be required during carrying out the evacuation of the villages in the affected sectors.

The respective police stations are required to be manned during the emergency condition to address the complaints raised by the public.

The police Wireless sets are to be operational for fast communication of the instructions and instruction during the emergency period. If required standby channels may be activated for communication purposes.

Patrol Teams will be formed by SP, Chengalpattu and will be sent to the evacuated villages for patrolling.

Following are the responsibilities of patrolling team

- i. Team will proceed to the designated village by the available vehicles with the Police.
- ii. The team will be guarding the property of the evacuees from

theft etc. Depending on the prevailing radiological conditions on the advice of SED, RO/IC will be replacing the team.

12.6. Medical Facilities

12.6.1. Availability of Medical facilities and trained medical Doctors and paramedics to respond to radiological injuries in and around each sector.

Hospital facility is available at Kalpakkam Township with separate Personnel Decontamination facility and Radiation Emergency Medical Centre. Trained staff to handle such patients are available at DAE Hospital.

Govt. hospitals, Private hospitals and Primary Health Centers (PHCs) are available in EPZ.

Trained medical doctors and paramedics to respond to radiological injuries are available in Govt. hospitals, Private hospitals and Primary Health Centers (PHCs) in EPZ. Quick Reaction Medical Teams (QRMTs) have been constituted in all the 5 block level hospitals in and around MAPS viz. PHCs at Sadras, Kelambakkam, Nandhivaram, Pavunjur and Chunambedu. Each of the QRMTs includes one Medical Officer, one RSO, one Health inspector, 2 Health nurses. The QRMTs have been provided with adequate protective gear and equipment for radiation emergencies.

12.6.2. Identification of designated hospital.

While the PHCs would be the first responders, Chengalpattu Medical College Hospital (CMCH) is identified as the secondary care hospital for radiation injuries. In addition, the Rajiv Gandhi Government General Hospital (RGGGH) is designated as the tertiary care hospital for super speciality treatment required for radiation injuries during nuclear emergencies. All the designated hospitals have trained Doctors and paramedics to treat radiological injuries.

12.6.3. SOP on handling of surge in number of patients.

Patients having minor injuries will be treated in Hospitals within EPZ. Patients with serious injuries will be sent to designated hospitals as mentioned in para 6.2.

Surge capacity is the ability of a health service to expand beyond normal capacity to meet increased demand for clinical care. Every hospital shall calculate their surge capacity early in the planning process such that the disaster response structure can be established, expanded, and contracted depending on the type and size of the incident.

The objective of planning for surge capacity shall be to undertake the following activities during a disaster event:

1. Conduct a situation assessment
2. Collect, evaluate disseminate, and use information of the event/incident
3. Develop information with regard to the hospital's current status with respect to the event/incident, to assist in the development of contingency plans (including status of response efforts and resources)

The Hospital Capacity Analysis tool shall be used to calculate a hospital's surge capacity by determining:

- a. Hospital Treatment Capacity (HTC): defined as the number of casualties that can be treated in the hospital in an hour and is usually calculated as 3% of the total number of beds.
- b. Hospital Surge Capacity (HSC): the number of seriously injured patients that can be operated upon within a 12-hour period. It is usually calculated as:

$$\text{HSC} = \frac{\text{Number of Operation rooms} \times 7 \times 0.25}{12 \text{ Hours}}$$

Note: The above standards are for a 1000 bedded tertiary hospital. Modifications shall be made based on the bed strength and staff strength for individual hospitals. Hospitals shall devise and calculate their own treatment capacity based on their previous experiences.

To ensure that the estimated surge capacity is applicable in real-time scenarios, every hospital/healthcare facility shall:

- i. Estimate the expected increase in demand for hospital services and calculate the maximum capacity required for the same
- ii. Identify methods of expanding hospital inpatient/outpatient capacity
- iii. Outsource care or shift non-critical patients to appropriate alternative sites to increase the hospital's capacity
- iv. Designate care areas for patient overflow
- v. Verify availability of vehicles and resources for patient transportation
- vi. Establish mechanisms for inter-facility patient transfer

- vii. Identify potential gaps in the provision of critical medical care and address these while coordinating with neighboring and network hospitals
- viii. Identify sites that may be converted into additional patient care units
- ix. Prioritize/cancel non-essential services when necessary
- x. Adapt hospital admission and discharge criteria and prioritization of clinical interventions according to the available treatment capacity and demand
- xi. Designate a specific area that may be used as a temporary morgue and formulate a contingency plan for ensuring required post mortem procedures
- xii. Establish protocols for maintenance of a special disaster store/stockpile
- xiii. Designate an official for information and communication with attending family members

Additionally, the following resources shall be assessed and maintained to ensure effective surge capacity management:

1. Manpower
2. Stores and equipment
3. Mortuary
4. Procedure for discharge/transfer of patients
5. Emergency bloodbank
6. Dietary services
7. Mutual aid agreements for transfers and accommodation with network hospitals

12.7. Availability of Prophylactics

12.7.1. Stock of prophylactics (stable Iodine (KI / KIO₃) in each sector at designated places or in hospital / NPP and designated teams to distribute these to the affected area well within stipulated time.

Administration of Iodine Thyroid Blocking may be considered for incidents involving the release of significant quantities of radioactive iodine.

Depending on the evolution of the emergency scenario the intake of Iodine Thyroid Blocking should be initiated to avoid intake of radioiodine by emergency workers/responders.

The distribution of these prophylactics will be done under the supervision of DDHS. His medical officers and paramedical staff from different Govt.Hospitals /Public Health Centers will distribute the iodine tablets in the affected area. DDHS will form Prophylactics distribution teams for distribution of prophylactics.

Prophylactics Distribution Team

On notification of the RO/IC, District Health Officer forms the Prophylactics distribution teams under the leadership of available Medical Officer. Following are the responsibilities of the Prophylactics distribution team:

- i. Team will proceed to the designated village by the vehicle designated for their transport.
- ii. They will collect prophylactics (KIO3 tablets) available at the nearest Primary health center and will distribute prophylactics to the affected villagers.

Guidelines for administration of stable iodine (KIO3) tablets is given at Annexure – 12.7.1

Location of prophylactics (KIO3 tablets) stored at different location around Kalpakkam DAE Centre is given at Annexure – 18.7.2

12.7.2. Plan on Stock (Quantity and Locations) of Prophylactics.

District Health Officer shall maintain the adequate stock of stable iodine (KIO3) tablets at PHC/ Govt. hospitals. He shall carry out checking of stable iodine (KIO3) tablets on quarterly basis and shall maintain its record.

12.8. Facilities at Shelters

12.8.1. Arranging adequate quantity of essential facilities and items at identified shelters (like water, food, sanitation, medical management etc.)

Rallying post teams will be available at the designated Rallying Posts and make necessary arrangement for receiving the evacuees.

Sanitation, water supply, food, lighting and medical facility will be arranged by District Supply officer and DDHS.

12.8.2. Supply of Commodities at Rallying Posts

District Supply officer is responsible for adequate supply of commodities at the Rallying Posts. District Supply Officer shall take the following actions:

Stage - 1: Sheltering

1. Alert the Taluk Supply Officers to be ready for emergency response actions.
2. Mobilize food, water and milk supplies for daily distribution in the affected villages when the shelter-in-place duration extends for more than a day.
3. Alert the Regional Transport Officer, Chengalpattu to be ready to mobilise the vehicles needed for transport of the supplies to the affected villages.

Stage - 2: Aministratation of Prophylactics

4. Alert the Taluk Supply Officers to be ready to mobilise the equipment and machinery to transport supplies of essential commodities to the Rallying Posts.
5. Remain in contact with the RDO to ascertain the availability and state of readiness of the Rallying Posts to receive the supplies.
6. Alert the Regional Transport Officer, Chengalpattu to be ready to mobilise the vehicles needed for transport of the supplies to the Rallying Posts.

Stage-3: Evacuation

7. Organise the transport of essential commodities to the Rallying Posts for the affected sectors.
8. Prepare the Rallying Posts to cater to the evacuated persons from the affected sectors.
9. Organise the catering operations at the Rallying Posts after the arrival of the evacuees. Experience may be utilized for arriving at the requirement of the essential commodities. The same may be stored at the Rallying Posts.

12.8.3. Facilities at Rallying Posts

DDHS or his designate will arrange following sanitary facilities at the Rallying Posts for prevention of epidemic breakout/ spreading.

a) Sanitation at Rallying Posts

- Rallying posts for the evacuated persons may house a minimum of 500 to 1000 evacuees from the affected villages.
- For the maintenance of sanitation at the Rallying posts, District Health officer will make necessary arrangements by providing requisite number of sanitary workers and sanitary supervisor at each shelter.

b) Water Supply

Adequate quantity of portable water will be made available at the Rallying Posts.

c) Drug Requirement

District Health officer will be ensuring availability of drugs and medicines required for health care of persons at the Rallying Posts.

12.9. Resource Data

12.9.1.Trained staff – (Police / Govt / NGO)

District Collector, Chengalpattu shall ensure minimum number of trained staff like DDMC members, Police, Civil Defence, Revenue Dept, Fire Service, District Supply officer, medical doctors and paramedics to handle radiological emergency in public domain. A list of trained staff shall be maintained at District Disaster Management Authority.

12.9.2.Doctors and paramedics

Training on treatment to radiation contaminated person is given to Doctors and paramedics around MAPS at regular intervals.

12.9.3.RSO :

Radiological Safety Officers (RSO) of the Site Facilities are responsible for the Radiation Protection of the emergency workers in the early phase. RSO is Head of radiological protection group and is responsible for following actions in public domain

- Contamination Monitoring and Dose estimation of evacuees
- Radiation Protection and Dose Management of Emergency Workers/ Responders

12.9.4.Radiation Instruments

Adequate number of Radiation instruments required by RSO are available at OECC for use during offsite emergency.

12.9.5.PPE :

Adequate number of PPEs are available at OECC for use of emergency response groups during offsite emergency in early phase. Additional PPEs if required can be augmented from nearby NPCIL Unit at Kakrapar and NPCIL-HQ at Mumbai.

12.9.6.Ongoing / plan on capacity building

For capacity building for effective handling of radiation accident following shall be done –

- Periodic training of NDRF, Civil Defence, Poilce, identified District officials/staff shall be carried out. DDMA shall maintain a list of trained Officials/staff and shall ensure their periodic training.
- Concerned district agencies and NDRF shall participate in Offsite emergency exercise to have greater understanding of handling radiation emergency.

12.9.7.Fire services-water supply sources

- Kalpakkam DAE Site has Centralized fire station located within the site boundary. It is having three numbers of fire tenders, fire fighting personnel and other facilities to cater fire at site as well as DAE townships. In addition, if required, Fire stations at Thirukkalukundram and Madurantakam can be called upon to assist the site firefighting squads in accidents involving large fire.
- Water supplies can be drawn from water reservoirs within the site.

12.9.8.NDRF and SDRF: Availability near site / details of facilities, equipments including trained responder, Doctors etc.

National Disaster Response Force (NDRF)

The DM Act, 2005 has made the statutory provisions for the constitution of the National Disaster Response Force (NDRF) for the purpose of specialized response to natural and man-made disasters. According to Section 45 of the Act, the Force has to function under the direction and control of the National Disaster Management Authority (NDMA) and under command and supervision of Director General, NDRF. The role of NDRF is to:

1. Provide specialized response for rescue and relief in case of disasters - natural and manmade.
2. Assistance to civil authorities in distribution of relief material during / after disaster.
3. Co-ordination with other agencies engaged in rescue / relief work.
4. Deployment in case of impending disaster.
5. Provide specialist response in case of disasters which covers
 - a. NBC Disaster (Decontamination of the area and personnel).
 - b. Removal of debris to the extent of extrication of victims-live or dead.
 - c. First medical response to victims.
 - d. To extend moral support to victims.
 - e. Co-ordination with sister agencies.

The NDRF 4-Battalion at Arakkonam is the identified first responder to help in emergency management for nuclear off-site emergencies. On being requisitioned by the RO/IC, NDRF can mobilize and provide response within 4 hrs. NDRF, Arakkonam has been regularly participating in the Off-site Emergency Exercises conducted since the year 2011.

12.9.9.Civil Defence

This organization will be called upon, when required, to provide volunteers for implementing the required protective action during emergency.

The service will be in any of the following fields:

- a. Assistance in monitoring of the outside areas for pollutant concentration.
- b. Assistance in collecting samples of food, water, milk etc. from surrounding public domain.
- c. Assisting in evacuation of public members.
- d. Assistance in distribution of KIO3 tablets.
- e. Assisting in decontamination of vehicles.
- f. Providing volunteers for different teams involved in protective actions.

12.10. Conduct of Off-Site Emergency Exercise.

12.10.1. Guidelines for conducting Offsite Emergency Exercises.

- Offsite Emergency Exercise is to be conducted once in two years.
- Emergency exercises should cover all the specified functions in Emergency Planning Zone (EPZ) over the years, to obtain feedback and implement corrective measures.
- The personnel responsible for emergency response functions shall participate in exercises on a regular basis.
- The exercises shall be systematically evaluated against pre-established objectives of emergency response to demonstrate that identification, notification, activation and response actions can be performed effectively to achieve the goals of emergency response.
- Observers from Regulatory Bodies and other response organisations should also be called to participate and evaluate the effectiveness of the exercises.
- The members of the public should also participate in the exercise.

12.10.2. Offsite emergency exercise procedure for nuclear emergency originating from Kalpakkam DAE Centre

Offsite Emergency Exercise is to be conducted once in two years at Kalpakkam DAE centre and it will be ensured that all concerned DDMC members and District agencies take part in the exercise.

District Collector, Chengalpattu (RO/IC) will finalize the date and time of the exercise in consultation with Station Director, MAPS. District Collector will issue a circular and will be inform to all the concerned agencies like Station Director-MAPS, DDMC, NDMA, and NDRF at least two weeks in advance.

The scope of the exercise is decision making and response to an emergency by the responsible organizations at Plant and District level. This will include the activation of overall response frame work including other agencies (DAE-Crisis Management Group & District Authorities) with emphasis on decision making and command control structure. In the domain of field response, only response of the first responders is exercised, and will not include activities involving movement of plant personnel and public. The exercise will also include decision making in the intermediate phase (dose assessment, evaluation of residual dose, use of reference levels and terminations of emergency). For the conduct of the exercise, the method of

introducing evolving conditions through ‘injects’ will be followed.

Exercise Details

Participating Organization:	District Administration NPCIL/MAPS ND MA CM G DAE-RERD BARC AERB
Location	KalpakkamSite
Duration of the exercise:	8-10 hrs.
Type of Exercise:	Partial Exercise Selected organizations and interfaces are activated. Partial field exercise with no public involvement.
Time Mode: Compressed	Necessary steps or time lapses will be simulated or foreshortened during the exercise by taking time lapses for a reactor event sequence leading to a major failure, which in reality could take many hours. Necessary time for analysis of event and related decision process will be available during exercise.
Exercise Scenario	Sequence of events will be unfolded in the real time to the players in the form of control messages called ‘injects’ from emergency exercise Controller. The scenario as communicated through injects will be in compressed timeline. Players (plant personnel) are expected to take the corrective actions on the basis of the information provided by the “inject”.
Communications	The exercise participants will use the actual emergency telecommunication systems identified in the applicable plan(s). Unless otherwise stipulated, phone numbers to be used are as per emergency procedures.
Exercise Closure	Exercise Controllers present at different emergency response centers will signal closure of exercise after each organization completes their portion of the exercise.

Exercise Scope

The major scope of the exercise is decision making and response to the early phase of an emergency by the responsible organizations at Plant and District level. In the domain of field response, only response of the first responders is exercised, and will not include activities involving movement of plant personnel and public.

The exercise will also include decision making in the intermediate phase (dose assessment, evaluation of residual dose, use of reference levels and terminations of emergency). However, will not include field exercise as part of response actions in the intermediate phase.

The scope of participation for various agencies is as per the table given below.

Organization	Participation Scope
Kalpakkam Site	<p>Early phase decision making and protective action recommendation</p> <ul style="list-style-type: none"> • Identification, declaration & notification of Emergency Class • Activation of PECC, SECC and off-site emergency support center • Prognosis of emergency situation, evaluation of source term, assessment of projected dose, prediction of meteorological parameters (48Hrs.) • Protective action recommendation for early phase
District Administration	<p>Activation and response for protective action with no involvement of Public</p> <ul style="list-style-type: none"> • Activation of Emergency Operation Centre • Field exercise to reach identified villages for warning and early response actions (ITB, Sheltering etc.). No actual announcements will be made and response action will not involve public • Identification of access control points and field exercise to reach the points • Identification of shelters according to the wind direction etc. • Preparation of write-up for media briefing
NPCIL HQ	Activation of Technical Support Centre for technical guidance to site.
ESL, BARC	<ul style="list-style-type: none"> • Information on real time metrological parameters • Radiological Field measurements
CMG	<ul style="list-style-type: none"> • Activation & communication

	<ul style="list-style-type: none"> • Preparation of write-up for media briefing
DAE-ERD	Decision making for intermediate phase <ul style="list-style-type: none"> • Protection strategy based on OIL Area identification based on field measurements • Calculation of residual dose and comparison with reference level • Decision on Termination of emergency
HSEG, BARC	Support to ESL/ERC Necessary analysis in support of CMG
AERB	Observation, Activation of NREMC
NDMA	Observation with respect to response actions of District Authorities

Training will be organized for concerned District officials before conduct of exercise. In addition training/awareness program shall be organized for the villagers of identified affected village and grampanchayat members of surrounding villages. This will increase the awareness among the villagers and there will not be any panic situation among the villagers during exercise. During full-scale emergency exercise, partial evacuation of some of the villagers of one affected village will be done.

12.11. Communication

12.11.1. Availability of EW (Early Warning) System and mechanism.

The GoI has designated specific agencies (see table below) to monitor the onset of different natural disasters, set up adequate Early Warning Systems (EWS), and disseminate necessary warnings/ alerts regarding any impending hazard, for all those hazards where early warning and monitoring is possible with the currently available technologies and methods. These agencies provide inputs to the Ministry of Home Affairs (MHA), which will issue alerts and warnings through various communication channels. The agencies responsible for EWS will maintain equipment in proper functioning order and conduct simulation drills to test their efficacy.

Central Agencies Designated for Natural Hazard-Specific Early Warnings

Sl. No.	Hazard	Agencies
1.	Avalanches	Snow and Avalanche Study Establishment (SASE)
2.	Cyclone	India Meteorological Department (IMD)
3.	Drought	Ministry of Agriculture and Farmers Welfare (MoAFW)
4.	Earthquake	India Meteorological Department (IMD)

5.	Epidemics	Ministry of Health and Family Welfare (MoHFW)
6.	Floods	Central Water Commission (CWC)
7.	Landslides	Geological Survey of India (GSI)
8.	Tsunami	India National Centre for Oceanic Information Services (INCOIS)

On their part, the relevant State Government and district administration should disseminate such alerts and warnings on the ground through all possible methods of communications and public announcements. The National Emergency Operations Centre (NEOC) will act as the communication and coordination hub during this phase and it will maintain constant touch with early warning agencies for updated inputs. It will inform State Emergency Operations Centre (SEOC) and District Emergency Operations Centre (DEOC) through all the available communication channels and mechanisms. The Disaster Management Division of the MHA will communicate and coordinate with designated early warning agencies, various nodal Ministries, and State Governments. It will mobilise reinforcements from the NDRF, Armed Forces and the CAPFs and put together transportation plans for moving resources. The NDMA will support the overall coordination of response as per needs of MHA. The NDMA will be providing general guidance, and take decisions for the deployment of the NDRF. The NDRF will be deployed as required depending on the request from State Government. They will keep the force in operational readiness at all times.

Information will be sent to District Collector by the Site Emergency Director when Plant/Site level emergency is declared which acts as early warning if the Site emergency escalates into Offsite emergency.

12.11.2.Line of communication

During an emergency, a healthy communication network is required for prompt and smooth information flow. The effective functioning of the Off-site Emergency Organization is very much dependent on reliable communication facilities. It is ensured that these systems are kept functional at all times.

On Site Emergency conditions escalating into Off-site emergency, SED of Kalpakkam DAE Site declares Off-site Emergency and immediately informs RO/IC through oral and written communication.

The RO/IC then issues notification of offsite emergency. The Format for issuing Notification of declaration of Off-Site Emergency by SED is

given in Annexure-11.1.

RO/IC will ask the Nodal Officer for DDMC (RDO) to send notification to all concerned agencies. RDO shall also communicate telephonically to all DDMC Members, SED-Kalpakkam, NDMA/SDMA and NDRF. He shall maintain updated contact list of all DDMC members, and other key officials for external agencies.

The communication flow diagram for Offsite emergency declaration is given in Annexure-11.2.

12.11.3. With NPP Site / Local / District / State / National Authorities.

After declaration of offsite emergency, notification will be issued to all OERCC Members, Site Director-TMS, NDMA/SDMA and NDRF as per the format given in Annexure-11.1. RDO will ensure sending of notification and telephonic communication to above mentioned agencies/officials.

Equipment available at DDMA/DEOC Chengalpattu for communication

Sl. No.	Communication Systems	Minimum Requirements
1	BSNL land line phones	2
2	Mobile Phones	2
3	Fax Machine	2

12.11.4. With Public.

Communication to public of the affected area will be done by means of mobile Public address system/Megaphones by the Warning and Advice Team and Evacuation Advice Team as mentioned in Section 2.2.

12.11.5. With Media.

Information to general public will be given by means of electronic & print media (TV, Radio & Newspaper). The information group of the DDMC/PRO will coordinate with the media so as to pass on only authentic information to the public.

12.11.6. Instruments for Communication.

a) Communication with Public

For communication with public following media is available. Alerting and warning the public will be done through any or all methods as listed

below.

- Siren. (available on Police vehicles)
- Public announcement system such as megaphones mounted on Police vehicles.
- Radio and Television.

b) Communication with Media

Communication with Media will be done by District PRO through communication channels like telephone, mobile, fax, email etc available at District Head Quarters.

12.11.7 Communication with Fishermen already at sea.

Supdt. of Police shall coordinate with Coast Guard and ensure communication with Fishermen already at sea. He/she should ensure that all the fisherman who are already at sea are communicated about the emergency and instructed not to go in sea for fishing. He should advice fishermen to stop local fishing activities and selling/ consumption of local fish.

12.11.8. List of contact address of all stake holders, their telephone / mobile / email / fax.

List of all DDMC members is given at Table-2.1. The contact details of the DDMC members and their alternates are maintained regularly at DEOC and should be available with RO/IC and RDO, Chengalpattu at all times. DEOC should update above contact details at regular intervals.

The Contact Details of NDMA/SDMA, NDRF, Station director- MAPS and Site/Off-site Emergency Control Centres at Kalpakkam ECC are given in Table-11.1

12.12. Command and Control

12.12.1. Organization for chain of command.

The organisation structure for IRS is shown in Figure 12.1. District Collector, Chengalpattu will be Responsible Officer (RO) and Incident Commander (IC) for nuclear emergency. Nodal Officer for DDMC (NO-DDMC) will be the RDO, Chengalpattu who will coordinate between the District, State and National level in activating air support for response.

In line with administrative structure and DM Act 2005, Responsible Officers (ROs) is overall in charge of the incident response management. The RO can not delegate responsibilities of the Incident Commander (IC) for nuclear emergencies. The IRS organisation functions through Incident

Response Teams (IRTs) in the field. IC will manage the incident through Incident Response Teams (IRTs) in the field. All the actions in the field will be done through IRTs. The IRTs will be pre-designated teams. On receipt of Early Warning/declaration of Offsite emergency, the RO/IC will activate them.

Apart from the RO and Nodal Officer (NO), the IRS has two main components;

a) Command Staff and b) General Staff as shown in Figure 12.1.



Figure 12.1

Command Staff

The Command Staff consists of Incident Commander (IC), Information & Media Officer (IMO), Safety Officer (SO) and Liaison Officer (LO). They report directly to the IC and may have assistants. The Command Staff may or may not have supporting organisations under them. The main function of the Command Staff is to assist the IC in the discharge of his functions.

General Staff

The General Staff has three components which are as follows;

Operations Section (OS)

The OS is responsible for directing the required tactical actions to meet incident objectives. Management of disaster may not immediately require activation of Branch, Division and Group. Expansion of the OS depends on the enormity of the situation and number of different types and kinds of functional Groups required in the response management.

Planning Section (PS)

The PS is responsible for collection, evaluation and display of incident information, maintaining and tracking resources, preparing the Incident Action Plan (IAP) and other necessary incident related documentation. They will assess the requirement of additional resources, propose from where it can be mobilised and keep IC informed. This Section also prepares the demobilisation plan.

Logistics & Finance Section (L&FS)

The L&FS is responsible for providing facilities, services, materials, equipment and other resources in support of the incident response. The Section Chief participates in development and implementation of the IAP, activates and supervises Branches and Units of his section. In order to ensure prompt and smooth procurement and supply of resources as per financial rules, the Finance Branch has been included in the LS.

12.12.2. IRS and roles and responsibilities of various IRS teams.

The Incident Response System (IRS) is an effective mechanism for reducing the scope for ad-hoc measures in response. It incorporates all the tasks that may be performed during Disaster Management irrespective of their level of complexity. It envisages a composite team with various Sections to attend to all the possible response requirements. The IRS identifies and designates officers to perform various duties and get them trained in their respective roles. Stakeholders are to be trained and made aware of their roles and responsibilities. IRS implementation will greatly help in reducing chaos and confusion during the response phase. Every one will know what needs to be done, who will do it and who is in command, etc. IRS is a flexible system and all the Sections, Branches and Units need not be activated at the same time. Various Sections, Branches and Units need to be activated only as and when they are required.

In IRS, roles and responsibilities of different functionaries and stakeholders, at District/ State levels are defined and how coordination with the multi-tiered institutional mechanisms at the National, State and District level will be done.

It also emphasises the need for proper documentation of various activities for better planning, accountability and analysis. It will also help new responders to immediately get a comprehensive picture of the situation and go in for immediate action.

12.12.3. District Disaster Management Committee (DDMC)

The overall handling of the off-site radiation emergency situation arising from Kalpakkam DAE Centre is done by the Kalpakkam Emergency Committee (KEC) / Chengalpattu District Disaster Management Committee (DDMC) headed by the District Collector who is

also the RO/IC, and having officials of the district organization as the members.

KEC headed by SED will function from Site/Off-site Emergency Control Centre (SECC/OECC) at Kalpakkam and give Technical guidance in handling the off-site emergency situation initially. CMG-DAE which is the nodal agency for providing the necessary technical inputs to the national or local authorities for responding to any nuclear or radiological emergency in the public domain will coordinate as needed between site and off-site authorities. DDMC will function from the District Emergency Operation Centre (DEOC).

The Members of DDMC along with their contact details is given at Table-2.1 and the Action Plan of the members is covered in Section 2.5

The Off-Site Emergency Radiological Condition Assessment (ORCA) Group of the KEC will carry out the technical assessment of the emergency conditions at Kalpakkam DAE site, to estimate the fall out in the public domain due to the radioactivity releases from the affected unit(s) and to monitor the radiological conditions at site and Off-site areas. ORCA will assess the situation and provide feedback/advice on appropriate protective actions. SED in consultation with KEC will then appropriately communicate to RO/IC the protective action recommendation(s) (PAR) in public domain.

RO/IC will review the protective action recommendations issued by SED and give necessary directions for implementation of the PARs. Based on review of PAR by DDMC and conditions in the affected sectors / villages viz. weather conditions, ground situations, topography, the Protective Actions will be implemented by DDMC.

When the off-site emergency situation transitions from early phase to intermediate phase as explained in section-2.2, the command and control will be transferred from Site Emergency Director to the Radiation Emergency Response Director (RERD) of DAE. Associate Director, Health Safety and Environment Group (HSEG), BARC is the RERD for India. RERD will take charge of providing technical inputs and advice to the RO/IC in the intermediate and late phases which can go on to several weeks/months and even years depending on the extent of radioactive releases. All emergency related communications during these phases will be between RERD and RO/IC, with Kalpakkam DAE Centre providing resource support to DDMC.

When the radiation exposures come down to acceptable levels for continuous habitation in the affected areas, the emergency may be terminated by RO/IC based on the advice from RERD.

12.12.4. Locations of ECCs / EOPs

DDMC will function from the District Emergency Operation Centre (DEOC) at District Headquarters, Chengalpattu. District Disaster Management Plan for Nuclear emergency from MAPS / Standard Operating Procedures (SOP) are available at DEOC. KEC headed by SED will function from Site/Off-site Emergency Control Centre (SECC/OECC) at Kalpakkam.

12.13 Note on Special Requirements

12.13.1. Special requirements e.g. arrangements for handling of fisherman at sea, population in remote (isolated) areas, alternatives in case of affected supply of food, milk, water etc.

- Fisherman should be prohibited to go in sea upto 16 km on sea side for fishing. They shall be advised not to use and sell local fish food.
- Population in the remote areas should be alerted and advised by Warning and Advice Team as elaborated in Section 18.2.2.
- If supply of food, milk, water get affected then District supply officer shall arrange for food and water for all the evacuees at Rallying posts as per the his Action Plan of District Supply Officer given at Section-18.2.5.

12.13.2. Protective gear for Responders

The NDRF is equipped with adequate PPE for handling radiological emergencies. District Collector shall call for assistance of NDRF for handling radiological emergency. Services of NDRF and PPEs available with NDRF shall be used for use of emergency response groups during offsite emergency.

Additionally, PPEs can be obtained from OECC located at Kalpakkam Township. Additional PPEs if required can be augmented from nearby NPCIL Units at Kudankulam.

As advised by KEC, RO/IC shall ensure that PPEs are provided to all the emergency workers/responders working in radiation affected areas.

12.14 Plan for Managing Post Accident Situation

12.14.1. Stocking / handling of contaminated food, supply items in the affected areas.

The Environmental monitoring group of Kalpakkam DAE Centre (headed by Officer In-charge, Environmental Survey Lab) is responsible for collection and reporting of environmental & meteorological data to assess the severity of radiological impact during emergency situation in offsite areas. Based on the contamination levels observed in various food items and their comparison with the prescribed limits, the Site Emergency Director will

suggest / advise RO/IC for requirement of control on food stuff / blockage and for declaring food unfit for human or animal consumption in the affected areas.

All the contaminated food, milk, water shall be prohibited from intake. Such contaminated food shall be destroyed/buried as recommended by DAE.

12.14.2. Decontamination plan for, people, live stock, machines, affected area etc.

District Collector shall identify the District officials responsible for Post- Accident Management. The identified district officials for Post-Accident Management will -

1. Ensure conduct of Decontamination activities involving digging of soil, disposing of soil, washing / painting of facilities etc. in the affected area. They will also ensure to provide essential tools / equipment's and personal protective gears to the work force during decontamination work.
2. Ensure continuation of monitoring of environmental radioactivity levels, contamination levels and radiation fields in the affected area till the acceptable levels are achieved.
3. Ensure continuation of monitoring of air, grass / vegetation, dietary items etc. till the radioactivity level comes down to acceptable levels for consumption.
4. Facilitate as per advice from RERD/CMG-DAE, safe return of the public in the affected area based on the prescribed limits.

Response functions to be carried out in the affected areas by the district administration requires the support of RERD-DAE who is the nodal agency for providing the technical inputs to the national or local authorities for responding to any nuclear or radiological emergencies.

The Radiation Protection group comprising Radiation Safety Officers (RSO) of Kalpakkam DAE Centre provide technical support and advice to the district officials responsible for performing contamination monitoring and decontamination related activities in the affected area and at rallying post.

The team members of Radiation Protection group will identify suitable location in a low radiation background area out of the affected sector / village en-route to the pre-decided Temporary shelter for that area for enabling the district administration in establishing contamination monitoring post. This post will have facility to carry out contamination monitoring of each

vehicle and evacuee coming out of the affected area. If found contaminated, decontamination activity under the guidance of representative of RSO and with the assistance of Civil Defence/NDRF personnel shall be carried out. Availability of infrastructure for enabling decontamination will be ensured by the district administration. Arrangements shall be made to collect the decontamination waste and water separately in tanks / drums. Disposal of radioactive soil, water and other material so collected will be carried out by the NDRF under the guidance of the RSO.

If the person cannot be decontaminated at rallying post, the individual will be sent to the Personnel Decontamination Center at DAE hospital with proper contamination control methods for further decontamination. If the vehicle cannot be decontaminated at rallying post, it will be detained at rallying post for further decontamination.

In post accidental situation, long term measures like decontamination of land & facilities, their recovery and evacuees will be undertaken. This needs assessment of residual radioactivity in the affected area and carrying out the decontamination process. Monitoring of air, grass, vegetation, dietary items etc is required to be continued till the radioactivity level comes down to acceptable levels for consumption.

District authorities will ensure conduct of Decontamination activities involving digging of soil, disposing of soil, washing / painting of facilities etc. in the affected area. They will also ensure to provide essential tools / equipment's and personal protective gears to the work force during decontamination work.

12.14.3. Sampling, monitoring and exposure management by DAE trained staff.

Covered in section 12.14.1.

12.14.4. Waste management.

Post nuclear accident, radiological survey and monitoring in offsite area by ESL will give clear idea on degree of contamination of soil, food, structures, ground water etc. Decontamination of the soil, structure shall be done by District administration as per the advice and guidance from DAE. During decontamination care shall be taken to generated optimum radioactive waste. As per the advice of DAE, waste shall be segregated depending upon the contamination level/activity present. Storage of high activity waste may be required till its activity is reduced. Further waste shall be conditioned/processed/compressed/treated to minimize its size before disposal. Finally, waste shall be disposed/buried as advised/guided by DAE.

The international consensus for the disposal of higher-activity radioactive waste is focused on deep geological disposal. Deep geological disposal isolates the waste from the human environment and provides containment of radionuclides within the waste by preventing or delaying and attenuating any releases of radionuclides from the repository to the biosphere. Whereas, most lower-activity waste is disposed of in near-surface facilities. All above activities shall be done under the advice and guidance of DAE.

12.14.5. Rehabilitation of affected ones.

RERD-DAE will ensure continuation of monitoring of environmental radioactivity levels, contamination levels and radiation fields in the affected area including continuation of monitoring of air, grass / vegetation, dietary items etc till the acceptable levels are achieved.

Post-Accident measures like decontamination and their recovery of land & facilities in the affected area are to be carried out for safe return and rehabilitation of evacuees for transition from Emergency Exposure Situation to Existing Exposure Situation / Planned Exposure Situation. This needs assessment of residual radioactivity in the affected area and carrying out the decontamination process. Monitoring of air, grass/vegetation, dietary items etc is required to be continued till the radioactivity level comes down to acceptable levels for consumption.

RERD will provide necessary inputs to help District Collector to decide for safe return of the public in the affected area based on the prescribed limits.

12.15 Capacity Building at all Levels Including Community

For capacity building for effective handling of radiation accident following shall be done –

- Periodic training of NDRF, Civil Defence, Police, identified District officials/staff shall be carried out. DDMA shall maintain a list of trained Officials/staff and shall ensure their periodic training.
- Concerned district agencies and NDRF shall participate in Offsite emergency exercise to have greater understanding and hands-on experience of handling radiation emergency.
- Periodic emergency exercise as suggested in section 10.2 should be reported to NDMA with scope of improvements identified and shared among the District Authorities of other NPP Sites.

12.16 Best Practices Followed in Different Countries having NPPs

Following best practices are followed in other countries having nuclear power plants (NPPs):

1. The District Administration ensures that arrangements are in place for communication with the public throughout a nuclear or radiological emergency. Arrangements are to be made for providing useful, timely, true, clear and appropriate information to the public in a nuclear or radiological emergency, with account taken of the possibility that the usual means of communication might be damaged in the emergency or by its initiating event (e.g. by an earthquake or by flooding) or overburdened by demand for its use
2. Mitigating non-radiological consequences of a nuclear or radiological emergency and of an emergency response. Arrangements shall be made for mitigating the non-radiological consequences of an emergency and those of an emergency response and for responding to public concern in a nuclear or radiological emergency. These arrangements shall include arrangements for providing the people affected with: (a) Information on any associated health hazards and clear instructions on any actions to be taken; (b) Medical and psychological counselling, as appropriate; (c) Adequate social support, as appropriate.
3. Maintains communication with the public throughout a nuclear or radiological emergency
4. For emergency exercise following is done –
 - Pre-exercise briefing
 - Criteria for observing and evaluating exercises
 - Exercise critique
 - Updates the emergency plan as per exercise recommendations for improvement

12.17 Definitions of Important Terms

Accident

Any unintended event, including operating errors, equipment failures and other mishaps, the consequences or potential consequences of which are not negligible from the point of view of protection and safety.

Assembly Area /Shelters

Pre-designated rooms/buildings where personnel assemble during emergencies. These are provided with enough space, ventilation arrangements for non-radioactive and contamination free air.

Command

The act of directing, coordinating, ordering and controlling resources by virtue of explicit legal delegated authority.

Command Staff

The command staff consists of the Information Officer, Safety

Officer and Liaison Officer. They report directly to the Incident Commander and may have assistants. The command staff may or may not have supporting organisations below it.

Confinement

Prevention or control of releases of radioactive material to the environment in operation or in accidents

Containment

Methods or physical structures designed to prevent or control the release and the dispersion of radioactive substances.

Contamination

Radioactive substances on surfaces or within solids, liquids or gases (including the human body), where their presence is unintended or undesirable, or the process giving rise to their presence in such places.

Note: Contamination does not include residual radioactive material remaining at a site after the completion of decommissioning.

Note: The term 'contamination' may have a connotation that is not intended. The term 'contamination' refers only to the presence of radioactivity, and gives no indication of the magnitude of the hazard involved.

Control

The function or power or (usually as controls) means of directing, regulating or restraining.

Decontamination

The complete or partial removal of contamination by a deliberate physical, chemical or biological process.

Note: This definition is intended to include a wide range of processes for removing contamination from people, equipment and buildings, but to exclude the removal of radionuclides from within the human body or the removal of radionuclides by natural weathering or migration processes, which are not considered to be decontamination.

Defence in Depth

A hierarchical deployment of different levels of diverse equipment and procedures to prevent the escalation of anticipated operational occurrences and to maintain the effectiveness of physical barriers placed between a radiation source or radioactive material and workers, members of the public or the environment, in operational states and, for some barriers, in accident conditions.

Deputy

A qualified individual who, in the absence of a superior, could be delegated the authority to manage a functional operation or perform a specific task. Deputies can be assigned to the Incident Commander, General Staff, and Branch Directors.

Deterministic Effect

A radiation effect for which generally a threshold level of dose exists, above which the severity of the effect is greater for a higher dose.

Emergency

A non-routine situation that necessitates prompt action, primarily to mitigate a hazard or adverse consequences for human life and health, property and the environment.

Note: This includes nuclear and radiological emergencies and conventional emergencies such as fires, release of hazardous chemicals, storms or earthquakes.

Note: It includes situations for which prompt action is warranted to mitigate the effects of a perceived hazard.

Emergency Control Centre (ECC) / Incident Command Post

A centre equipped with all the necessary equipment required to handle the emergency condition in an effective manner and also a place for RO / IC to give control command during handling an Off-Site Emergency.

Emergency Exercise

An exercise is a test of an emergency plan with particular emphasis on the co-ordination of the many inter-phasing components of the emergency response, procedures and emergency personnel/agencies. An exercise starts with a simulated/ postulated event or series of events in the plant in which an unplanned release of radioactive material is postulated.

Emergency Plan

A description of the objectives, policy and concept of operations for the response to an emergency and of the structure, authorities and responsibilities for a systematic, coordinated and effective response. The emergency plan serves as the basis for the development of other plans, procedures and checklists.

Emergency Planning Zone (EPZ)

Areas extending up to a specified distance around the plant, providing a basic geographic framework for decision making on implementing measures as part of a graded response in the event of an off-site emergency.

Precautionary action zone (PAZ).

An area around a facility for which emergency arrangements have been made to take urgent protective actions in the event of a nuclear or radiological emergency to avoid or to reduce the risk of severe deterministic effects off the site.

Protective actions within this area are to be taken before or shortly after a release of radioactive material or an exposure, on the basis of prevailing conditions at the facility.

Urgent protective action planning zone (UPZ).

An area around a facility for which emergency arrangements have been made to take urgent protective actions in the event of a nuclear or radiological emergency to avert doses off the site in accordance with international safety standards. Protective actions within this area are to be taken on the basis of environmental monitoring or, as appropriate, prevailing conditions at the facility.

Emergency Preparedness

The capability to take actions that will effectively mitigate the consequences of an emergency for human health and safety, quality of life, property and the environment.

Emergency Procedures

A set of instructions describing in detail the actions to be taken by response personnel in an emergency.

Emergency Response

The performance of actions to mitigate the consequences of an emergency for human life and health, property and the environment.

Note: The emergency response may also provide a basis for the resumption of normal social and economic activity.

Emergency Response Action.

An action to be taken in response to a nuclear or radiological emergency to mitigate the consequences of an emergency for human life and health, property and the environment.

Note: Emergency response actions comprise protective actions and other emergency response actions.

Other emergency response action.

An emergency response action other than a protective action.

Note: The most common other emergency response actions are: medical examination, consultation and medical treatment; registration and long term medical follow-up; providing psychological counselling; and public information and other actions for mitigating non-radiological consequences and for public reassurance.

Emergency Response Arrangements

The integrated set of infrastructural elements necessary to provide the capability for performing a specified function or task required in response to a nuclear or radiation emergency. These elements may include authorities and responsibilities, organization, coordination, personnel, plans, procedures, facilities, equipment or training.

Emergency Response Commander

The individual responsible for directing the response of all organizations responding to an emergency (including the response to radiological hazards, the response to conventional hazards and law enforcement).

Note: Also referred to as incident commander

Emergency Response Team

The Emergency response commander and appropriate general / command staff personnel assigned to manage an emergency / incident.

Note: Also referred to as incident response team

Emergency Services

The local off-site response organizations that are generally available and that perform emergency response functions.

These may include police, firefighters and rescue brigades, ambulance services and control teams for hazardous materials.

Emergency Worker

A person having specified duties as a worker in response to an emergency.

Note: Emergency workers may include workers employed, both directly

and indirectly, by registrants and licensees, as well as personnel of response organizations, such as police officers, firefighters, medical personnel, and drivers and crews of vehicles used for evacuation.

Note: Emergency workers may or may not be designated as such in advance of an emergency. Emergency workers not designated as such in advance of an emergency are not necessarily workers prior to the emergency.

Environment

The conditions under which people, animals and plants live or develop and which sustain all life and development; especially such conditions as affected by human activities.

Environmental Monitoring

The measurement of external dose rates due to sources in the environment or of radionuclide concentrations in environmental media.

Evacuation

The rapid, temporary removal of people from an area to avoid or reduce short term radiation exposure in an emergency.

Event

In the context of the reporting and analysis of events, an event is any occurrence unintended by the operator, including operating error, equipment failure or other mishap, and deliberate action on the part of others, the consequences or potential consequences of which are not negligible from the point of view of protection and safety.

Extended Planning Distance (EPD)

Distance around a nuclear power plant within which arrangements are made to conduct early monitoring of deposition to determine areas warranting (1) evacuation within a day following a release or (2) relocation within a week to a month following a release.

Generic Criteria

Dose levels (projected dose, the dose that has been received or the residual dose) at which protective actions and other response actions are to be taken.

Hazard Assessment

Assessment of hazards associated with facilities, activities or sources within or beyond the borders of a State in order to identify:

- a. Those events and the associated areas for which protective actions and other emergency response actions may be required within the State;
- b. Actions that would be effective in mitigating the consequences of such events.

Incident Commander

Individual responsible for the management of all incident operations of the incident site.

Incident Command Post

Location at which primary command functions are executed. The Incident Command Post may be co-located with the incident base or at other incident facilities.

Incident Response System

The combination of facilities, equipment, personnel, procedure and communications operating within a common organisational structure, with responsibility for the management of assigned resources to effectively accomplish stated objectives pertaining to an incident.

Incident Response Team

The incident commander and appropriate general / command staff personnel assigned to manage an incident.

Ingestion and Commodities Planning Distance (ICPD)

The distance around a nuclear power plant for the area within which arrangements are made, within hours of being notified by the nuclear power plant of the declaration of a General Emergency, to: (a) place grazing animals on covered feed and protect drinking water supplies that use rainwater (e.g. to disconnect rainwater collection pipes); and (b) restrict consumption of local produce and non-essential food, milk from grazing animals and rainwater until further assessments are performed.

Ionizing Radiation

For the purposes of radiation protection, radiation capable of producing ion pairs in biological material(s).

Logistics Section

The Logistics Section is responsible for providing adequate services and support to meet all incident or event needs. It supports the Operations Section in the formation of Task Force / Strike Team and

despatches resources to various targeted locations as designed in the Incident Action Plan. The Logistics Section has three Branches: Service Branch, Support Branch and Finance Branch.

Long Term Protective Action

A protective action that is not an urgent protective action. Such protective actions are likely to be prolonged over weeks, months or years. These include measures such as relocation, agricultural counter measures and remedial actions.

Member of the Public

For purposes of protection and safety, in a general sense, any individual in the population except when subject to occupational exposure or medical exposure. For the purpose of verifying compliance with the annual dose limit for public exposure, this is the representative person.

Mitigatory Action

Immediate action by the operator or other party:

1. To reduce the potential for conditions to develop that would result in exposure or a release of radioactive material requiring emergency actions on or off the site; or
2. To mitigate source conditions that may result in exposure or a release of radioactive material requiring emergency actions on or off the site.

Notification

1. A set of actions taken upon detection of emergency conditions with the purpose of alerting all organizations with responsibility for emergency response in the event of such conditions.
2. A document submitted to the regulatory body by a person or organization to notify an intention to carry out a practice or other use of a source.

Note: This includes the notification of appropriate competent authorities by a consignor that a shipment will pass through or into their countries, as required in Transport Regulations.

3. A report submitted promptly to a national or international authority providing details of an emergency or a possible emergency; for example, as required by the Convention on Early Notification of a Nuclear Accident.

Nuclear Facility

A facility (including associated buildings and equipment) in which nuclear material is produced, processed, used, handled, stored or disposed of, if damage to or interference with such facility could lead to the release of significant amounts of radiation or radioactive material.

Nuclear Fuel Cycle

All operations associated with the production of nuclear energy, including mining, milling, processing and enrichment of uranium or processing of thorium, manufacture of nuclear fuel, operation of nuclear reactors, reprocessing of irradiated nuclear fuel, decommissioning, and any activity for radioactive waste management and research or development activity related to any of the foregoing.

Nuclear or Radiological Emergency

An emergency in which there is, or is perceived to be, a hazard due to:

- a. The energy resulting from a nuclear chain reaction or from the decay of the products of a chain reaction; or
- b. Radiation exposure.

Note: Points (a) and (b) approximately represent nuclear and radiological emergencies, respectively. However, this is not an exact distinction.

Note: Radiation emergency is used in some cases when an explicit distinction in the nature of the hazard is immaterial (e.g. national radiation emergency plan), and it has essentially the same meaning.

Observables / Indicators

Observables / indicators are instrument readings or other parameters which provide information on the conditions on the scene.

Off-Site

Area in public domain beyond the site boundary.

Off-Site Emergency

An event / Plant conditions which includes actual or projected damage to the reactor core, with actual damage to barriers or critical safety systems or damage to large amounts of spent fuel resulting in an actual release, or substantial probability of a release, requiring

implementation of precautionary urgent protective actions, urgent protective actions and early protective actions and other emergency response actions on the site and off the site.

Operations Section

The Operations Section is responsible for directing the required tactical actions to meet incident objectives in IRS.

Planning Section

The Planning Section is responsible for the collection, evaluation, and display of incident information, maintaining and tracking the resources and preparing the Incident Action Plan and incident related documentation. They may also assess the requirement of more resources and keep Incident Commander informed.

Precautionary Action Zone

An area around a facility for which arrangements have been made to take urgent protective actions in the event of a nuclear or radiological emergency to reduce the risk of severe deterministic effects off the site. Protective actions within this area are to be taken before or shortly after a release of radioactive material or an exposure on the basis of the prevailing conditions at the facility.

Precautionary Urgent Protective Action

See “Protective Actions”.

Projected Dose

The dose to be expected if no protective or remedial action is taken.

Prophylactics

The intake of specific stable chemical compounds which have a reducing or blocking effect on the uptake of certain radionuclides, e.g. the use of stable KI (Potassium Iodide) or KIO₃ (Potassium Iodate) to reduce the uptake of radioiodine's (particularly I-131) in thyroid gland.

Protective Action

An emergency response action for the purposes of avoiding or reducing doses that might otherwise be received in an emergency exposure situation or an existing exposure situation.

Early protective action. A protective action in the event of a nuclear or radiological emergency that can be implemented within days to weeks and can still be effective.

Note: The most commonly considered early protective actions are relocation and longer term restriction of the consumption of foodstuffs potentially affected by contamination.

Mitigatory action. Immediate action by the operator or other party:

1. To reduce the potential for conditions to develop that would result in exposure or a release of radioactive material requiring emergency response actions on the site or off the site; or
2. To mitigate source conditions that may result in exposure or a release of radioactive material requiring emergency response actions on the site or off the site.

Precautionary urgent protective action.

An urgent protective action taken before or shortly after a release of radioactive material, or before an exposure, on the basis of the prevailing conditions as a precaution to avoid or to reduce the risk of severe deterministic effects.

Urgent protective action.

A protective action in the event of a nuclear or radiological emergency taken promptly (usually within hours) in order to be effective, and the effectiveness of which will be markedly reduced if it is delayed.

Note: The most commonly considered urgent protective actions in the event of a nuclear or radiological emergency are evacuation, decontamination of individuals, sheltering, respiratory protection, iodine thyroid blocking and restriction of the consumption of foodstuffs potentially affected by contamination.

Radioactive Waste

Material, whatever its physical form, left over from practices or interventions for which no further use is foreseen: (a) that contains or is contaminated with radioactive substances and has an activity or activity concentration higher than the level for clearance from regulatory requirements, and (b) exposure to which is not

excluded from regulatory control.

Reference Level

In an emergency exposure situation or an existing exposure situation, the level of dose, risk or activity concentration above which it is not appropriate to plan to allow exposures to occur and below which optimization of protection and safety would continue to be implemented.

Note: The chosen value for a reference level will depend upon the prevailing circumstances for the exposure under consideration.

Regulatory Board (Atomic Energy Regulatory Board)

A national authority designated by the Government of India having the legal authority for issuing regulatory consent for various activities related to the nuclear and radiation facilities and to perform safety and regulatory functions, including their enforcement for the protection of site personnel, the public and the environment against undue radiation hazards.

Relocation

The removal or continued exclusion of people (households) from contaminated areas to avoid chronic radiation exposure.

Representative Person

An individual receiving a dose that is representative of the doses to the more highly exposed individuals in the population.

Response Organization (RO)

An organization designated or recognized by a State as being responsible for managing or implementing any aspect of an emergency response.

Note: This also includes those organizations or services necessary to support the management and/or conduct of an emergency response, such as meteorological services.

Responsible Officer

The Responsible Officer is the senior most officer in the hierarchy of State and District Administration. At the State level, the Chief Secretary (Chairperson of SEC) and at the District level, the District Magistrate / District Collector (Chairperson of DDMA) will be the Responsible Officer. Such officer is the overall in-charge in the management of emergency response at the respective administrative levels.

Scenario

A postulated or assumed set of conditions and/or events.

Note: Most commonly used in analysis or assessment to represent possible future conditions and/or events to be modelled, such as possible accidents at a nuclear facility, or the possible future evolution of a disposal facility and its surroundings. A scenario may represent the conditions at a single point in time or a single event, or a time history of conditions and/or events (including processes).

Site

The area containing the facility defined by a boundary and under effective control of facility management.

Site area

A geographical area that contains an authorized facility, authorized activity or source, and within which the management of the authorized facility or authorized activity may directly initiate emergency actions.

Site Emergency

An event resulting in a major decrease in the level of protection for the public or on-site personnel.

Note: This includes: (1) a major decrease in the level of protection provided to the reactor core or large amounts of spent fuel; or (2) conditions where any additional failures could result in damage to the reactor core or spent fuel; or (3) high doses on- site.

Note: When a site area emergency is declared, preparations should be made to take protective actions off-site and to control the doses to on-site personnel.

Staging Area

An area earmarked and organised where resources are collected. It is from this location that resources are deployed for tactical assignments. Staging Area is under the Operations Section.

Source Term

The amount and isotopic composition of radioactive material released (or postulated to be released) from a nuclear facility.

Station

Station refers to a 'twin unit' nuclear power plant.

Trigger

A level or condition that is selected to act as an initiator for setting off an event or action (Especially a response)

Unit

An independent series of Nuclear and Conventional Systems

producing Electricity from Nuclear Fuel

Urgent Protective Action

See “Protective Actions”.

Urgent Protective Action Planning Zone (UPZ)

See “Emergency Planning Zones”.

DISTRICT DISASTER MANAGEMENT COMMITTEE (DDMC) FOR NUCLEAR OFF-SITE EMERGENCY

Sl.No.	Committee Members
1.	District Collector (RO/IC) – Chairman
2.	District Revenue Officer – Alt. Chairman
3.	Revenue Divisional Officer, Chengalpattu
4.	Superintendent Of Police
5.	Deputy Superintendent Of Police, Mamallapuram
6.	Deputy Superintendent Of Police, Chengalpattu
7.	Deputy Superintendent Of Police, Madurantakam
8.	Public Relation Officer, Kancheepuram.
9.	Station Director, All India Radio, Chennai
10.	Station Director, Doordarshan Kendra, Chennai
11.	Deputy Director, Health Services, Saidapet HUD
12.	Deputy Director, Medical Services/Dean, CMCH
13.	District Forest Officer
14.	District Fire Officer
15.	District Supply Officer
16.	Regional Transport Officer
17.	Joint Director, Animal Husbandry
18.	Joint Director, Agriculture
19.	Assistant Director, Fisheries, Chennai
20.	Branch Manager, TNSTC, Chengalpattu
21.	Area Commander, Home Guards
22.	Tahsildar, Chengalpattu
23.	Tahsildar, Thirukalukundram
24.	Superintending Engineer, TNEB, Chengalpattu
25.	Divisional Engineer, BSNL, Chengalpattu

Note:

1. Alternative officials for each of the members should be specified and contact de-tails to be maintained.
2. The contact details of the DDMC mebers and their alternative are to be main- tained regularly at DEOC and should be available with RO/IC and RDO, Chen- galpattu at all times.

Table-12.2.2

Details of Police Deployment for Warning and Advice

EPZ Sector-A

Sl. No.	Name of the Village	Nearest Police station	Distance from Police Station (km)	Route	Time Required for announcement
1.	Edaiyur	Mamallapuram	4	Mammalapuram-Kokkilamedu-Edayur	45 min
2.	Kokilamedu		2		
3.	Mamallapuram		-	-----	30 min
4.	Salavankuppam		3	Mammalapuram-salvanakuppam-Pattipulam-Krishnankaranai	90 min
5.	Pattipulam		5		
6.	Krishnankaranai		9		

Sector-B

Sl. No.	Name of the Village	Nearest Police station	Distance from Police Station (km)	Route	Appr. Time Required for announcement
1.	Poonjeri	Mamallapuram	2	Mammalapuram-Poonjeri-Paiyanur	60 min
2.	Paiyanur		6		
3.	Madayathur	Thirupporur	6	Madayathur-Sirudavur-Adhigamanallur	90 min
4.	Sirudavur		3		
5.	Adhigamanallur		9		
6.	Vengaleri		3	Vengaleri-Alathur-K pallam	80 min
7.	Alathur		4		
8.	Karunguzhipallam	6			

Sector-C

Sl. No.	Name of the Village	Nearest Police station	Distance from Police Station (km)	Route	Appr. Time Required for announcement
1.	Kadambadi	Mamallapuram	12	Kadamadi-vadakadambadi-perumaleri	90 min
2.	Perumaleri		11		
3.	Vadakadambadi		12		
4.	Agaram	Manamathi	4	Agaram- Amur-Panchanthiruthi	95 min
5.	Amur		6 4		
6.	Panchanthiruthi		8	Agaram- Amur-Porunthavakkam	60 min
7.	Porunthavakkam		6		
8.	Amayampattu	Manamathi	6	Manamathi-Amayampattu-Santhanampattu-Dhakshinavarthy	45 min
9.	Santhanampattu		2		
10.	Manamathi		1		
11.	Dhakshinavarthy		6	Valavanthangal-Karanai-Kunnappattu	60 min
12.	Valavanthangal		6		
13.	Karanai	7			
14.	Kunnappattu	4			
15.	Kattur	5			

				Kattur- Acharavakkam- Chettipathuram- ayakuppam	60 min
16	Acharavakkam-Cgl		11		
17	Chettipathuramaya- kuppam		12		
18	Poondi	Manamathi	8	Rayamangalam- Poondi	30 min
19	Rayamangalam		9		

Sector-D

Sl.No.	Name of the Village	Nearest Policestation	Distance from Police Station (km)	Route	Appr. Time Required for announcement
1.	Manamai	Mamallapuram	5	Manamai- Melakuppam	45 min
2.	Melakuppam		8		
4.	Kulipanthandalam		8	Nallanpillaipetr- Kulipanthandalam	
5	Nallanpillaipetral	14			
6	Melkanagampattu	Manamathi	5	Melkanagampattu- Arunkundram- M.V.Devadhanam	35 min
7	Arunkundram		6		
8	M.V.Devadhanam		6		
9	Thirunilai		18	Otteri- Periavippedu- chinnavippedu- Thirunilai- Kazhanipakkam	
10	Chinnavippedu		4		
11	Kazhanipakkam	6			
12	Periavippedu	4			
13	Otteri		5		
14	Pulikundram	Thirukalikundram	6	Pulikundram- Nelvoy-Echur	60 min
15	Echur		10		
16	Nelvoy		8		
17	Oragadam		6	Oragadam- Melampattu	
18	Melampattu	10			

Sector-E

Sl. No.	Name of the Village	Nearest Police station	Distance from Police Station (km)	Route	Appr. Time Required for announcement
1.	Kunnathur	Sadras	8	Kunnathur- Amaipakkam- Nathamkariacheri- Nallur	90 min
2.	Nallur		4		
3.	Amaipakkam		3		
4.	Nathamkariacheri		8		
5.	Pattikadu	Thirukalikundram	9	Egai-Acharavakkam- Pattikadu	60 min
7.	Acharavakkam		8		
8.	Egai		5		
9.	Mullikolathur	Thirukalikundram	6	Soorakuppam- Mullikolathur	45 min
10.	Soorakuppam		4		
11.	Puliyur		8		120 min

12.	Thirukalikundram	Thirukalikundram	-	TK kundram-Puliyur	
13.	Kothimangalam		4	Kothimanagalam-Irumbuli	90 min
14.	Irumbuli		3		
15.	Navalur	Thirukalikundram	2	TK kundram-Navalur	30 min

Sector-F

Sl. No.	Name of the Village	Nearest Police station	Distance from Police Station (km)	Route	Appr. Time Required for announcement
1.	Arambakkam	Sadras	9	Sadras-Arambakkam	45 min
2.	Neikuppi	Sadras	6	Narasankuppam-Neikuppi-Neeradi-Aminjikai	120 min
3.	Narasankuppam		7		
4.	Neeradi		8		
5.	Aminjikai		11		
6.	Periyakattupakkam	Thirukalikundram	14	Eachankaranai-Karumarapakkam-Veerapurem-P. Kattupakkam	120 min
7.	Veerapuram		9		
8.	Karumarapakkam		4		
9.	Eachankaranai		7		
10.	Ammanampakkam	Thirukalikundram	5	Ammanapakkam-Kunnavakkam-Naduvakkarakai	45 min
11.	Kunnavakkam		7		
12.	Naduvakkarakai		8		
13.	Perumbedu	Thirukalikundram	7	Thathalur-Perumbedu-Kilapakkam-Pandur-Pakkam	150 min
14.	Thathalur		5		
15.	Kilapakkam		10		
16.	Pakkam		9		
17.	Pandur		15		

Sector-G

Sl. No.	Name of the Village	Nearest Police station	Distance from Police Station (km)	Route	Appr. time Required for announcement
1	Vengampakkam	Sadras	3	Vengampakkam-Poonthandalam	45 min
2	Poonthandalam		2		
3	Punnappattu	Kalpakkam	5	KLPM-Punnappattu	30 min
4	Kudiperumbakkam		6	Merkandai-Chittalambakkam-Kudiperumbakkam-Perumbakkam	120 min
5	Chittalambakkam		6		
6	Perumbakkam		14		
7	Merkandai		6	Lattur-Sooradimangalam-Angamampattu-Chinnakattupakkam	120 min
8	Lattur		7		
9	Angamampattu	13			
10	Sooradimangalam	3			
11	Chinnakattupakkam	13			
12	Nerumbur		12		

Sl. No.	Name of the Village	Nearest Police station	Distance from Police Station (km)	Route	Appr. time Required for announcement
13	Panagattucheri	Thirukalikundram	14	Nerumbur-Kondakaraikuppam-Panagattucheri-Pommarajapuram	90 min
14	Pommarajapuram		15		
15	Kondakaraikuppam		13		
16	Thandarai		18	Theppanampattu-Attavakkam-Thandarai-Madavilagam-Sembur	120 min
17	Theppanampattu		12		
18	Sembur		20		
19	Madavilagam		17		
20	Attavakkam		13	Edaiyathur-Irumbulicheri-Sevur	120 min
21	Sevur		20		
22	Irumbulicheri		18		
23	Edaiyathur		16		

Sector-H

Sl.No	Name of the Village	Nearest Police station	Distance from Police Station (km)	Route	Appr. time Required for announcement
1	Meyyur	Sadras	1	Meyyur- Solaikuppam-Somasipattu	45 min
2	Solaikuppam		1		
3	Somasipattu		2		
4	Vittalapuram	Kalpakkam	2	Vittalapuram-Vasavasamuthiram-Ayappakkam- Nallathur	90 min
5	Vasavasamuthiram		2		
6	Ayappakkam		3		
7	Nallathur		5		
8	Veepancheri	Koovathur	4	ParameswaraMangalam-Veepancheri	45 min
9	Parameswara-Mangalam		3		
10	Porancheri		4	Parasanallur-Porancheri-Poigainallur	45 min
11	Poigainallur		5		
12	Parasanallur		4		
13	Manicuppam		4	Nedumaram-Nerkunapattu-Manicuppam	60 min
14	Nerkunapattu	1			
15	Nedumaram	2			

Sector-I

Sl.No	Name of the Village	Nearest Police station	Distance from Police Station (km)	Route	Appr. time Required for announcement
1.	Sadras	Sadras	-	Sadras	60 min
2.	Pudupattinam	Kalpakkam	-	Pudupattinam- Vayalur	120 min
3.	Vayalur		2		
4.	Vengadu		4	Koovathur- Kadalur-Vengadu	120 min
5.	Kadalur		3		
6.	Koovathur		-		

7.	Kilarkollai	Koovathur	1	Kilarkollai- Kanathur- Kodapattinam- Vadapattinam	90 min
8.	Kanathur		2		
9.	Kodapattinam		1		
10.	Vadapattinam		2		

Table-12.2.3

MANPOWER REQUIREMENT FOR POLICE TRAFFIC CONTROL MEASURES IN THE 16-km EMERGENCY PLANNING ZONE

Sl. No	Sector	No. of Villages	Total Population 2011 Census	Strength to be deployed		
				S.I.	H.C.	Gr.II PC/ Gr.I PC/HC
1.	A	6	21072	-	4	9
2.	B	7	11885	-	3	6
3.	C	18	17548	-	1	3
4.	D	17	19647	-	3	8
5.	E	14	47919	1	4	16
6.	F	17	22054	-	3	13
7.	G	23	14397	-	2	17
8.	H	15	24228	-	3	13
9.	I	10	45431	2	6	28
			TOTAL	3	29	113

PC-Police Constable, HC-Head Constable, S.I-Sub-Inspector

1. Teams will proceed to the designated traffic control points by available vehicles along with the requisite materials like road blockers, barricading materials, diversion signs etc.
2. They will not stop the movement of the vehicles that are being used for emergency.

Table-12.2.4

ACCESS CONTROL AND TRAFFIC DIVERSION POINTS OUTSIDE EPZ

Sl. No.	Sector	Traffic Diversion Point	Main Road
1	A	Kovalam-Kelambakkam Jn.	Chennai – Kalpakkam (ECR)
2	A	Poonjeri Toll gate junction	Kalpakkam-Chennai (ECR) TK Kundram-Mammalapuram Thirupporur (OMR)-Mamallapuram
3	B	Karanai Koottu Road	TK Kundram-Mammalapuram Road
4	B	Vengampakkam Junction	Kalpakkam – Mammalapuram Road(ECR)

Sl. No.	Sector	Traffic Diversion Point	Main Road
5	B	Thirupporur Junction	Thirupporur-Kalpakkam (OMR)
6	B	ECR Bus stop, Mammalapuram	Mammalapuram-Kalpakkam (ECR)
7	C	Thirupporur Junction	Thirupporur-TK Kundram road.
8	C	Road junction at Echur	Mammalapuram-TKKundram road Thirupporur-TK Kundram road.
9	C	Vengampakkam Junction	Kalpakkam – Mammalapuram Road(ECR)
10	C	Poonjeri Junction at ECR	Mammalapuram-Kalpakkam Road.(ECR) Mammalapuram - TK Kundram road
11	D	Thirupporur Junction	Thirupporur-TK Kundram Road.
12	D	TK Kundram Junction	TK Kundram-Mammalapuram Road
13	D	Vengampakkam Junction	Kalpakkam–Mammalapuram Road(ECR)
14	D	Poonjeri Junction at ECR	Mammalapuram-Kalpakkam Road.(ECR) Mammalapuram-TKKundram road
15	E	Junction at TK kundram and bypass road.	Chengleput-Kalpakkam Chengleput- Mammalapuram (TK Kundram bypass)
16	E	Road junction at Echur	Mammalapuram-TKKundram road Thirupporur-TK Kundram road.
17	E	Vengampakkam Junction	Kalpakkam-TK Kundram road & ECR towards Mammalapuram
18	E	Poonjeri Junction at ECR	Mammalapuram-Kalpakkam Road.
19	F	Vengampakkam Junction	Kalpakkam-TK Kundram road & ECR towards Mammalapuram
20	F	TK Kundram Junction	TK Kundram – Kalpakkam Road TK Kundram –Vallipurem Road TK Kundram – Nerumbur Road
21	F	Nerumbur Kootu Road	Nerumbur – TK Kundram
22	F	Vallipurem Koottu Road	Vallipurem-TK Kundram
23	F	Poonjeri Jn.	Mammalapuram-Kalpakkam Road
24	F	Merkadai Kootu Road	Merkadai -Narasankuppam
25	G	Pudupattinam Junction	Pudupattinam-Mammalapuram ECR Pudupattinam-Nerumbur
26	G	Narasankuppam Jn.	TK Kundram – Kalpakkam SH-58 Narasankuppam-Ayapakkam
27	G	Sadras Roundana	Kalpakkam-TK Kundram Road
28	G	Kunnathur	Mammalapuram-Kalpakkam ECR
29	G	Ayapakkam Jn	Ayapakkam-Narasankuppam Rd Ayapakkam-Nerumbur Rd.
30	G	Vallipurem Koottu Road	Vallipurem-TK Kundram Vallipurem-Nerumbur
31	G	TK Kundram Junction	TK Kundram –Vallipurem Road TK Kundram – Nerumbur Road
32	H	Kadalur village Jn.	Kadalur-Anaicut & Kadalur-Pavinjur Rd.

Sl. No.	Sector	Traffic Diversion Point	Main Road
33	H	Voyalur ECR Jn.	Voyalur – Nerumbur Rd.
34	H	Nerumbur Jn	Nerumbur-Pudupattinam Rd Nerumbur-Voyalur Rd.
35	H	Narasankuppam Jn	Narasankuppam-Ayapakkam Rd.
36	H	Pavanjur Jn	Anaicut-Kadalur Rd. Pavanjur-Kadalur Rd.
37	H	Nelvoypalayam Jn	Cheyyur- Kadalur Road.
38	H	Sadras Roundana	Kalpakkam-TK Kundram Road
39	H	Vengampakkam Junction	Kalpakkam-TK Kundram road
40	I	Vengampakkam Junction	TK Kundram -Kalpakkam Road ECR towards PDPM
41	I	Vittalapurem-ECR Jn	Vittalapurem to PDPM Road
42	I	Ayyapakkam Jn	Nerumbur-Voyalur Road
43	I	Kathankadai Rd –Anaicut Rd junction	Pavinjur – ECR (at Kathankadai) Rd
44	I	ECR at Thenpattinam	Pavinjur – Mugayur Rd.

Table-12.2.5
DETAILS OF POLICE OFFICIALS POSTED
FOR LAW & ORDER AT THE RALLYING POSTS

Sector - A

SL. NO.	NAME OF THE RALLYING POST	NUMBER AND DESIGNATION OF PERSONS POSTED PER SHIFT	OFFICER-IN-CHARGE
1.	St.Joseph Higher secondary school, Kovalam.	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	One Inspector of Police in charge of this sector
2.	Govt. Higher secondary school, Thiruporur (Boys)	1 Sub Inspector 1 Head Constable 10 Gr.II PC/Gr.I PC/HC	
3.	Govt. Higher secondary school, Thiruporur (Girls)	1 Sub Inspector 1 Head Constable 8 Gr.II PC/Gr.I PC/HC	

Sector – B

SL. NO.	NAME OF THE RALLYING POST	NUMBER AND DESIGNATION OF PERSONS POSTED PER SHIFT	OFFICER- IN-CHARGE
1.	St.Joseph Higher secondary school, Kovalam.	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	One Inspector of Police incharge of this sector
2.	Sushil Hari Residential school, Kelambakkam.	1 Sub Inspector 1 Head Constable 10 Gr.II PC/Gr.I PC/HC	
3.	St.Mary's Matric Higher secondary school,Market Road, Kelambakkam	1 Sub Inspector 1 Head Constable 10 Gr.II PC/Gr.I PC/HC	
4	B.K.M Higher Secondary School, Kelambakkam	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
5	Govt. Higher secondary school, Thiruporur (Girls)	1 Sub Inspector 1 Head Constable 5 Gr.II PC/Gr.I PC/HC	
6	Govt. Higher Secondary School. Periyaneveli.	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
7	Govt. Higher secondary school, Thiruporur (Boys)	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	

Sector – C

Sl. No.	Name of the Rallying post	Number and designation of persons posted per shift	Officer-in-charge
1.	Govt. Higher Secondary School. Periyaneveli.	1 Sub Inspector 1 Head Constable 10 Gr.II PC/Gr.I PC/HC	Two Inspector of Police in charge of this sector
2.	St. Joseph Higher secondary school, Kovalam.	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
3.	Govt. Higher secondary school, Thiruporur (Boys)	1 Head Constable 5 Gr.II PC/Gr.I PC/HC	
4.	Sushil Hari International school, Kelambakkam.	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
5.	Blessings Matriculation higher secondary school,TK Kundram	1 Head Constable 5 Gr.II PC/Gr.I PC/HC	
6.	Govt. Higher secondary school, Thiruporur (Girls)	1 Sub Inspector 1 Head Constable 5 Gr.II PC/Gr.I PC/HC	
7.	B.K.M Higher Secondary School,Kelambakkam	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	

8.	Ramakrishna girls HS school, Chengalpattu	1 Head Constable 8 Gr.II PC/Gr.I PC/HC
9.	St. Joseph higher secondary school Chengleput	1 Sub Inspector 1 Head Constable 10 Gr.II PC/Gr.I PC/HC
10.	St.Mary's Matric Higher secondary school, Kelambakkam	1 Sub Inspector 1 Head Constable 10 Gr.II PC/Gr.I PC/HC
11.	Brindavan Matriculation higher secondary school, Chengleput	1 Head Constable 8 Gr.II PC/Gr.I PC/HC
12.	St. Mary's HS school, Chengleput	1 Head Constable 8 Gr.II PC/Gr.I PC/HC

Sector – D

Sl. No.	Name of the Rallying post	Number and designation of persons posted per shift	Officer-in-Charge
1.	Govt. Higher secondary school, Thiruporur (Girls)	1 Sub Inspector 2 Head Constable 12 Gr.II PC/Gr.I PC/HC	One Inspector of Police in charge of this sector
2.	Govt. Higher Secondary School. Periyaneveli	2 Head Constables 10 Gr.II PC/Gr.I PC/HC	
3.	Sushil Hari International school, Kelambakkam	2 Head Constables 12 Gr.II PC/Gr.I PC/HC	
4.	St.Mary's Matric Higher secondary school, Kelambakkam	1 Head Constable 5 Gr.II PC/Gr.I PC/HC	
5.	B.K.M Higher Secondary School, Kelambakkam	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
6.	St. Joseph Higher secondary school, Kovalam.	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
7.	Sri.Ramakrishna mission boys higher secondary school, Chingleput.	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
8.	St.Joseph Matriculation school, Vedachala Nagar, Chengleput	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
9.	St. Mary's HS school, Chengleput	1 Sub Inspector 1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
10.	Ramakrishna mission girls Higher secondary school, Chengalpattu	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	

Sector – E

Sl. No.	Name of the Rallying post	Number and designation of persons posted per shift	Officer-in-Charge
1.	Govt. Higher secondary school, Thiruporur (Boys)	1 Head Constable 10 Gr.II PC/Gr.I PC/HC	Two Inspector of Police in charge of this sector
2.	St. Joseph Higher secondary school, Kovalam.	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
3.	Govt. Higher secondary school, Thiruporur (Girls)	1 Head Constable 5 Gr.II PC/Gr.I PC/HC	
4.	B.K.M Higher Secondary School, Kelambakkam	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
5.	St.Mary's Matric Higher secondary school, Kelambakkam	1 Head Constable 10 Gr.II PC/Gr.I PC/HC	
6.	Blessings Matriculation higher secondary school, TK Kundram	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
7.	Sri.Ramakrishna mission boyshigher secondary school, Chingleput.	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
8.	Sri.Ramakrishna mission girls higher secondary school,	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
9.	St. Joseph higher secondary school Chengleput	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
10	St.Joseph Matriculation school, Chengleput	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
11	St. Mary's HS school, Chengleput	1 Sub Inspector 1 Head Constable 8 Gr.II PC/Gr.I PC/HC	

Sector – F

Sl. No.	Name of the Rallying post	Number and designation of persons posted per shift	Officer-in-Charge
1.	Blessings Matriculation higher secondary school, Thirukkalikundram	1 Head Constable 10 Gr.II PC/Gr.I PC/HC	Two Inspector of Police in charge of this sector
2.	St. Joseph Higher secondary school, Kovalam.	2 Head Constable 10 Gr.II PC/Gr.I PC/HC	
3.	Govt. Higher secondary school, Thiruporur (Boys)	2 Head Constable 12 Gr.II PC/Gr.I PC/HC	
4.	B.K.M Higher Secondary School, Kelambakkam	1 Head Constable 10 Gr.II PC/Gr.I PC/HC	
5.	Sushil Hari Residential school, Kelambakkam.	1 Head Constable 10 Gr.II PC/Gr.I PC/HC	
6	St.Mary's Matric Higher secondary school, Market Road, Kelambakkam	1 Head Constable 10 Gr.II PC/Gr.I PC/HC	

7	St. Columbs higher secondary school, Chengleput	1 Head Constable 5 Gr.II PC/Gr.I PC/HC
8	Brindavan Matriculation higher secondary school, Athur, Chengleput	1 Head Constable 8 Gr.II PC/Gr.I PC/HC
9	Girls higher secondary school, Madurantakam.	1 Head Constable 8 Gr.II PC/Gr.I PC/HC
10	Adiparasakthi Matriculation HS School, Melmaruvathur	1 Head Constable 8 Gr.II PC/Gr.I PC/HC
11	St. Joseph higher secondary school, Maramalainagar	1 Sub Inspector 1 Head Constable 8 Gr.II PC/Gr.I PC/HC
12	CSI High School, Madurantakam	1 Head Constable 5 Gr.II PC/Gr.I PC/HC
13	JRK Gobal school, Kattangalathur	1 Head Constable 5 Gr.II PC/Gr.I PC/HC
14	Govt. higher secondary school, SP koil	1 Head Constable 8 Gr.II PC/Gr.I PC/HC
15	St. Mary's HS school, Chengleput	1 Sub Inspector 1 Head Constable 8 Gr.II PC/Gr.I PC/HC
16	Ramakrishna girls HS school, Chengalpattu	1 Head Constable 8 Gr.II PC/Gr.I PC/HC
17	Sri. Ramakrishna mission boys HS school, Chingleput.	1 Head Constable 8 Gr.II PC/Gr.I PC/HC

Sector – G

Sl. No.	Name of the Rallying post	Number and designation of persons posted per shift	Officer-in-Charge
1.	Govt. Higher secondary school, Thiruporur (Boys)	1 Sub Inspector 1 Head Constable 20 Gr.II PC/Gr.I PC/HC	Two Inspector of Police in charge of this sector
2.	Govt. Higher secondary school, Thiruporur (Girls)	1 Head Constable 12 Gr.II PC/Gr.I PC/HC	
3.	Sri. Ramakrishna mission boys HS school, Chingleput.	2 Head Constables 16 Gr.II PC/Gr.I PC/HC	
4.	Sri. Ramakrishna mission boys HS school, Chingleput.	1 Head Constable 10 Gr.II PC/Gr.I PC/HC	
5.	St. Mary's HS school, Chengleput	1 Sub Inspector 1 Head Constable 20 Gr.II PC/Gr.I PC/HC	
6.	St. Joseph higher secondary school Chengleput	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
7.	St. Columbs HS school, Chengleput	1 Head Constable 5 Gr.II PC/Gr.I PC/HC	
8.	Govt. Higher secondary school, Vennangupattu	1 Head Constable 5 Gr.II PC/Gr.I PC/HC	

9.	St. Marys Matriculation highschool, Kadapakkam	1 Head Constable 5 Gr.II PC/Gr.I PC/HC
10.	GVR Matriculation school, Kadapakkam	1 Head Constable 5 Gr.II PC/Gr.I PC/HC
11.	Govt. Girls HS school, Kadapakkam	1 Head Constable 5 Gr.II PC/Gr.I PC/HC
12.	Ramakrishna girls Higher secondary school, Chengalpattu	1 Head Constable 8 Gr.II PC/Gr.I PC/HC

Sector – H

Sl. No.	Name of the Rallying post	Number and designation of persons posted per shift	Officer-in-Charge
1.	Sushil Hari Residential school, Kelambakkam.	1 Sub Inspector 1 Head Constable 15 Gr.II PC/Gr.I PC/HC	One Inspector of Police in charge of this sector
2.	St. Mary's Matric HS school, Kelambakkam.	1 Sub Inspector 1 Head Constable 20 Gr.II PC/Gr.I PC/HC	
3.	B.K.M Higher Secondary School, Kelambakkam	1 Sub Inspector 1 Head Constable 20 Gr.II PC/Gr.I PC/HC	
4.	Govt. Higher secondary school, Thiruporur (Boys)	1 Head Constable 12 Gr.II PC/Gr.I PC/HC	
5.	Govt. Higher secondary school, Thiruporur (Girls)	2 Head Constables 16 Gr.II PC/Gr.I PC/HC	
6.	Ramakrishna girls Higher secondary school, Chengalpattu	1 Head Constable 12 Gr.II PC/Gr.I PC/HC	
7.	St. Joseph higher secondary school Chengleput	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
8.	St. Mary's HS school, Chengleput	1 Sub Inspector 1 Head Constable 20 Gr.II PC/Gr.I PC/HC	
9.	GVR Matriculation school, Kadapakkam	1 Head Constable 5 Gr.II PC/Gr.I PC/HC	
10.	Govt. HS school, Sothupakkam	1 Head Constable 5 Gr.II PC/Gr.I PC/HC	
11.	Adiparasakthi Matriculation HS school, Melmaruvathur	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
12.	Govt. Higher secondary school, Polampakkam	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
13.	St. Joseph Hr. secondary school, Madurantakam	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
14.	CSI High school, Madurantakam	1 Head Constable 5 Gr.II PC/Gr.I PC/HC	

15.	St. Marys Matriculation highschool, Cheyyur.	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
16.	Govt. Girls higher secondarieschool, Cheyyur	1 Head Constable 5 Gr.II PC/Gr.I PC/HC	
17.	P.K Govt. Higher secondarieschool, Kadapakkam	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
18.	Govt. Girls Higher secondary school, Kadapakkam	1 Head Constable 5 Gr.II PC/Gr.I PC/HC	
19.	St. Marys Matriculation highschool, Kadapakkam	1 Head Constable 5 Gr.II PC/Gr.I PC/HC	
20.	Govt. Boys High school, Marakkonam	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	

Sector – I

Sl. No.	Name of the Rallying post	Number and designation of persons posted per shift	Officer-in-Charge
1.	St. Mary's HS school, Chengleput	2 Head Constables 16 Gr.II PC/Gr.I PC/HC	Two Inspector of Police in charge of this sector
2.	St. Joseph HS school, Chengleput	1 Sub Inspector 2 Head Constables 20 Gr.II PC/Gr.I PC/HC	
3.	Ramakrishna girls HS school, Chengalpattu	1 Sub Inspector 1 Head Constable 15 Gr.II PC/Gr.I PC/HC	
4.	Sushil Hari International school, Kelambakkam.	1 Head Constable 10 Gr.II PC/Gr.I PC/HC	
5.	St. Mary's Matric HS school, Market Road, Kelambakkam	1 Sub Inspector 1 Head Constable 15 Gr.II PC/Gr.I PC/HC	
6	B.K.M Higher Secondary School, Kelambakkam	1 Sub Inspector 1 Head Constable 20 Gr.IIPC/Gr.I PC/HC	
7	St. Joseph HS school, Kovalam.	1 Sub Inspector 1 Head Constable 20 Gr.IIPC/Gr.I PC/HC	
8.	Govt. Higher Secondary School. Periyaniemeli	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	
9.	Govt. Higher secondary school, Thiruporur (Boys)	2 Head Constables 16 Gr.II PC/Gr.I PC/HC	
10.	Govt. Higher secondary school, Thiruporur (Girls)	1 Head Constable 8 Gr.II PC/Gr.I PC/HC	

11.	St. Marys Matriculation highschool, Kadapakkam	1 Head Constable 5Gr.II PC/Gr.I PC/HC
12.	Govt. Girls HS school, Kadapakkam	1 Head Constable 5 Gr.II PC/Gr.I PC/HC
13.	P.K Govt. Higher secondaryschool, Kadapakkam	1 Head Constable 8 Gr.II PC/Gr.I PC/HC
14.	GVR Matriculation school, Kadapakkam	1 Head Constable 5 Gr.II PC/Gr.I PC/HC
15.	Govt. boys high school, Marakkonam	2 Head Constables 16 Gr.II PC/Gr.I PC/HC
16.	St. Marys Matriculation highschool, Cheyyur.	1 Head Constable 8 Gr.II PC/Gr.I PC/HC
17.	Govt. Higher secondary school. Cheyyur.	1 Head Constable 5 Gr.II PC/Gr.I PC/HC
18.	Govt. Higher secondary school, Vennangupattu	1 Head Constable 8 Gr.II PC/Gr.I PC/HC

Table-12.2.6
DETAILS OF POLICE OFFICIALS DEPLOYMENT FOR
PROTECTION OF PUBLIC PROPERTIES IN EVACUATED
SECTORS

Sector-A

Sl. No.	Name of the Village	Number and Designation of Men posted per shift
1.	Edaiyur	5 Gr.II PC/Gr.I PC/HC
2.	Kokilimedu	1 Head Constable 8 Gr.II PC/Gr.I PC/HC
3.	Mamallapuram	1 Sub Inspector 2 Head Constables 20 Gr.II PC/Gr.I PC/HC
4.	Salavankuppam	4 Gr.II PC/Gr.I PC/HC
5.	Pattipulam	1 Head Constable 15 Gr.II PC/Gr.I PC/HC
6.	Krishnankaranai	4 Gr.II PC/Gr.I PC/HC

Sector-B

Sl. No.	Name of the Village	Number and Designation of Men posted per shift
1.	Paiyanur	1 Head Constable , 8 Gr.II PC/Gr.I PC/HC
2.	Adhigamanallur	1 Head Constable , 8 Gr.II PC/Gr.I PC/HC
3.	Karunguzhipallam	4 Gr.II PC/Gr.I PC/HC
4.	Sirudavur	6 Gr.II PC/Gr.I PC/HC
5.	Alathur	6 Gr.II PC/Gr.I PC/HC
6.	Vengaleri	6 Gr.II PC/Gr.I PC/HC
7.	Madayathur	1 Gr.II PC/Gr.I PC/HC

Sector-C

Sl. No.	Name of the village	Number and Designation of Men posted per shift
1.	Kadambadi	8 Gr.II PC/Gr.I PC/HC
2.	Perumaleri	4 Gr.II PC/Gr.I PC/HC
3.	Vadakadambadi	2 Gr.II PC/Gr.I PC/HC
4.	Karanai	2 Gr.II PC/Gr.I PC/HC
5.	Kunnappattu	3 Gr.II PC/Gr.I PC/HC
6.	Valavanthangal	2 Gr.II PC/Gr.I PC/HC
7.	Santhanampattu	3 Gr.II PC/Gr.I PC/HC
8.	Dakshinavarthi	2 Gr.II PC/Gr.I PC/HC
9.	Panchanthiruthi	2 Gr.II PC/Gr.I PC/HC
10.	Amoor	2 Gr.II PC/Gr.I PC/HC
11.	Agaram	2 Gr.II PC/Gr.I PC/HC
12.	Amaiyampattu	16 Gr.II PC/Gr.I PC/HC
13.	Manamathi	5 Gr.II PC/Gr.I PC/HC
14.	Porunthavakkam	4 Gr.II PC/Gr.I PC/HC
15.	Acharavakkam	2 Head Constable 14 Gr.II PC/Gr.I PC/HC
16.	Chettipathumarayakuppam	2 Gr.II PC/Gr.I PC/HC
17.	Poondi	4 Gr.II PC/Gr.I PC/HC
18.	Rayamangalam	2 Gr.II PC/Gr.I PC/HC

Sector-D

Sl. No.	Name of the village	Number and Designation of Men posted per shift
1.	Manamai	1 Head Constable
2.	Melkuppam	2 Gr.II PC/Gr.I PC/HC
3.	Nallanpillaipetral	1 Head Constable , 10Gr.II PC/Gr.I PC/HC
4.	Kuhipanhandalam	4 Gr.II PC/Gr.I PC/HC
5.	M.V. Devadhanam	2 Gr.II PC/Gr.I PC/HC
6.	Arungundram	3 Gr.II PC/Gr.I PC/HC
7.	Echur	4 Gr.II PC/Gr.I PC/HC
8.	Nelvoy	3 Gr.II PC/Gr.I PC/HC
9.	Kalanipakkam	2 Gr.II PC/Gr.I PC/HC
10.	Melapattu	2 Gr.II PC/Gr.I PC/HC
11.	Pulikundram	2 Gr.II PC/Gr.I PC/HC
12.	Melkanagampattu	4 Gr.II PC/Gr.I PC/HC
13.	Thirunilai	5 Gr.II PC/Gr.I PC/HC
14.	Oragadam	2 Gr.II PC/Gr.I PC/HC
15.	Chinnavippedu	3 Gr.II PC/Gr.I PC/HC
16.	Periavippedu	2 Gr.II PC/Gr.I PC/HC
17.	Otteri	2 Gr.II PC/Gr.I PC/HC

Sector-E

Sl. No.	Name of the village	Number and Designation of Men posted per shift
1.	Kunnathur	5 Gr.II PC/Gr.I PC/HC
2.	Nallur	5 Gr.II PC/Gr.I PC/HC
3.	Amaipakkam	6 Gr.II PC/Gr.I PC/HC
4.	Nathamkariacheri	5 Gr.II PC/Gr.I PC/HC
5.	Pattikadu	2 Gr.II PC/Gr.I PC/HC
6.	Mullikolathur	6 Gr.II PC/Gr.I PC/HC
7.	Acharavakkam	2 Gr.II PC/Gr.I PC/HC
8.	Egai	4 Gr.II PC/Gr.I PC/HC
9.	Puliyur	6 Gr.II PC/Gr.I PC/HC
10.	Soorakuppam	6 Gr.II PC/Gr.I PC/HC
11.	Thirukalikundram	1 Sub Inspector, 6 Head Constables 60 Gr.II PC/Gr.C/HC
12.	Kothimangalam	2 Gr.II PC/Gr.I PC/HC
13.	Irumbuli	4 Gr.II PC/Gr.I PC/HC
14.	Navalur	4 Gr.II PC/Gr.I PC/HC

Sector-F

Sl. No.	Name of the village	Number and Designation of Men posted per shift
1.	Arambakkam	4 Gr.II PC/Gr.I PC/HC
2.	Neikuppi	4 Gr.II PC/Gr.I PC/HC
3.	Narasankuppam	2 Gr.II PC/Gr.I PC/HC
4.	Neeradi	2 Gr.II PC/Gr.I PC/HC
5.	Aminjikai	3 Gr.II PC/Gr.I PC/HC
6.	Periyakattupakkam	4 Gr.II PC/Gr.I PC/HC
7.	Veerapuram	3 Gr.II PC/Gr.I PC/HC
8.	Karmarapakkam	4 Gr.II PC/Gr.I PC/HC
9.	Echankaranai	4 Gr.II PC/Gr.I PC/HC
10.	Ammanampakkam	2 Gr.II PC/Gr.I PC/HC
11.	Kunnavakkam	2 Gr.II PC/Gr.I PC/HC
12.	Nadurvakarai	5 Gr.II PC/Gr.I PC/HC
13.	Perumbedu	5 Gr.II PC/Gr.I PC/HC
14.	Thathalur	6 Gr.II PC/Gr.I PC/HC
15.	Kilapakkam	2 Gr.II PC/Gr.I PC/HC
16.	Pakkam	6 Gr.II PC/Gr.I PC/HC
17.	Pandur	2 Gr.II PC/Gr.I PC/HC

Sector-G

Sl. No.	Name of the village	Number and Designation of Men posted per shift
1.	Vengabakkam	5 Gr.II PC/Gr.I PC/HC
2.	Poonthandalam	2 Gr.II PC/Gr.I PC/HC
3.	Punnappattu	4 Gr.II PC/Gr.I PC/HC
4.	Kudiperumbakkam	2 Gr.II PC/Gr.I PC/HC
5.	Chittalambakkam	3 Gr.II PC/Gr.I PC/HC
6.	Merkandai	2 Gr.II PC/Gr.I PC/HC
7.	Perambakkam	2 Gr.II PC/Gr.I PC/HC
8.	Lattur	2 Gr.II PC/Gr.I PC/HC
9.	Angamampattu	2 Gr.II PC/Gr.I PC/HC
10.	Sooradimangalam	4 Gr.II PC/Gr.I PC/HC
11.	Chinnakattupakkam	2 Gr.II PC/Gr.I PC/HC
12.	Nerumbur	2 Gr.II PC/Gr.I PC/HC
13.	Theppanampattu	2 Gr.II PC/Gr.I PC/HC
14.	Panagattucheri	5 Gr.II PC/Gr.I PC/HC
15.	Pommarajapuram	4 Gr.II PC/Gr.I PC/HC
16.	Kondakaraikuppam	2 Gr.II PC/Gr.I PC/HC
17.	Thandarai	8 Gr.II PC/Gr.I PC/HC
18.	Sembur	2 Gr.II PC/Gr.I PC/HC
19.	Madavilagam	4 Gr.II PC/Gr.I PC/HC
20.	Attavakkam	4 Gr.II PC/Gr.I PC/HC
21.	Sevur	2 Gr.II PC/Gr.I PC/HC
22.	Erumbulicheri	4 Gr.II PC/Gr.I PC/HC
23.	Edayathur	2 Gr.II PC/Gr.I PC/HC

Sector-H

Sl. No.	Name of the village	Number and Designation of Men posted per shift
1.	Meiyur	2 Gr.II PC/Gr.I PC/HC
2.	Solaikuppam	4 Gr.II PC/Gr.I PC/HC
3.	Somasipattu	2 Gr.II PC/Gr.I PC/HC
4.	Vittalapuram	5 Gr.II PC/Gr.I PC/HC
5.	Vasavasamuthiram	6 Gr.II PC/Gr.I PC/HC
6.	Ayappakkam	2 Gr.II PC/Gr.I PC/HC
7.	Nallathur	2 Gr.II PC/Gr.I PC/HC
8.	Veppancheri	3 Gr.II PC/Gr.I PC/HC
9.	Poigainallur	2 Gr.II PC/Gr.I PC/HC
10.	Poranjeri	4 Gr.II PC/Gr.I PC/HC
11.	Parameswara-Mangalam	4 Gr.II PC/Gr.I PC/HC
12.	Manicuppam	4 Gr.II PC/Gr.I PC/HC
13.	Parasanallur	4 Gr.II PC/Gr.I PC/HC
14.	Nerkunampattu	2 Gr.II PC/Gr.I PC/HC
15.	Nedumaram	2 Gr.II PC/Gr.I PC/HC

Sector-I

Sl. No.	Name of the village	Number and Designation of Men posted per shift
1.	Sadras	1 Head Constable 12 Gr.II PC/Gr.I PC/HC & AR
2.	Pudupattinam	1 Head Constable 10 Gr.II PC/Gr.I PC/HC & AR
3.	Voyalur	8 Gr.II PC/Gr.I PC/HC
4.	Vengadu	8 Gr.II PC/Gr.I PC/HC
5.	Kadalur	1 Head Constable 3 Gr.II PC/Gr.I PC/HC
6.	Koovathur	1 Head Constable
7.	Kilarkollai	12 Gr.II PC/Gr.I PC/HC
8.	Kanathur	3 Gr.II PC/Gr.I PC/HC
9.	Kodapattinam	4 Gr.II PC/Gr.I PC/HC
10.	Vadapattinam	4 Gr.II PC/Gr.I PC/HC

Table-12.2.7

TOTAL STRENGTH OF POLICE PERSONNEL REQUIRED

Sl.no.	Purpose	DSP	Inspector	SI	HC	Gr. IIPC/Gr. 1 pc	Total
1	Access Control & Traffic Diversion outside EPZ	-	2	6	6	20	34
2	Public Announcement in villages	-	-	-	9	9	18
3	Evacuation Duties	-	-	5	5	42	52
4	Strength Posted at Rallying Post	-	9	21	75	696	801
5	Strength Deployed for guarding the properties of villagers after evacuation	-	-	2	20	626	648
6	Traffic control measures inside the EPZ	-	-	3	29	113	145
	TOTAL	2	42	99	265	1809	2217

Table-12.2.8

Sector Wise Villages, Livestock Population in EPZ and Fodder requirement at Rallying Post

General for all sectors:

- i. Vehicles will be required for fodder transport
- ii. Water tankers of 1000 litres capacity will be required
- iii. Persons are required at each Rallying point for feeding the cattle
- iv. Fodder requirement estimated @ 4 Kg/day for cattle and @ 3 Kg/day for sheep and goat.
- v. Live stock census is as per 2007 census which is the latest.

Sector – A

Sl. No.	Village	Livestock Population (Nos.)		Fodder Requirement (Kgs)		Total (Kgs)
		Cattle	sheep & goats	Cattle	sheep & goats	
1	Edaiyur	873	479	3492	1437	4929
2	Kokilimedu	377	318	1508	954	2462
3	Mamallapuram	603	368	2412	1104	3516
4	Salavankuppam	68	0	272	0	272
5	Pattipulam	212	0	848	0	848
6	Krishnankarani	125	10	500	30	530
Total		2258	1175	9032	3525	12557

Sector – B

Sl. No.	Village	Livestock Population (Nos.)		Fodder Requirement (Kgs)		Total (Kgs)
		Cattle	sheep & goats	Cattle	sheep & goats	
1	Paiyanur	2173	467	8692	1401	10093
2	Adigamanallur	0	0	0	0	0
3	Karunguzhipallam	3	0	12	0	12
4	Sirudavur	690	1428	2760	4284	7044
5	Alathur	413	236	1652	708	2360
6	Vengaleri	199	0	796	0	796
7	Madayathur	415	796	1660	2388	4048
	Total	3893	2927	15572	8781	24353

Sector – C

Sl. No.	Village	Livestock Population (Nos.)		Fodder Requirement (Kgs)		Total (Kgs)
		Cattle	sheep & goats	Cattle	sheep & goats	
1	Kadambadi	570	369	2280	1107	3387
2	Perumaleri	1289	636	5156	1908	7064
3	Vadakadambadi	1915	962	7660	2886	10546
4	Karanai	743	285	2972	855	3827
5	Kunnapattu	861	295	3444	885	4329
6	Valavanthangal	230	149	920	447	1367
7	Santhanampattu	215	108	860	324	1184
8	Dakshinavarthy	30	27	120	81	201
9	Panchanthiruthi	187	199	748	597	1345
10	Amoor	379	220	1516	660	2176
11	Agaram	156	68	624	204	828
12	Amaiyampattu	331	314	1324	942	2266
13	Manamathi	626	335	2504	1005	3509
14	Porunthavakkam	254	25	1016	75	1091
15	Acharavakkam	293	111	1172	333	1505
16	Chettipathuramayakuppam	17	8	68	24	92
17	Poondi	402	498	1608	1494	3102
18	Rayamangalam	405	472	1620	1416	3036
	Total	22398	9383	89592	28149	117741

Sector - D

Sl. No.	Village	Livestock Population(Nos.)		Fodder Requirement (Kgs)		Total (Kgs)
		Cattle	sheep & goats	Cattle	sheep & goats	
1	Manamai	250	378	1000	1134	2134
2	Melakuppam	300	138	1200	414	1614
3	Nallanpillaipetral	626	326	2504	978	3482
4	Kuhipanthandalam	1082	799	4328	2397	6725
5	M.V.Devadhanam	113	64	452	192	644
6	Arungundram	530	234	2120	702	2822
7	Echur	932	1845	3126	2100	5226
8	Nelvoy	646	461	2576	1370	3946
9	Kalanipakkam	196	233	784	699	1483
10	Melapattu	161	126	644	378	1022
11	Pullikundram	311	245	1244	735	1979
12	Melkanagampattu	188	181	752	543	1295
13	Thirunilai	695	375	2780	1125	3905
14	Oragadam	1012	465	4048	1395	5443
15	Chinnavippedu	112	106	448	318	766
16	Periyavippedu	527	383	2108	1149	3257
17	Otteri	105	116	420	348	768
	Total	7786	6475	30534	15977	46511

Sector - E

Sl. No.	Village	Livestock Population(Nos.)		Fodder Requirement (Kgs)		Total (Kgs)
		Cattle	sheep & goats	Cattle	sheep & goats	
1	Kunnathur	350	400	1400	1200	2600
2	Nallur	909	455	3636	1365	5001
3	Amaipakkam	129	123	516	369	885
4	Nathamkariacheri	666	127	2664	381	3045
5	Pattikadu	981	683	3924	2049	5973
6	Mullikolathur	347	149	1388	447	1835
7	Acharavakam	588	298	2352	894	3246
8	Egai	445	243	1780	729	2509
9	Puliyur	979	436	3916	1308	5224
10	Soorakuppam	110	125	440	375	815
11	Thirukalikundram	2431	1463	9724	4389	14113
12	Kotthimangalam	1193	1490	4772	4470	9242
13	Irumbuli	15	45	60	135	195
14	Navalur	90	140	360	420	780
	Total	9233	6177	36932	18531	55463

Sector – F

Sl. No.	Village	Livestock Population (Nos.)		Fodder Requirement (Kgs)		Total (Kgs)
		Cattle	sheep & goats	Cattle	sheep & goats	
1	Arambakkam	350	167	1400	501	1901
2	Neikuppi	550	534	2200	1602	3802
3	Narasankupam	129	123	516	369	885
4	Neeradi	0	0	0	0	0
5	Aminjikai	309	440	1236	1320	2556
6	Periakattupakkam	166	70	664	210	874
7	Veerapuram	679	465	2716	1395	4111
8	Karumarapakkam	358	478	1432	1434	2866
9	Eachankaranai	331	339	1324	1017	2341
10	Ammanampakkam	610	661	2440	1983	4423
11	Kunnavakkam	476	231	1904	693	2597
12	Naduvakkarai	848	338	3392	1014	4406
13	Perumbedu	618	200	2472	600	3072
14	Thathalur	2701	2204	10804	6612	17416
15	Kilapakkam	360	20	1440	60	1500
16	Pakkam	231	156	924	468	1392
17	Pandur	969	588	3876	1764	5640
	Total	9685	7014	38740	21042	59782

Sector – G

Sl. No.	Village	Livestock Population (Nos.)		Fodder Requirement (Kgs)		Total (Kgs)
		Cattle	sheep & goats	Cattle	sheep & goats	
1	Vengapakkam	550		496	2200	
2	Poonthandalam	250		135	1000	
3	Punnappattu				0	
4	Kudiperumbakkam				0	
5	Chitlambakkam				0	
6	Merkandai				0	
7	Perambakkam				0	
8	Lattur				0	
9	Angamampattu				0	
10	Sooradimangalam				0	
11	Chinnakattupakkam				0	
12	Nerumbur				0	
13	Theppanampattu				0	
14	Panamkattucheri				0	
15	Bommarajapuram				0	
16	Kondakaraikuppam				0	
17	Thandarai				0	
18	Sembur				0	
19	Madavilagam				0	
20	Attavattam				0	
21	Sevur				0	
22	Erumbulicheri				0	
23	Edayathur				0	
	Total	800	631	3200	3200	0

Sector – H

Sl. No.	Village	Livestock Population (Nos.)		Fodder Requirement (Kgs)		Total (Kgs)
		Cattle	sheep & goats	Cattle	sheep & goats	
1	Meiyur	346	154	1384	462	1846
2	Solaikuppam					
3	Somasipattu					
4	Vittalapuram	2169	984	8676	2952	11628
5	Vasavasamuthiram	885	577	3540	1731	5271
6	Ayappakkam	619	871	2476	2613	5089
7	Nallathur	814	489	3256	1467	4723
8	Veppancheri					
9	Poigainallur					
10	Poranjeri					
11	Parameswara-Mangalam					
12	Manicuppam					
13	Parasanallur					
14	Nerkunampattu					
15	Nedumaram					
	Total	4487	2921	17948	8763	26711

Sector – I

Sl. No.	Village	Livestock Population (Nos.)		Fodder Requirement (Kgs)		Total (Kgs)
		Cattle	sheep & goats	Cattle	sheep & goats	
1	Sadras	405	531	1620	1593	3213
2	Pudupattinam	333	192	1332	576	1908
3	Vayalur	472	223	1982	852	2834
4	Vengadu	0	0	0	0	0
5	Kadalur	1130	870	4525	2615	7140
6	Koovathur	1227	1136	4910	34168	8378
7	Kilarkollai	348	349	1395	1050	2445
8	Kanathur	214	165	870	501	1371
9.	Kodapattinam	14	17	59	53	112
10	Vadapattinam	55	59	231	198	429
	Total	4198	3542	16924	41606	27830

Table 12.4.1**LIST OF VILLAGES AND THE POPULATION IN THE EMERGENCY PLANNING ZONE****Sector -A**

Sl. No.	Villages	Sector	Village code	Population as per 2011 census	Total Population		
					Within 5 km	Within 5-8 km	Within 8-16 km
1	Edaiyur	A-5	629891	759	1918		
2	Kokilimedu	A-5	629899	1159			
3	Mamallapuram	A-8	803369(TP)	15172		15172	
4	Salavankuppam	A-16	629518	1194			3982
5	Pattipulam	A-16	629491	2250			
6	Krishnankaranai	A-16	629461	538			
Total			21072				

Sector -B

Sl. No.	Villages	Sector	Village code	Population as per 2011 census	Total Population		
					Within 5 km	Within 5-8 km	Within 8-16 km
7	Paiyanur	B-16	629519	4532	NIL		
8	Adhigamanallur	B-16	---	---			
9	Karunguzhipallam	B-16	629492	13			
10	Sirudavur	B-16	629493	2975		NIL	
11	Alathur	B-16	629490	2189			11810
12	Vengaleri	B-16	629489	659			
13	Madayathur	B-16	629488	1442			
Total			11810				

Sector -C

Sl. No.	Villages	Sector	Village code	Population as per 2011 census	Total Population		
					Within 5 km	Within 5-8 km	Within 8-16 km
14	Kadambadi	C-5	629875	1774	1774		
15	Perumaleri	C-8	629874	2314			
16	Vadakadambadi	C-8	---	---		2314	
17	Karanai	C-16	629398	1677			
18	Kunnappattu	C-16	629521	908			
19	Valavanthangal	C-16	629538	449			
20	Santhanampattu	C-16	629523	869			
21	Dakshinavarthi	C-16	629522	58			

22	Panchanthiruthi	C-16	629520	272			
23	Amoor	C-16	629515	1320			
24	Agaram	C-16	629646	1724			
25	Amaiyampattu	C-16	629524	652			1346
26	Manamathi	C-16	629513	3457			
27	Porunthavakkam	C-16	629509	175			
28	Acharavakkam	C-16	629494	822			
29	Chettipathumarayakupam	C-16	629487	54			
30	Poondi	C-16	629495	545			
31	Rayamangalam	C-16	629512	478			
Total			17548				

Sector-D

Sl. No.	Villages	Sector	Village code	Population as per 2011 census	Total Population		
					Within 5 km	Within 5-8 km	Within 8-16 km
32	Manamai	D-5	629898	2965	2965		
33	Melkuppam	D-8	629877	52			
34	Nallanpillaipetral	D-8	629876	737		789	
35	Kuhipanhandalam	D-16	629873	3117			
36	M.V. Devadaram	D-16	629537	400			
37	Arungundram	D-16	629536	1056			
38	Echur	D-16	629878	1098			
39	Nelvoy	D-16	629872	521			
40	Kalanipakkam	D-16	629535	254			
41	Melapattu	D-16	629871	224			
42	Pulikundram	D-16	629879	773			
43	Melkanagampattu	D-16	629525	483			12139
44	Thirunilai	D-16	629526	811			
45	Oragadam	D-16	629534	1985			
46	Chinnavippedu	D-16	629528	527			
47	Periavippedu	D-16	629527	603			
48	Otteri	D-16	629511	287			
Total			15893				

Sector-E

Sl. No.	Villages	Sector	Village code	Population as per 2011 census	Total Population		
					Within 5km	Within 5-8 km	Within 8-16 km
49	Kunnathur	E-5	629901	1713	1713		
50	Nallur	E-8	629897	1628		4070	
51	Amaipakkam	E-8	629902	531			
52	Nathamkariacheri	E-8	629904	1911			
53	Pattikadu	E-16	629896	1050			
54	Mullikolathur	E-16	629905	1216			
55	Acharavakkam	E-16	629895	370			
56	Egai	E-16	629894	1039			
57	Puliyur	E-16	629893	1837			42136
58	Soorakuppam	E-16	----	---			
59	Thirukalikundram	E-16	803370(TP)	29391			
60	Kothimangalam	E-16	629892	3285			
61	Irumbuli	E-16	629880	409			
62	Navalur	E-16	629400	3539			
Total			47919				

Sector-F

Sl. No.	Villages	Sector	Village code	Population as per 2011 census	Total Population		
					Within 5km	Within 5-8 km	Within 8-16 km
63	Arambakkam	F-5	629926	1039	1039	7133	
64	Neikuppi	F-8	629924	6814			
65	Narasankuppam	F-8	629903	319			
66	Neeradi	F-8	----	---			
67	Aminjikai	F-16	629932	802			
68	Periyakattupakkam	F-16	629933	451			
69	Veerapuram	F-16	629923	1404			
70	Karmarapakkam	F-16	629906	1490			
71	Echankaranai	F-16	629907	977			
72	Ammanampakkam	F-16	629908	1303			
73	Kunnavakkam	F-16	629922	879			13882
74	Nadurvakarai	F-16	629934	564			12139
75	Perumbedu	F-16	629921	1151			
76	Thathalur	F-16	629909	1609			
77	Kilapakkam	F-16	629920	1228			
78	Pakkam	F-16	629935	458			
79	Pandur	F-16	629936	1566			
Total			22054				

Sector-G

Sl. No.	Villages	Sector	Village code	Population as per 2011 census	Total Population		
					Within 5km	Within 5-8 km	Within 8-16 km
80	Vengabakkam	G-5	629925	1448	1448		
81	Poonthandalam	G-8	629929	758			
82	Punnappattu	G-8	629915	264			
83	Kudiperumbakkam	G-8	629930	645		2459	
84	Chittalambakkam	G-8					
85	Merkandai	G-8	629951	792			
86	Perambakkam	G-16	629931	1278			
87	Lattur	G-16	629947---	1681---			
88	Angamampattu	G-16					
89	Sooradimangalam	G-16	629946	953			
90	Chinnakattupakkam	G-16					
91	Nerumbur	G-16	629945	2578			
92	Theppanampattu	G-16	Attavakkam	---			
93	Panagattucheri	G-16	Nallathur-B	---			
94	Bommarajapuram	G-16	Nallathur-A	----			
95	Kondakaraikuppam	G-16	Nallathur-B	----			
96	Thandarai	G-16	630158	551			
97	Sembur	G-16	630157	831			
98	Madavilagam	G-16	630156	828			10490
99	Attavakkam	G-16	629944	1365			
100	Sevur	G-16	630155	425			
101	Erumbulicheri	G-16	Attavakkam	---			
102	Edayathur	G-16	629943	1298			
Total					14397		

Sector-H

Sl. No.	Villages	Sector	Village code	Population as per 2011 census	Total Population		
					Within 5km	Within 5-8 km	Within 8-16 km
103	Meiyur	H-5	629928	4500	4500		
104	Solaikuppam	H-5	Pudupattinam	---			
105	Somasipattu	H-8	629948	---			
106	Vittalapuram	H-8		2854			
107	Vasavasamuthiram	H-8	629955	1792		4646	
108	Ayappakkam	H-16	629954	2988			
109	Nallathur-B	H-16	629952	342			
110	Nallathur-A	H-16	629953	1684			
111	Veppancheri	H-16	630163	279			
112	Poigainallur	H-16	630160	500			
113	Poranjeri	H-16	630161	124			16766
114	Parameswara-Mangalam	H-16	630162	4847			
115	Manicuppam	H-16	630168	1370			

116	Parasanallur	H-16	630159	595			
117	Nerkunampattu	H-16	630167	2243			
118	Nedumaram	H-16	630188	1794			
Total			25912				

Sector-I

Sl. No.	Villages	Sector	Village code	Population as per 2011 census	Total Population		
					Within 5km	Within 5-8 km	Within 8-16 km
119	Sadras	I-5	629950	6301	6301		
120	Pudupattinam	I-8	629960	21151		21151	
121	Voyalur	I-16	629956	4517			17979
22	Vengadu	I-16					
123	Kadalur	I-16	630164	6175			
124	Koovathur	I-16	630166	4534			
125	Kilarkollai	I-16	630165	685			
126	Kanathur	I-16	630191	642			
127	Kodapattinam	I-16	630190	127			
128	Vadapattinam	I-16	630192	1299			
Total			45431				

Abstract

Sector	No. of villages	Total population	No. of villages in 5 KM	Population within 5 Km	No. of villages in 5-8 KM	Population within 5-8 Km	No. of villages in 8-16 KM	Population within 8-16Km
A	6	21072	2	1918	1	15172	3	3982
B	6	11885	0	0	0	0	6	11885
C	18	17548	1	1774	2	2314	15	13460
D	17	15893	1	2965	2	789	14	12139
E	14	47919	1	1713	3	4070	10	42136
F	17	22054	1	1039	3	7133	13	13882
G	23	14397	1	1448	5	2459	17	10490
H	15	25912	2	4500	3	4646	10	16766
I	10	45431	1	6301	1	21151	8	17979
Total	126	222111	10	21,658	20	57734	97	142719

Note:- Human population data provided in all the above tables here are as per census 2011 found in primary census abstract data (final data) on actual population.

Table - 12.4.2

Details of Rallying points in EPZ

Sl.No	Name of shelter area	Identification /location	Distance from MAPS	Sector	Appro. capacity	Nearest Town	Availability of			
							Electricity	well	overhead Tank	Pumped water
1	St. Joseph Higher secondary school, Kovalam.	Near Kovalam bus stand	32	A	2500	Kovalam	Y	Y	Y	Y
2	Govt. Higher Secondary School, Periyaneli	On the ECR at Nemeli	25	A	1000	Kovalam	Y	Y	Y	Y
3	Govt. Higher secondary school, Thiruporur (Boys)	500m away from Ambekar statue on the Chengalpattu road	22	B	1500	Thiruporur	Y	Y	Y	Y
4	Sushil Hari International Residential school, Sri Ramajayam campus, Kelambakkam.	At Pudupakkam village which is 2 KM from Kelambakkam on the Vandalur Road.	34	B	1000	Kelambakkam	Y	Y	Y	Y
5	St.Mary's Matric Higher secondary school, Market Road, Kelambakkam	Near Kelambakkam bus stand	32	B	1000	Kelambakkam	Y	Y	Y	Y
6	B.K.M Higher Secondary School, Kelambakkam	Near Kelambakkam bus stand	32	B	2000	Kelambakkam	Y	Y	Y	Y
7	Govt. Higher secondary school, Thiruporur (Girls)	Behind Boys Higher secondary school	22	B	750	Thirupporur	Y	Y	Y	Y
8	JRK Gopal school, Kattangalathur	Opposite to Railway station	48	C	750	Kattangalathur	Y	Y	Y	Y
9	Govt. higher secondary school, SP koil	1 Km from GST Road onIndira Gandhi street.	40	D	1000	S.P Koil	Y	Y	Y	Y
10	St.Joseph higher secondary school, Maramalainagar	MM Nagar on Thiruvalluvar salai	44	D	2000	Maramalai Nagar	Y	Y	Y	Y
11	Govt. higher secondary school, Maramalainagar	Kambar St at Maramalai Nagar	44	D	1000	Maramalai Nagar	Y	Y	Y	Y
12	Brindavan Matriculation higher secondary school, Athur, Chengalpattu	SH-58 Junction at Athur	35	D	1000	Chengalpattu	Y	Y	Y	Y
13	Sri.Ramakrishna mission boys higher secondary						Y	Y	Y	Y

Sl.No	Name of shelter area	Identification /location	Distance from MAPS	Sector	Appro. capacity	Nearest Town	Availability of			
							Electricity	well	overhead Tank	Pumped water
	school, Vedachala Nagar Chengalpattu.	1Km from GST Road	30	D	1500	Chenglepet				
14	Ramakrishna girls Higher secondary school, Vedachala Nagar, Chengalpattu	1 KM from GST	30	D	1500	Chenglepet	Y	Y	Y	Y
15	St.Joseph Matriculation school, Vedachala Nagar Chengalpattu	500 m from GST	30	D	1000	Chengalpattu	Y	Y	Y	Y
16	St. Columbs higher secondary school, Chengalpattu	Near Old bus stand	30	D	500	Chengalpattu	Y	Y	Y	Y
17	St. Joseph higher secondary school Chengalpattu	250 m from old BS towards Kancheepuram	30	D	1000	Chengalpattu	Y	Y	Y	Y
18	St. Mary's HS school, Chengalpattu	250 m from old BS towards Kancheepuram	30	D	2000	Chengalpattu	Y	Y	Y	Y
19	Blessings Matriculation higher secondary school, Keerapakkam, TK Kundram.	500 metre from SH-58 towards Asan College	20	E	1200	TK Kundram	Y	Y	Y	Y
20	CSI High School, Madurantakam	On GST Rd.	40	F	750	Madurantakam	Y	Y	Y	Y
21	Girls higher secondary school, Madurantakam.	Parthasarathy Street, Near Ambedkar statue	40	F	1750	Madurantakam	Y	Y	Y	Y
22	St.Joseph Hr.secondary school, Madurantakam	Mandapam street	40	F	1000	Madurantakam	Y	Y	Y	Y
23	Adiparasakthi Matriculation Hr.secondary school, Melmaruvathur	GST Road	50	G	1500	Melmaruvathur	Y	Y	Y	Y
24	Govt. Higher secondary school, Polampakkam	2 Km from Chithamur towards Vandavasi	40	G	1000	Chithamur	Y	Y	Y	Y
25	Govt. HS school, Sothupakkam	1km from Sothupakkam	50	G	750	Sothupakkam	Y	Y	Y	Y

Sl.No	Name of shelter area	Identification /location	Distance from MAPS	Sector	Appro. capacity	Nearest Town	Availability of			
							Electricity	well	overhead Tank	Pumped water
		towards Vandavasi								
26	St. Marys Matriculation high school, Cheyyur.	700 meters from Cheyyur bus stand towards market.	40	H	1000	Cheyyur	Y	Y	Y	Y
27	Govt. Higher secondary school. Cheyyur	Near Cheyyur bus stand	40	H	750	Cheyyur	Y	Y	Y	Y
28	Govt. Girls higher secondary school, Cheyyur	Near Cheyyur bus stand	40	H	500	Cheyyur	Y	Y	Y	Y
29	GVR Matriculation school, Kadapakkam	On the ECR at Kadapakkam	36	I	250	Cheyyur	Y	Y	Y	Y
30	P.K Govt. Higher secondary school, Kadapakkam	ECR at Kadapakkam	36	I	1000	Cheyyur	Y	Y	Y	Y
31	Govt. Girls Higher secondary school, Kadapakkam	ECR at Kadapakkam	36	I	500	Cheyyur	Y	Y	Y	Y
32	St. Marys Matriculation high school, Edakalainadu, Kadapakkam	ECR at Kadapakkam	36	I	750	Cheyyur	Y	Y	Y	Y
33	Govt. Boys High school, Marakkonam	1.5 Km from ECR towards west from Marakkonam	50	I	1500	Marakkanam	Y	Y	Y	Y
34	Govt. Higher secondary school, Vennangupattu	Side of ECR at Vennangupattu	40	I	750	Cheyyur	Y	Y	Y	Y

Table - 12.4.3

**TRANSPORT REQUIREMENTS DURING OFF-SITE
EMERGENCY EVACUATION**

Sector - A

Sl. No	Villages to be Evacuated	Population 2011 Census	Distance From the Parking Yard (km)	No. of buses required	Running Time (Hr. mn)	Rallying Post (RP)	Distance between RP and village	Running Time (Hr. mn)
1.	Edaiyur	759	34	9	1.00	St. Joseph Higher secondary school, Kovalam.	21 Km	00.45
2.	Kokilimedu	1159	33	11	1.00	St. Joseph Higher secondary school, Kovalam.	19 Km	00.40
3.	Mamallapuram	15172	32	140	1.00	As population is high in this village, the shelter areas to be distributed from the table-4	---	-----
4.	Salavankuppam	1194	35	9	1.00	Govt. Higher secondary school, Thiruporur (Boys)	25 Km	00.50
5.	Pattipulam	225	38	28	1.00	Govt. Higher secondary school, Thiruporur (Girls)	23 Km	00.48
6.	Krishnankaranai	538	40	8	1.00	Govt. Higher secondary school, Thiruporur (Girls)	21 Km	00.45

Sector - B

Sl. No	Villages to be Evacuated	Population 2011 Census	Distance From the Parking Yard (km)	No. of buses required	Running Time (Hr. mn)	Rallying Post (RP)	Distance between RP and village	Running Time (Hr. mn)
1	Paiyanur	4532	49	56	1.00	Sushil Hari International Residentialschool, Kelambakkam	21	00.45
						St.Mary's Matric Higher secondary school, Kelambakkam	21	00.45
						B.K.M Higher Secondary School Kelambakkam	21	00.45
2.	Karunguzhipallam	13	28	2	1.00	Govt. Higher secondary school, Thiruporur (Girls)	13	00.30
3.	Sirudavur	2975	28	32	1.00	St. Joseph Higher secondary school, Kovalam.	28	00.50
						Govt. Higher Secondary School. Periyaneveli.	14	00.30
4.	Alathur	2189	30	20	1.00	Govt. Higher secondary school, Thiruporur (Boys) Govt. Higher secondary school, Thiruporur (Boys)	10	00.20
5.	Vengaleri	659	30	5	1.00	Govt. Higher secondary school, Thiruporur (Girls)	8	00.20
6.	Madayathur	1447	32	21	1.00	Govt. Higher secondary school, Thiruporur (Boys)	15	00.30

Sector – C

Sl. No	Villages to be Evacuated	Population 2011 Census	Distance From the Parking Yard(km)	No. of buses required	Running Time (Hr.mn)	Rallying Post (RP)	Distance between RP and village	Running Time (Hr.mn)
1.	Kadambadi	1774	28	32	1.00	Govt. Higher Secondary School. Periyaneli.	20	00.45
2.	Perumaleri	2314	27	42	1.00	St. Joseph Higher secondary school, Kovalam.	18	00.45
3.	Karanai	1677	28	30	1.00	Govt. Higher secondary school, Thiruporur (Boys)	16	00.30
4.	Kunnappattu	908	29	15	1.00	Sushil Hari International school, Kelambakkam.	20	00.45
5.	Valavanthangal	449	30	8	1.00	Blessings Matriculation higher secondary school,TKKundram	10	00.20
6.	Santhanampattu	869	29	14	1.00	Govt. Higher secondary school, Thiruporur (Girls)	17	00.35
7.	Dakshinavarthi	58	29	2	1.00	B.K.M Higher Secondary School, Kelambakkam	16	00.35
8.	Panchanthiruthi	272	30	5	1.00	B.K.M Higher Secondary School, Kelambakkam	12	00.25
9.	Amoor	1320	30	24	1.00	B.K.M Higher Secondary School, Kelambakkam	15	00.30
10.	Agaram	1724	31	32	1.00	Ramakrishna girls Higher secondary school, Chengalpattu	20	00.45
11.	Amaiyampattu	652	31	12	1.00	Blessings Matriculation higher secondary schoolTKKundram	9	00.20
12	Manamathi	3457	28	60	1.00	St. Joseph higher secondary school Chengalpattu	18	00.35
						St. Mary's HS school, Chengalpattu	18	00.45
13	Porunthavakkam	175	27	4	1.00	St.Mary's Matric Higher secondary school, Kelambakkam	25	00.55
14.	Acharavakkam	822	27	14	1.00	St.Mary's Matric Higher secondary school, Kelambakkam	30	01.00
15.	Chettipathumarayakuppam	54	28	1	1.00	St.Mary's Matric Higher secondary school, Kelambakkam	29	01.00
16.	Poondi	545	26	10	1.00	Brindavan Matriculation higher secondary school,Chengalpattu	23	00.50
17.	Rayamangalam	478	28	8	1.00	Brindavan Matriculation higher secondary schoolChengalpattu	21	00.40

Sector - D

Sl. No	Villages to be Evacuated	Population 2011 Census	Distance From the Parking Yard (km)	No. of buses required	Running Time (Hr. mn)	Rallying Post (RP)	Distance between RP and village	Running Time (Hr. mn)
1.	Manamai	2965	30	53	01.00	Govt. Higher secondary school, Thiruporur (Girls)	20	00.40
						Govt. Higher secondary school, Thiruporur (Girls)	20	00.40
2.	Melakuppam	52	27	1	01.00	Govt. Higher Secondary School. Periyaneveli	21	00.40
3.	Nallanpillaipeiral	737	26	2	01.00	Govt. Higher Secondary School. Periyaneveli	22	00.45
4.	Kuhipanhandalam	3117	25	56	00.50	Sushil Hari International school, Kelambakkam	26	00.50
						St.Mary's Matric Higher secondary school, Kelambakkam		
						B.K.M Higher Secondary School, Kelambakkam		
5.	M.V. Devadhanam	400	24	8	00.50	St. Joseph Higher secondary school, Kovalam.	30	01.00
6.	Arunkundram	1056	24	20	00.50	St. Joseph Higher secondary school, Kovalam.	29	01.00
7.	Echur	1098	24	21	00.50	B.K.M Higher Secondary School, Kelambakkam	28	01.00
8.	Nelvoy	521	25	10	00.50	Sri.Ramakrishna mission boys higher secondary school,Chengalpattu.	20	00.40
9.	Kazhanipakkam	254	26	5	00.55	Sri.Ramakrishna mission boys higher secondary school,Chengalpattu.	24	00.45

10.	Melampattu	224	27	5	01.00	Sri.Ramakrishna mission boys higher secondary school,Chengalpattu.	22	00.40
11.	Pulikundram	773	20	14	00.40	Sri.Ramakrishna mission boys higher secondary school,Chengalpattu.	26	00.50
12.	Melkanagampattu	483	22	8	00.45	St.Joseph Matriculation school, Vedachala Nagar, Chengalpattu	25	00.50
13.	Thirunilai	811	24	16	00.50	St.Joseph Matriculation school, Vedachala Nagar, Chengalpattu	26	00.50
14.	Oragadam	1985	26	36	01.00	St. Mary's HS school, Chengalpattu	25	00.50
15.	Chinnavipedu	527	28	10	01.00	Ramakrishna girls Higher secondary school, Chengalpattu	18	00.35
16.	Periavipedu	603	21	12	00.40	Ramakrishna girls Higher secondary school, Chengalpattu	18	00.35
17.	Otteri	287	18	5	00.30	Ramakrishna girls Higher secondary school, Chengalpattu	20	00.40

Sector - E

Sl.No	Villages to be Evacuated	Population 2011 Census	Distance From the Parking Yard (km)	No. of buses required	Running Time (Hr. mn)	Rallying Post (RP)	Distance between RP and village	Running Time (Hr. mn)
1.	Kunnathur	1713	30	32	01.00	Govt. Higher secondary school, Thiruporur (Boys), Thirupporur	23	00.40
2.	Nallur	1628	25	30	00.50	St. Joseph Higher secondary school, Kovalam.	33	01.10
3.	Amaipakkam	531	25	10	00.50	Govt. Higher secondary school, Thiruporur (Girls), Thirupporur.	24	00.40
4.	Nathamkariacheri	1911	24	35	00.45	B.K.M Higher Secondary School, Kelambakkam	40	01.15
5.	Pattikadu	1050	23	20	00.45	St.Mary's Matric Higher secondary school, Kelambakkam	38	01.15
6.	Mullikolathur	1216	22	23	00.45	Blessings Matriculation higher secondary school, TKKundram	10	00.20
7.	Acharavakam	370	22	7	00.45	Sri.Ramakrishna mission boys higher secondary school, Vedachala Nagar Chengalpattu.	20	00.35
8.	Egai	1039	21	20	00.45	Sri.Ramakrishna mission boys higher secondary school, Vedachala Nagar Chengalpattu.	20	00.35
9.	Puliyur	1837	18	34	00.35	St. Mary's HS school, Chengalpattu	17	00.30
11.	Thirukalikundram	29391	15	534	00.30	As population is high in this village, the shelter areas to be distributed from the table-4	---	----
12.	Kothimangalam	3285	18	60	00.35	St. Joseph higher secondary school	16	00.30

						Chengalpattu		
13.	Irumbuli	409	17	8	00.35	St. Joseph higher secondary school Chengalpattu	15	00.25
14.	Navalur	3539	16	65	00.30	Sri.Ramakrishna mission boys higher secondary school,Vedachala Nagar Chengalpattu.	20	00.30
						Ramakrishna girls Higher secondary school, VedachalaNagar, Chengalpattu		
						St.Joseph Matriculation school, Vedachala NagarChengalpattu		

Sector - F

Sl.No	Villages to be Evacuated	Population 2011 Census	Distance From the Parking Yard (km)	No. of buses required	Running Time (Hr. mn)	Rallying Post (RP)	Distance between RP and village	Running Time (Hr. mn)
1.	Arambakkam	1039	27	19	1.00	Blessings Matriculation higher secondary school, Keerapakkam, TK Kundram	17	00.30
2.	Neikuppi	6763	25	124	1.00	St. Joseph Higher secondary school, Kovalam.	32	01.00
						Govt. Higher secondary school, Thiruporur (Boys)	25	00.50
						B.K.M Higher Secondary School, Kelambakkam	34	01.05
						Sushil Hari International Residential school, SriRamajayam campus, Kelambakkam.		
St.Mary's Matric Higher secondary school, Market Road, Kelambakkam								
3.	Narasankuppam	319	26	6	1.00	St. Columbs higher secondary school, Chengalpattu	26	00.45
5.	Aminjikai	802	24	15	1.00	Brindavan Matriculation higher secondary school, Athur, Chengalpattu	26	00.45
6.	Periyakattupakkam	451	21	8	1.00	Girls higher secondary school, Madurantakam.	26	00.45
7.	Veerapuram	1404	22	20	1.00	Girls higher secondary school, Madurantakam.	26	00.45
8.	Karmarapakkam	1490	20	24	1.00	Adiparasakthi Matriculation HS School, Melmaruvathur	28	01.00

9.	Echankaranai	977	21	19	1.00	St.Joseph higher secondary school, Maramalainagar	40	01.15
10.	Ammanampakkam	1303	21	20	1.00	St.Joseph higher secondary school, Maramalainagar	40	01.15
11.	Kunnavakkam	879	23	28	1.00	CSI High School, Madurantakam	24	00.45
12.	Nadurvakarai	564	22	8	1.00	JRK Gobal school, Kattangalathur	40	01.15
13.	Perumbedu	1151	20	20	1.00	Govt. higher secondary school, SP koil	36	01.05
14.	Thathalur	1609	20	30	1.00	Sri.Ramakrishna mission boys higher secondary school,Vedachala Nagar Chengalpattu.	30	01.00
15.	Kilapakkam	1228	21	23	1.00	St. Mary's HS school, Chengalpattu	30	01.00
16.	Pakkam	458	24	8	1.00	St. Mary's HS school, Chengalpattu	28	01.00
17.	Pandur	1566	26	30	1.00	Ramakrishna girls Higher secondary school, VedachalaNagar, Chengalpattu	32	01.10

Sector - G

Sl. No	Villages to be Evacuated	Population 2011 Census	Distance From the Parking Yard (km)	No. of buses required	Running Time (Hr. mn)	Rallying Post (RP)	Distance between RP and village	Running Time (Hr. mn)
1.	Vengabakkam	1448	29	27	1.00	Govt. Higher secondary school, Thiruporur (Boys)	25	00.50
2.	Poonthandalam	758	28	14	1.00	Govt. Higher secondary school, Thiruporur (Girls)	26	00.50
3.	Punnattu	264	28	3	1.00	Sri.Ramakrishna mission boys HS school, Chengalpattu.	30	01.00
4.	Kudiperumbakkam	645	24	45	1.00	Sri.Ramakrishna mission boys HS school, Chengalpattu.	30	01.00
5.	Chittalambakkam	---	27	--	---	----	---	---
6.	Merkandai	792	27	13	1.00	Sri.Ramakrishna mission boys HS school, Chengalpattu.	30	01.00
7.	Perambakkam	1278	27	24	1.00	Blessings Matriculation higher secondary school, Keerapakkam, TK Kundram.	15	00.30
8.	Lattur	1681	35	32	1.10	St. Mary's HS school, Chengalpattu	38	01.15
9	Sooradimangalam	953	27	18	1.00	St. Joseph higher secondary school Chengalpattu	28	01.00
101.	Chinnakattupakkam	---	28	---	----	--	---	---
11.	Nerumbur	2578	23	46	0.50	St. Mary's HS school, Chengalpattu St. Columbs HS school, Chengalpattu	24	00.50
12.	Thandarai	551	45	10	1.20	Govt. Higher secondary school,	36	01.15

						Vennangupattu		
13	Sembur	831	45	15	1.20	St. Marys Matriculation high school, Kadapakkam	33	01.05
14	Madavilagam	828	46	15	1.20	St. Marys Matriculation high school, , Kadapakkam	33	01.05
15	Attavakkam	1365	27	25	1.00	GVR Matriculation school, Kadapakkam	33	01.05
16	Sevur	425	47	8	1.20	Govt. Girls HS school, Kadapakkam	33	01.05
17	Edayathur	1298	30	24	1.00	Ramakrishna girls Higher secondary school, VedachalaNagar, Chengalpattu	30	01.00
16.	Pakkam	458	24	8	1.00	St. Mary's HS school, Chengalpattu	28	01.00
17.	Pandur	1566	26	30	1.00	Ramakrishna girls Higher secondary school, VedachalaNagar, Chengalpattu	32	01.10

Sector - H

Sl. No	Villages to be Evacuated	Population 2011 Census	Distance From the Parking Yard (km)	No. of buses required	Running Time (Hr. mn)	Rallying Post (RP)	Distance between RP and village	Running Time (Hr. mn)
1.	Meiyur	4500	32	82	1.00	Sushil Hari International Residential school, Kelambakkam.	32	01.00
						St. Mary's Matric Higher secondary school, Kelambakkam.		
						B.K.M Higher Secondary School, Kelambakkam		
2.	Vittalapuram	2854	35	52	1.00	Govt. Higher secondary school, Thiruporur (Boys)	35	
						Govt. Higher secondary school, Thiruporur (Girls)		
3.	Vasavasamuthiram	1792	35	34	1.15	Ramakrishna girls Higher secondary school, VedachalaNagar, Chengalpattu	35	
4.	Ayappakkam	2988	38	54	1.25	St. Joseph higher secondary school Chengalpattu	38	01.25
						St. Mary's HS school, Chengalpattu		
5.	Veppancheri	279	30	5	1.00	GVR Matriculation school, Kadapakkam	30	01.00
6.	Nallathur	342	38	7	1.10	Govt. HS school, Sothupakkam	36	01.10
	Poigainallur	500	42	10	1.20			
7	Poranjeri	124	44	3	1.30			

8	Parameswara-Mangalam	4847	44	88	1.30	Adiparasakthi Matriculation Hr.secondary school, Melmaruvathur	36	01.10
						Govt. Higher secondary school, Polampakkam	28	01.00
						St.Joseph Hr.secondary school, Madurantakam	28	01.00
						CSI High School, Madurantakam		
9	Manicuppam	1370	45	25	1.30	St. Marys Matriculation high school, Cheyyur.	13	00.30
10	Parasanallur	595	45	12	1.30	Govt. Girls higher secondary school, Cheyyur	32	01.00
11	Nerkunampattu	2243	45	42	1.30	P.K Govt. Higher secondary school, Kadapakkam	28	01.00
						Govt. Girls Higher secondary school, Kadapakkam		
						St. Marys Matriculation high school, Kadapakkam		
12.	Nedumaram	1794	46	34	1.30	Govt. Boys High school, Marakkonam	36	01.10

Sector – I

Sl. No	Villages to be Evacuated	Population on 2011 Census	Distance From the Parking Yard (km)	No. of buses required	Running Time (Hr. mn)	Rallying Post (RP)	Distance between RP and village	Running Time (Hr. mn)
1.	Sadras	6301	32	115	1.00	St. Mary's HS school, Chengalpattu	32	01.00
						St. Joseph higher secondary school Chengalpattu		
						St. Joseph Matriculation school, Vedachala Nagar Chengalpattu		
						Ramakrishna girls HS school, Vedachala Nagar, Chengalpattu		
						Sri. Ramakrishna mission boys HS school, Vedachala Nagar Chengalpattu.		
2.	Pudupattinam	21151	34	382	1.10	As population is high in this village, the shelter areas to be distributed from the table-4		
3.	Voyalur	4517	37	82	1.15	Sushil Hari International school, Kelambakkam.	38	01.15
						St. Mary's Matric HS school, Market Road, Kelambakkam		
						B.K.M Higher Secondary School, Kelambakkam		

5.	Kadalur	6175	40	112	1.00	St. Joseph Higher secondary school, Kovalam.	46	01.20
						Govt. Higher Secondary School. Periyaniemeli	36	01.10
						Govt. Higher secondary school, Thiruporur (Boys)	38	01.15
						Govt. Higher secondary school, Thiruporur (Girls)		
6.	Koovathur	4534	42	82	1.20	St. Marys Matriculation high school, Kadapakkam	22	00.50
						Govt. Girls HSschool, Kadapakkam		
						Govt. Girls Higher secondary school, Kadapakkam		
						P.K Govt. Higher secondary school, Kadapakkam		
						GVR Matriculation school, Kadapakkam	35	01.10
						Govt. boys high school, Marakkonam		
7.	Kilarkollai	685	40	12	1.20	St. Marys Matriculation high school, Cheyyur. Govt. Girls higher secondary school, Cheyyur	20	00.45
8.	Kanathur	642	41	12	1.20		19	00.45
9.	Kodapattinam	127	42	4	1.20		18	00.45
10.	Vadapattinam	1299	40	24	1.00	Govt. Higher secondary school. Cheyyur.	17	00.35
						Govt. Higher secondary school, Vennangupattu	24	00.50

Table -12. 4.4

REQUIREMENT OF THE ESSENTIAL COMMODITIES AT THE RALLYING POSTS

Note-1: The amount of essential quantities is calculated as per the per capita consumption rate given by NATIONAL STATISTICAL ORGANIZATION, MINISTRY OF STATISTICS AND PROGRAMME IMPLEMENTATION in their report named “Level and Pattern of consumer expenditure 2009-10 – NSS 66th Round”

Note-2: As per National Statistical Organization Ministry of Statistics and Programme implementation NSS 66th Round, the consumption of different food items for an adult is as follows:

Cereal -9.298 kg/man/month, Pulses – 0.911 kg/man/month, Milk - 3.195 lit/man/month, Sugar-0.6 kg/man/month, Salt-0.306 kg/man/month, Oil – 0.610 lit/man/month & Vegetables-5.41 kg/man/month. Also it is assumed that the consumption of 2 bags/ head/day and half bread/head/day.

(a) Sector – A

SlNo	Name of the Shelter area	Population expected to assemble	Cereal(Kgs)	Bread(Nos)	Salt (Kgs)	Tea bagsNos.	Sugar (Kg)	Oil (Lts)	Milk (Lts)	Vegetable(Kg)	Pulses(kgs)	Plates & Tumblers(Nos.)
1.	St.Joseph Higher secondary school, Kovalam.	2000	620	1000	20	4000	40	41	213	360	61	2000
2.	As no specific shelter area is given for Mammalapuram, the shelter areas to be distributed from the table-	15000	4649	7500	153	30000	300	305	1598	2705	456	15000
3.	Govt. Higher secondary school, Thiruporur (Boys)	1200	372	600	12	2400	24	24	128	216	36	1200
4.	Govt. Higher secondary school, Thiruporur (Girls)	2750	852	1375	28	5500	55	56	293	496	84	2750
	Total	20950	6493	1047	213	41900	419	845	2232	3777	226	20950

Sector – B

SlNo	Name of the Shelter area	Population expected to assemble	Cereal(Kgs)	Bread(Nos)	Salt (Kgs)	Tea bags Nos.	Sugar (Kg)	Oil (Lts)	Milk (Lts)	Vegetable (Kg)	Pulses(kgs)	Plates & Tumblers (Nos.)
1.	Sushil Hari Residential school, Kelambakkam	4500	1395	2250	46	9000	90	92	479	812	137	4500
2.	St.Mary's Matric HS school, Kelambakkam											
3.	B.K.M Higher Secondary School, Kelambakkam											
4.	Govt. Higher secondary school, Thiruporur (Girls)	670	208	335	7	1340	13	14	71	121	20	670
5.	St. Joseph Higher secondary school, Kovalam.	3000	930	1500	31	6000	60	61	320	541	91	3000
6.	Govt. Higher Secondary School. Periyaneli.											
7.	Govt. Higher secondary school, Thiruporur (Boys)	3500	1085	1750	36	7000	70	71	373	631	106	3500
	Total	11670	3618	5835	120	23340	233	238	1243	2105	460	11670

Sector – C

Sl.No	Name of the Shelter area	Population expected to assemble	Cereal(Kgs)	Bread(Nos)	Salt (Kgs)	Tea bags Nos.	Sugar (Kg)	Oil (Lts)	Milk (Lts)	Vegetable (Kg)	Pulses(kgs)	Plates & Tumblers (Nos.)
1.	Govt. Higher Secondary School. Periyaniemeli.	1775	550	888	18	3550	35	36	189	320	54	1775
2.	St. Joseph HS school, Kovalam.	2300	713	1150	23	4600	46	47	245	415	70	2300
3.	Govt. Higher secondary school, Thiruporur (Boys)	1675	519	838	17	3350	34	34	178	302	51	1675
4.	Sushil Hari International school, Kelambakkam.	900	279	450	09	1800	18	18	96	162	27	900
5.	Blessings Matriculation HS school,TK Kundram	1100	341	550	11	2200	22	22	117	198	33	1100
6.	Govt. Higher secondary school, Thiruporur (Girls)	850	263	425	9	1700	17	17	91	153	26	850
7.	B.K.M Higher Secondary School, Kelambakkam	1600	496	800	16	3200	32	33	170	289	49	1600
8.	Ramakrishna girls HS school, Chengalpattu	1700	527	850	17	3400	34	35	180	307	52	1700
9.	St. Joseph HS school Chengalpattu	3450	1069	1725	35	6900	69	70	367	622	110	3450
10.	St. Mary's HS school, Chengalpattu											
11.	St.Mary's Matric Higher secondary school, Kelambakkam	1050	325	525	11	2100	21	21	112	189	32	1050
12.	Brindavan Matriculation higher secondary school, Chengalpattu	1000	310	500	10	2000	20	20	107	180	30	1000
	Total	17500	5392	8701	176	34800	348	353	1852	3137	534	17500

Sector - D

Sl.No	Name of the Shelter area	Population expected to assemble	Cereal(Kgs)	Bread(Nos)	Salt (Kgs)	Tea bags Nos.	Sugar (Kg)	Oil (Lts)	Milk (Lts)	Vegetable (Kg)	Pulses(kgs)	Plates & Tumblers (Nos.)
1.	Govt. Higher secondary school, Thiruporur (Girls)	3000	930	1500	31	6000	60	61	320	541	91	3000
2.	Govt. Higher Secondary School. Periyaneveli	1000	310	500	10	2000	20	20	107	180	30	1000
3.	Sushil Hari International school, Kelambakkam	4000	1240	2000	41	8000	80	81	426	721	121	4000
4.	St. Joseph HS school, Kovalam.	1500	465	750	15	3000	30	31	160	271	46	1500
5.	Sri.Ramakrishna mission boys HS school, Chengalpattu.	1750	542	875	18	3500	35	36	186	316	53	1750
6.	St.Joseph Matriculation school, Vedachala Nagar, Chengalpattu	1200	372	600	12	2400	24	24	128	216	36	1200
7.	St. Mary's HS school, Chengalpattu	2000	620	1000	20	4000	40	41	213	361	61	2000
8.	Ramakrishna girls HS school, Chengalpattu	1500	465	750	15	3000	30	31	160	271	46	1500
	Total	15950	4944	8750	162	31900	319	325	1700	2877	484	15950

(e) Sector – E

Sl. No	Name of the Shelter area	Population expected to assemble	Cereal (Kgs)	Bread(Nos)	Salt (Kgs)	Tea bags Nos.	Sugar (Kg)	Oil (Lts)	Milk (Lts)	Vegetable (Kg)	Pulses (kgs)	Plates & Tumblers (Nos.)
1.	Govt. Higher secondary school, Thiruporur (Boys)	1750	542	875	18	3500	35	36	186	316	53	1750
2.	St. Joseph HS school, Kovalam.	1600	496	800	16	3200	32	33	170	289	49	1600
3.	Govt. Higher secondary school, Thiruporur (Girls)	525	163	263	5	1050	11	11	56	95	16	525
4.	B.K.M Higher Secondary School, Kelambakkam	2000	620	1000	20	4000	40	41	213	361	61	2000
5.	St.Mary's Matric HS school, Kelambakkam	1000	310	500	10	2000	20	20	107	180	30	1000
6.	Blessings Matriculation HS school, TK Kundram	1200	372	600	12	2400	24	24	128	216	36	1200
7.	Sri.Ramakrishna mission boys HS school, Chengalpattu	1400	434	700	14	2800	28	28	149	252	43	1400
8.	St. Mary's HS school, Chengalpattu	1800	558	900	18	3600	36	37	192	325	55	1800
9.	As no specific shelter area is given for TK Kundram, the shelter areas to be distributed from the table-	29500	9143	14570	301	59000	590	600	3142	5320	896	29500
10.	St. Joseph HS school Chengalpattu	3500	1085	1750	36	7000	70	71	372	631	106	3500
11.	Sri.Ramakrishna mission boys HSS, Chengalpattu	3500	1085	1750	36	7000	70	71	372	631	106	3500
	Total	47775	14250	23708	486	95550	956	972	5087	8616	1451	47775

Sector - F

Sl.No	Name of the Shelter area	Populatio n expected to assemble	Cereal (Kgs)	Bread(No s)	Salt (Kgs)	Tea bags Nos.	Sugar (Kg)	Oil (Lts)	Milk (Lts)	Vegetable (Kg)	Pulses (kgs)	Plates & Tumblers (Nos.)
1.	Blessings Matriculation HS school, TKKundram	1000	310	500	10	2000	20	20	107	180	30	1000
2.	St. Joseph HS school, Kovalam.	7000	2170	3500	71	14000	140	142	746	1262	213	7000
3.	St. Columbs HS school, Chengalpattu	300	93	150	3	600	6	6	32	54	9	300
4.	Brindavan Matriculation higher secondary school, Athur, Chengalpattu	800	248	400	8	1600	16	16	85	142	24	800
5.	Girls higher secondary school, Madurantakam.	1800	558	900	18	3600	36	37	192	325	55	1800
6.	Adiparasakthi Matriculation HS School, Melmaruvathur	1500	465	750	15	3000	30	31	160	271	46	1500
7.	St.Joseph higher secondary school, Maramalainagar	2250	697	1125	23	4500	45	46	240	406	68	2250
8.	CSI High School, Madurantakam	900	279	450	9	1800	18	18	96	162	27	900
9.	JRK Gobal school, Kattangalathur	600	186	300	6	1200	12	12	64	108	18	600
10.	Govt. higher secondary school, SP koil	1200	372	600	12	2400	24	24	128	216	36	1200
11.	Sri.Ramakrishna mission boys higher secondary school, Vedachala Nagar Chengalpattu.	1600	496	800	16	3200	32	33	170	289	49	1600
12.	Sri.Ramakrishna mission boys higher secondary school, Vedachala Nagar Chengalpattu.	1600	496	800	16	3200	32	33	170	289	49	1600
13.	St. Mary's HS school, Chengalpattu	1750	542	875	18	3500	35	36	186	316	53	1750
	Total	22300	6912	11150	225	44600	446	454	2376	4020	677	22300

Sector – G

Sl. No	Name of the Shelter area	Population expected to assemble	Cereal (Kgs)	Bread(Nos)	Salt (Kgs)	Tea bags Nos.	Sugar (Kg)	Oil (Lts)	Milk (Lts)	Vegetable (Kg)	Pulses (kgs)	Plates & Tumblers (Nos.)
1.	Govt. Higher secondary school, Thiruporur (Boys)	1500	465	750	15	3000	30	31	160	271	46	1500
2.	Govt. Higher secondary school, Thiruporur (Girls)	750	232	375	8	1500	15	15	80	135	23	750
3.	Sri.Ramakrishna mission boys HS school,Chengalpattu.	1600	496	800	16	3200	32	33	170	289	49	1600
4.	Blessings Matriculation higher secondaryschool, Keerapakkam, TK kundram.	1300	403	650	13	2600	26	26	138	234	39	1300
5.	St. Joseph HS school Chengalpattu	1000	310	500	10	2000	20	20	107	180	30	1000
6.	St. Mary's HS school, Chengalpattu	4000	1240	2000	41	8000	80	81	426	721	121	4000
7.	Govt. Higher secondary school, Vennangupattu	500	155	250	05	1000	10	10	53	90	15	500
8.	St. Marys Matriculation high school,Kadapakkam	1600	496	800	16	3200	32	33	170	289	49	1600
9.	GVR Matriculation school, Kadapakkam	1400	434	700	14	2800	28	28	149	252	43	1400
10.	Govt. Girls HS school, Kadapakkam	500	155	250	05	1000	10	10	53	90	15	500
11.	Ramakrishna girls HS school, VedachalaNagar, Chengalpattu	1300	403	650	13	2600	26	26	138	234	39	1300
	Total:	15450	4789	7725	156	30900	309	313	1644	2785	469	15450

Sector – H

Sl.No	Name of the Shelter area	Population expected to assemble	Cereal(Kgs)	Bread(Nos)	Salt (Kgs)	Tea bags Nos.	Sugar (Kg)	Oil (Lts)	Milk (Lts)	Vegetable (Kg)	Pulses(kgs)	Plates & Tumblers (Nos.)
1.	Sushil Hari Residential school, Kelambakkam.	4500	1395	2250	46	9000	90	92	479	812	137	4500
2.	Govt. Higher secondary school, Thiruporur (Boys)	3000	930	1500	31	6000	60	61	320	541	91	3000
3.	Govt. Higher secondary school, Thiruporur (Girls)	1800	558	900	18	3600	36	37	192	325	55	1800
4.	Ramakrishna girls Higher secondary school, Chengalpattu	1800	558	900	18	3600	36	37	192	325	55	1800
5.	St. Joseph HS school Chengalpattu	3000	930	1500	31	600	60	61	320	541	91	3000
6.	GVR Matriculation school, Kadapakkam	300	93	150	03	600	06	06	32	54	09	300
7.	Govt. HS school, Sothupakkam	1000	310	500	10	2000	20	20	107	180	30	1000
8.	Adiparasakthi Matriculation HS school, Melmaruvathur	5000	1550	2500	51	10000	100	102	533	902	152	5000
9.	St. Marys Matriculation high school, Cheyyur.	1300	403	650	13	2600	26	26	138	234	39	1300
10.	Govt. Girls higher secondary school, Cheyyur	600	186	300	06	1200	12	12	64	108	18	600
11.	Govt. Boys High school, Marakkonam	1800	558	900	18	3600	36	37	192	325	55	1800
12.	P.K Govt. Higher secondary school, Kadapakkam	2200	682	1100	22	4400	44	45	234	397	67	2200
	Total	27630	8153	13150	267	47200	526	536	2803	4744	799	27630

Sector – I

Sl.No	Name of the Shelter area	Population expected to assemble	Cereal(Kgs)	Bread(Nos)	Salt (Kgs)	Tea bags Nos.	Sugar (Kg)	Oil (Lts)	Milk (Lts)	Vegetable (Kg)	Pulses(kgs)	Plates & Tumblers (Nos.)
1.	St. Mary's HS school, Chengalpattu	6000	1860	3000	61	12000	120	122	639	1082	182	6000
6	As no specific shelter area is given for Pudukattinam, the shelter areas to be distributed from the table-	2200	682	1100	22	4400	44	45	234	397	67	2200
7	Sushil Hari International school, Kelambakkam.	4500	1395	2250	46	9000	90	92	479	812	137	4500
10	St. Joseph HS school, Kovalam.	6000	1860	3000	61	12000	120	122	639	1082	182	6000
14	St. Marys Matriculation high school, Kadapakkam	4500	1395	2250	46	9000	90	92	479	812	182	4500
20	St. Marys Matriculation high school	1300	4029	650	13	2600	26	26	138	234	39	1300
22	Govt. Higher secondary school. Cheyyur.	1300	4029	650	13	2600	26	26	138	234	39	1300
	Total	25800	15250	12900	262	51600	516	647	2746	4653	828	25800

Table-12.4.5**ABSTRACT OF SECTOR WISE REQUIREMENT OF THE ESSENTIAL
COMMODITIES**

Sl. No.	Sector	A	B	C	D	E	F	G	H	I	Total
1.	Population	20950	11670	17500	15950	47775	22300	15450	27630	25800	205025
2.	Cereals (Kg)	6495	3618	5392	4944	14250	6912	4789	8153	15250	63928
3.	Breads(Nos.)	10475	5835	8701	8750	23708	11150	7725	13150	12900	102394
4.	Salt (Kgs.)	213	120	176	162	486	225	156	267	262	2067
5.	Tea (Kgs.)	41900	23340	34800	31900	95550	44600	30900	47200	51600	401790
6.	Sugar (Kgs.)	419	238	348	319	956	446	309	526	516	4077
7.	Oil (Litres)	845	238	353	325	972	454	313	536	647	4683
8.	Milk (Litres)	2232	1243	852	1700	5087	2376	1644	2803	2746	20683
9.	Vegetables (Kgs.)	3777	2105	3137	2877	8616	4020	2785	4744	4653	36714
10.	Pulses	226	460	544	484	1451	677	469	799	828	5938
11.	Plates	20950	11670	17500	15950	47775	22300	15450	27630	25800	205025

Annexure –12.7.1 Administration of Stable Iodine (KIO₃)

1. General

This appendix provides guidance on administration of stable iodine intake of KIO₃ tablets [3] for protection from radio-iodine (I131 and other short lived iodine nuclide).

2. Administration of stable iodine means oral intake of KIO₃ tablets. Administration of KIO₃ tablets should be done as follows:

- a. All individuals above the age of 12 years:
 - 170 mg (KIO₃) – as soon as possible
 - 85 mg (KIO₃) – second and third day only;
 - 170 mg (KIO₃) – repeat after two weeks, if required (based on assessment).
- b. Pregnant women and children of age 3 to 12 years; 50 % of quantities given in (a)
- c. Children under the age of 3 years:
 - 25% of quantities given in (a) above.

3. Time of administration of stable iodine is important for thyroid dose reduction. The reduction factors are given below:

Time of Stable Iodine Administration	Dose Reduction %
Before exposure	100
1 hr after exposure	80
6 hrs after exposure	50
1 day after exposure	negligible

4. For inhalation exposure, decision should be taken to administer stable iodine as soon as possible depending on the assessed potential and estimated quantity of radio-iodine release.

5. Administration of stable iodine prior to intake through ingestion route is as effective as for inhalation route.

Annexure – 12.7.2

Locations of Stable Iodine Tables in and around Kalpakkam DAE Centre

Sl.No	Unit / PHC	No. of tablets	Target Users
	Off-site		
1.	Primary Health Centre, Sembakkam	6000	Public
2.	Primary Health centre, Thiruporur	6000	Public
3.	Primary Health centre, Koovathur	6000	Public
4.	Primary health centre, Nerumbur	6000	Public
5.	Primary Health centre, Sadras	18000	Public
6.	DAE Hospital, Kalpakkam	5000	Public
7.	Environmental Survey Lab	1500	Site Personnel
8.	Off-Site Emergency Control Centre	4000	Site Personnel
	Sub-total	52500	
	Site		
9.	KARP/WIP	3000	Site Personnel
10.	FBTR	1000	Site Personnel
11.	IGCAR (FBTR, RML, RDL, RCL and HASL)	6000	Site Personnel
12.	BHAVINI, Kalpakkam	4000	Site Personnel
13.	On Site Emergency Support Centre	2000	Site Personnel
14.	MAPS shelter areas (1000x4=4000)	4000	Site Personnel
15.	MAPS First Aid centre	1000	Site Personnel
16.	Stock available with Secretary, KEC	500	Site Personnel
17.	PRP, DAE Centre	500	Site Personnel
	Sub-total	22000	
	Total	74500	

Annexure-12.11.1

Notification by site emergency director to ro/ic on declartion of off-site emergency at Kalpakkam Dae Centre Fax/Email Message

From :	To :	Fax No.	Email ID
Site Emergency Director (SED) (Station Director, MAPS) FAX: 044-27480060/ 27480314 Email: secc@igcar.gov.in	District Collector, Chengalpattu (RO/IC)	044-27427413	collrcpt@nic.in, decocopt1077@gmail.com
	CC:		
	NREMC, AERB	022-25572993	nremc@aerb.gov.in
	CMG-DAE-ECR	022-22830441	daeecr@dae.gov.in
	Alternate CMG-DAE-ECR	022-25991080/ 25993350	vsbecr@npcil.co.in
	CMD-NPCIL	022-25557278	cmd@npcil.co.in

THIS IS AN EXERCISE ONLY (To be added in case of exercise)

“Plant conditions at Madras Atomic Power Station Unit- which had led to declaration of Site Emergency at Kalpakkam DAE Site has further deteriorated and there is a potential for radioactive release in public domain / radioactive release has occurred in public domain (strike out if not applicable).

Hence, Off-Site Emergency has been declared at _____ (Time) of _____ (Date) at Kalpakkam DAE Centre.

Plant conditions of the affected unit(s):

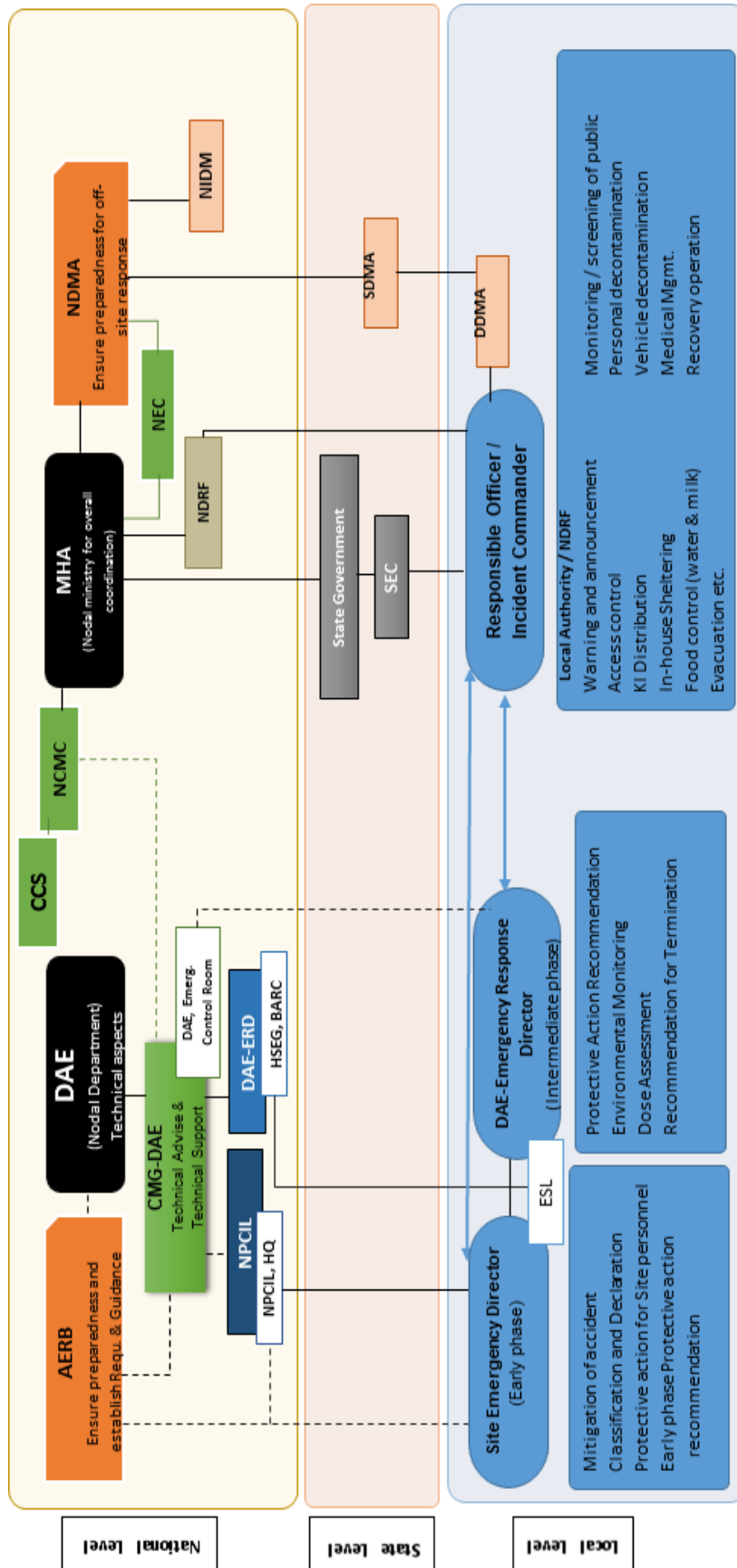
This is to issue notification of off-site emergency at Kalpakkam DAE Centre.

It is also advised to carry out early warning to people for staying indoor and avoid consumption of open food and water in the affected areas mentioned below.

Date	Time	Plume is towards	Affected Sector & Villages

Site Emergency Director
(Station Director, MAPS)

Annexure-12.11.1 Communication & Coordination Flow Diagram for Offsite Emergency



This represents merely the institutional pathways for coordination, decision-making and communication for management nuclear emergency and does not imply any chain of command.

COMMUNICATION PROTOCOL BY DDMC DURING OFF-SITE EMERGENCY

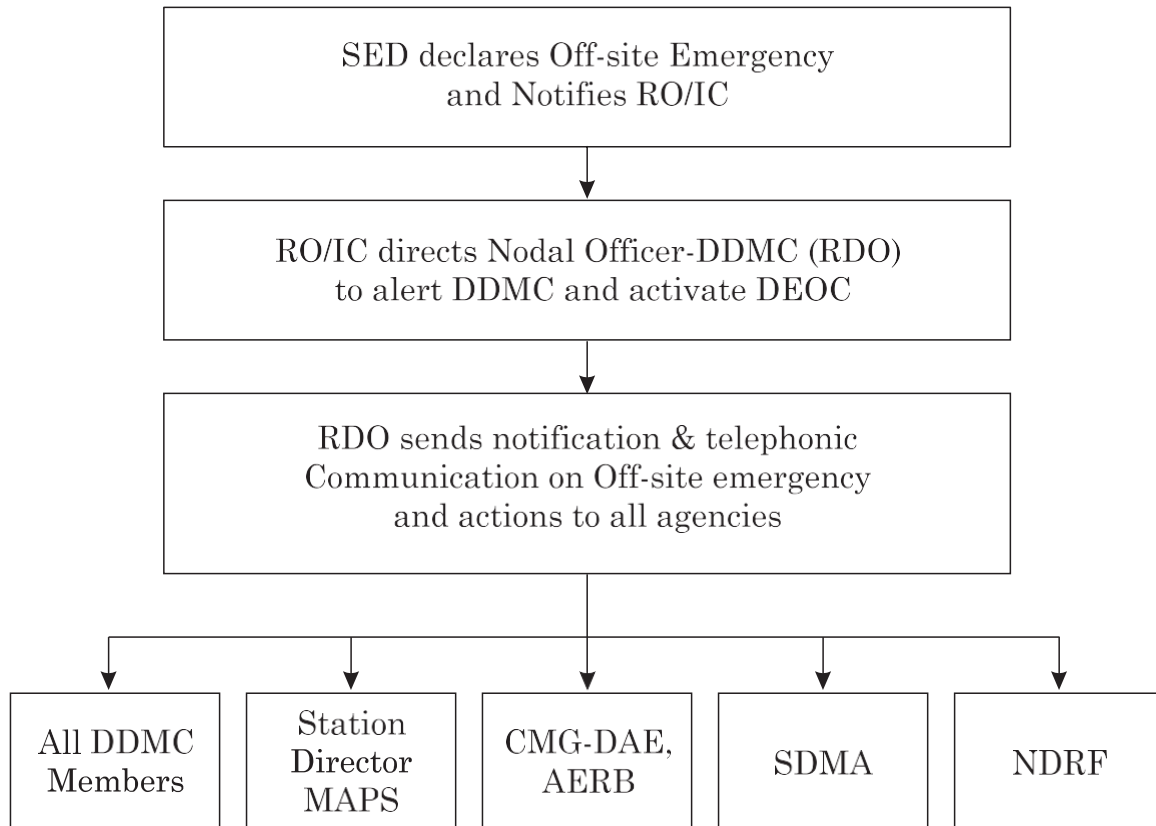


Table-12.11.1**District officials/agencies that will be intimidated by
DEOC/DDMC and will respond to offsite Emergency**

Sr. No	Name	E-mail ID	Telephone Office
1	SDMA	com-ra@tn.nic.in, tnstateoc@gmail.com	
2	NDRF	tn04-ndrf@nic.in	04177-246594
3	DAE KALPAKKAM		
4	Control Room, MAPS (24 x 7)	-	Tel 044-2748 0291 Fax 044-2748 0314
5	Site Emergency Control Centre,IGCAR (0900-1700 hrs)	-	Tel 044-2748 0267 Fax 044-2748 0060
6	DAE Emergency Control Room(24 x 7)	daeecr@dae.gov.in	Tel 022-2202 3978 Fax 022-2283 0441

PREPARDNESS AND RESPONSE FOR COVID 19 PANDEMIC

11.1 COVID 19 PANDEMIC

The **COVID-19 pandemic in India** is a part of the worldwide pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first case of COVID-19 in India, which originated from China, was reported on 30 January 2020. Daily cases peaked mid-September with over 90,000 cases reported per-day, dropping to below 15,000 in January 2021. A second wave beginning in March 2021 was much larger than the first wave.

11.2 DECLARATION OF COVID 19 AS NATIONAL DISASTER

The central government on 14 march 2020 declared COVID-19 as a national 'disaster. Declaring the pandemic as a natural calamity enabled the states to use money in the State Disaster Response Fund, constituted under the Disaster Management Act 2005, to provide monetary help to affected individuals. Additional aid is provided to the states from the National Disaster Response Fund.

11.3 SPREAD OF COVID19 IN CHENGALPATTU DISTRICT

Lying south of the state capital, Chengalpattu emerged as a district witnessing a surge in coronavirus cases, after its proximity to Chennai made it easy for the virus to spread to the peripheral areas. Places like Pammal, Pallavaram, Pozhichalur, Tambaram that come under the Chengalpattu district have seen a consistent spike in COVID 19 cases since May 18. The first phase of covid 19 spread in the district lasted from the months of march 2020 to august 2020. The number of cases in the district started to decline from the months of October. The phase 2 of covid 19 spread was witnessed in the district from the months of may 2021.

11.4 PREPARDNESS

The District administration along with the various departments like health, local bodies have formed various teams to prepare for the handling of the covid19 spread in the district. The various strategies used in preparing for handling the crisis and to reduce the spread of the disease are discussed below:

11.4.1 TESTING FACILITIES

Testing facilities were imperative in the response against covid19 spread in the district. The testing facilities were increased in the district to enable effective and quick testing of covid 19 in the district. As per the protocol set by the ICMR and the state, patients with Severe Acute Respiratory Illness (SARI) are tested for COVID-19. Their contacts are traced and quarantined, tested if they develop symptoms. If they are a high-risk contact, they are tested even if they are asymptomatic. International travel passengers and passengers from other states are tested and quarantined till their results come. If found positive, they are moved to hospitals. Health care workers are tested if they show symptoms.

The Standard Operating Procedure (SOP) by Health & Family Welfare Department guides the medical staff in the clinical assessment of suspected COVID-19 patients. Any patient arriving with a fever, cough and difficulty in breathing is screened to determine if they are a suspect for COVID-19.

A *suspect case* is one of the following:

- A patient with acute respiratory illness (fever and at least one sign/symptom of respiratory disease), and a history of travel to or residence in a country/area or territory reporting local transmission of COVID-19 disease during the 14 days prior to symptom onset;
- A patient/Health care worker with any acute respiratory illness and having been in contact with a confirmed COVID-19 case in the last 14 days prior to onset of symptoms;
- A patient with severe acute respiratory infection and requiring hospitalization;
- A case for with inconclusive COVID-19 test result.

Once a patient is suspected of COVID-19, their pulse, respiratory rate, blood pressure and oxygen saturation are checked and their samples are collected for testing. The guideline defines mild and moderate-severe as follows:

TESTING FACILITIES IN CHENGALPATTU DISTRICT	Govt	Private	Total
No of testing centres	4	33	37
Capacity for testing	6000	17800	23800

11.4.2 AUGUMENTING OF INTERIM COVID CARE CENTRES AND COVID CARE CENTRES

The covid19 positive patients were treated in ICCC and CCC based on the severity of infection and through following of various treatment protocols prescribed by the department of health and family welfare

Name of theCentre	Earmarked COVID beds in ICCC & CCC
Acharapakkam	30
Sadras	30
Idaikalinadu	30
Nandhivaram	30
Kelambakkam	30
Zamin Endathur	30
Medavakkam	30
Lathur	30
ICCC Total	240
National institute of siddha	100
Thaiyur TNCWWB Dormitory	1000
Bharath Arts and science College hostel	250
SRM	600
Dr.Rela Institute and Medical centre	20
Anupuram Kalpakkam	120
Thandarai Azan College	150
Andal Azhagar College	200
Susrutha Integrated Fertility Maternity and Surgical Centre	6
Dhanvanth clinic	20
CCC Total	2466

11.4.3 INCREASING OXYGEN BEDS IN COVID HOSPITALS

The need for oxygen supply for patients infected with covid as prescribed by the treatment protocols requires the increasing of beds with oxygen supply in the district. Also 50% of beds in all the hospitals in the district were earmarked for covid treatment.

Total Covid Hospitals and CHC & Beds Capacity as on 25.06.2021 in Chengalpattu district

Name of the Centre	ICU BEDS	OXYGEN BEDS	OTHER BEDS	Total
Chengalpattu Medical College	165	360	155	680
Bharath Medical College and Hospital, Selaiyur	60	40	50	150
Chettinad Super Speciality Hospital, Kelambakkam	80	200	120	400
Karpaga Vinayaka Institute of Medical College,	5	70	210	285
Melmaruvathur Adhiparasakthi Hospital	100	125	150	375
Sree Balaji Medical College and Hospital, Chrompet	25	85	490	600
Sri Sathya sai Hospital, Ammapettai	2	25	370	397
SRM Medical College Hospital, Potheri	40	150	410	600
Tagore Medical College and Hospital, Rathinamangalam	16	45	349	410
TB, Sanatorium	0	355	145	500
Chrompet GH	5	45	0	50
Madurantakam GH	0	25	0	25
Thirukazhukundram GH	0	0	15	15
Mahabalipuram GH	0	0	12	12

Name of the Centre	ICU BEDS	OXYGEN BEDS	OTHER BEDS	Total
Thiruporur GH	0	0	15	15
Cheyyur GH	0	10	10	20
Dr.Rela Institute and Medical Centre, Chrompet	20	80	0	100
Gleneagies Global Health City, Perumbakkam	32	63	0	95
Hindu Mission Hospital, Tambaram	16	92	20	128
Annai Arul Hospital,	5	20	0	25
Parvathy Hospital, Chrompet	7	43	26	76
Chennai Emergeny Care Centre,Pammal	1	11	4	16
Sudar Hospital, Selaiyur	6	35	0	41
Sugam Hospital, Chrompet	10	23	12	45
Kasthuri Hospital, Tambaram	3	34	0	37
One Health Hospital, Vandalur	10	11	4	25
Christudas Orthopaedic Speciality Hospital	4	15	26	45
Daisy Hospital, Chrompet	2	12	0	14
Das Nursing Home, Pozhichalur	4	4	2	10
Deepam Hospital, West Tambaram	5	20	5	30
Kathir Memorial Hospital,	4	10	4	18
KMS Health Centre Pvt Ltd, Chrompet	1	30	9	40
KMS Health Centre Pvt Ltd, Selaiyur	3	22	5	30
Lakshmi Nursing Home, Pallavaram	0	0	17	17
RKP Hospital, Nanmangalam	10	26	0	36
Sai Fertility Centre & Hospital	1	12	15	28

Name of the Centre	ICU BEDS	OXYGEN BEDS	OTHER BEDS	Total
Chengalpattu				
TCS Health Centre, Siruseri	0	0	40	40
Unittas Hopsital	5	12	10	27
Madha Pitha Hospital	5	6	4	15
Shri Maruthi Multispeciality Hospital	4	2	4	10
Andal Amman Hospital	2	9	12	23
Annai Therasa Multispeciality Hospital	5	10	10	25
Total	663	2137	2730	5530

11.4.4 HOUSEHOLD FEVER SURVEILLANCE

Household fever surveillance is conducted in the district by health care workers, anganwadi workers and volunteers. The household fever surveillance helps in the effective monitoring of the quarantined covid cases in the district and also helps in identifying clusters early on to improve containment measures to reduce the spread of the disease.

11.4.5 FEVER CAMPS

These fever camps aim to increase the access to COVID-19 testing and to enable early detection of COVID-19 patients. Early detection also helps in isolating people, preventing spread and providing them with proper diagnosis and treatment.

11.4.6 LOCKDOWN ENFORCEMENT

The Government of Tamilnadu have from time and again imposed various restrictions to curb the spread of covid19 disease in the state. The restrictions and other standard operating procedures are being enforced by the District administration by forming teams including officials from revenue department, health department and local bodies.

11.5 RESPONSE

The Response for the covid19 spread in the district is directed towards the treatment of the affected individuals as well as ensuring the curtailing of further spread of the disease.

11.5.1 TREATMENT OF POSITIVE CASES

COVID-19 patients in the state are treated in four categories of facilities — severe cases require hospitalisation, moderate cases are admitted to 'health centres' and mild cases are accommodated at 'care centres'. The remaining asymptomatic cases are required to remain in home quarantine.

Mild cases are admitted to standard isolation while moderate to severe are taken to critical care unit (CCU) regardless of the test result. If the results arrive positive, they are treated as per the SOP.

The contacts of the confirmed COVID-19 patients are identified and isolated.

Classification of patients prior to testing

Mild	Moderate to Severe ^[a]
<ul style="list-style-type: none"> • Pulse below 100 per minute • Respiratory rate below 20 per minute • Oxygen saturation (SpO₂) more than 94% • Systolic BP more than 90mm Hg • Diastolic BP more than 60mm Hg 	<ul style="list-style-type: none"> • Pulse above 100 per minute • Respiratory rate above 20 per minute • Oxygen saturation (SpO₂) less than 94% • Systolic BP less than 90mm Hg • Diastolic BP less than 60mm Hg

11.5.2 CONTACT TRACING

A contact is someone who had either provided direct care without proper personal protective equipment (PPE) for a COVID-19 patient; stayed in the same close environment of a COVID-19 patient including workplace, classroom, household, gatherings or travelled in close proximity with a symptomatic person who later tested positive for COVID-19. The contacts are classified into two based on the following.

Low risk contact	High risk contact
<ul style="list-style-type: none"> • Shared the same space such as same class for school/worked in the same room/similar without having a high-risk exposure to a confirmed or suspect case of COVID-19; • Travelled in the same environment (bus/train/flight/any mode of transit) but not having a high-risk-exposure. 	<ul style="list-style-type: none"> • Touched body fluids of a patient; • Had direct physical contact with the body of a patient including physical examination without proper PPE; • Touched or cleaned the linens, clothes, or dishes of a patient; • Lives in the same household as a patient; • Anyone in close proximity (within 3 ft) of a confirmed case without precautions; • Passenger in close proximity (within 3 ft) of a conveyance with a symptomatic person who later tested positive for COVID-19 for more than 6 hours.

High risk-contacts are tested within 5–14 days of coming into contact. Others undergo testing if they develop symptoms. If they don't develop symptoms, they are cleared to leave isolation after 28 days.

11.5.3 CONTAINMENT

Health department , police department and local bodies are used in the effective implementation of containment zones.

If a street records more than three COVID-19 cases, it is designated as a containment zone and the entire street is sealed. If a containment zone does not have positive cases for at least 14 days, it can be denotified. Houses inside the containment zones are and disinfected every day. Fever camps and door-to-door screening are also carried out in the identified hotspots.

Government launched a mobile application to allow people under home quarantine to interact healthcare professionals for getting medical advice and counselling. passengers who had returned from affected countries are being monitored under 28 day home quarantine.

Focus volunteers were used in the containment zones to monitor the quarantined individuals as well as to deliver essentials to the people who are quarantined.

11.5.4 SANITATION MEASURES

The local bodies and health department have been entrusted with effective sanitation of places of public gathering including bus terminals, hospitals, primary health care centres, markets. The sanitation is also effectively carried out in the containment zones to prevent the further spread of the disease.

11.5.5 WAR ROOM – UNIFIED COMMAND CENTER

The district unified command centre seeks to improve bed management by real-time tracking of vacant beds at hospitals. It will provide support to manage COVID-19 bed capacity and ensure the availability of oxygen in both government and private hospitals. It is a round the clock facility at district-level where guidance to patients on admissions in hospitals are provided. Various teams consisting of revenue department officials , health officials and counselling providers are formed to provide round the clock monitoring and guidance at the war room.

“ code red” is defined as a verified patient with respiratory distress and oxygen saturation below 80% whose immediate admission and resuscitation is an absolute necessity to save life. Nodal officers are established at the private hospitals to facilitate patients referred under code red and to provide for immediate admission.

DISTRICT UNIFIED COMMAND CENTRE

LANDLINE : 044-27427412/27427414

TOLL FREE: 1800 425 7088

MOBILE 7200606744, 7200606486, 7200606674

11.6 PREVENTION AND MITIGATION

The covid 19 pandemic is a wide spread disaster creating havoc in the entire world. The infectivity of the virus is very high compared to the other strains of corona virus, making its spread quicker and more intense. The prevention and mitigation works are focussed on both long term and short term measures to prevent the spread of the disease. The various measures are discussed below:

11.6.1 AWARENESS CAMPAIGNS

The District administration along with the other departments such as health, police and local bodies have conducted awareness campaigns in public places such as markets, bus terminals and other places of public gathering . The awareness campaigns including loud speaker announcements, conducting of fever camps, providing of masks to people, setting up of wash basins to improve hand washing practices amongst public. The awareness also included encouraging people to attend the fever camps conducted at their locality and to encourage vaccination.

11.6.2 ENFORCEMENT OF COVID GUIDELINES

The various guidelines stipulated by the state government for containing covid19 spread was effectively enforced. Levying of fine for not adhering to wearing mask, inspections of commercial and other establishments to ensure adherence to Standard operating procedures, levying fines and temporary closure of establishments that violate the standard operating procedures were carried out.

11.6.3 VACCINATION

Vaccination is considered an effective strategy against the spread of covid19. The district administration along with the health department and local bodies have conducted vaccination drives at specific locations apart from the vaccinations administered at hospitals and primary health care centres. Effective steps are taking to ensure vaccine availability at the district. The vaccination is done to various categories of individuals including health care workers, front line workers, persons above 18 years, persons with disability.

11.6.4 IMPLEMENTATION OF STANDARD OPERATING PROCEDURES

The state government has from time and again provided various standard operating procedures including SOPs for stranded immigrant labourers, pilgrims and students, air passengers, hospitals, shopping malls, shops and other commercial establishment, shopping malls, train passengers and students. The District administration has conducted various meetings and reviews with the stakeholders to ensure implementation of SOPs . Effective enforcements through inspections have also been carried out.

11.6.5 MASK ADHERENCE AND SOCIAL DISTANCING

Tamil Nadu Government's Health and Family Welfare Dept had issued Standard Operating Procedures for social distancing for offices, workplaces, factories and establishments in April 2020. These SOPs provided measures regarding disinfecting, transport of people, gatherings, guidance on use of common spaces, lifts and others. Social distancing is being enforced as per contextual needs of various kinds of organisations. The district administration has taken up effective measures to create awareness to the importance of mask adherence and maintainng social ddistancing.

11.7 WAY FORWARD

COVID-19 has impacted nations across the world, disrupting lives, economies and societies. The way ahead to recovery planning is to rethink approaches and mainstream COVID-19 response into development planning across sectors.

Creating awareness amongst the people towards Behavioural changes that emphasis on the personal hygiene is the effective way to control the spread of covid 19 disease in the long term.

There is a need for prioritizing the COVID-19 prevention and control in informal settlements, to assess the community risk perception, and thought process to enable community-based public health emergency preparedness and risk informed policy making in future.

Multi-hazard preparedness with a focus on health needs to be integrated across sectors. Risk assessments and risk preparedness should emerge as a culture for next generations to enable better management of disasters and public health emergencies.

Documentation of best practices, creating knowledge platform for lessons-learning will promote an inclusive, participatory and well-informed preparedness strategies

FINANCIAL ARRANGEMENTS

12.1 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 requirement.

12.2 FOURTEENTH FINANCE COMMISSION

The Fourteenth Finance Commission (FFC) has acknowledged the present arrangements as regards financing of Disaster Management with reference to the National Calamity Contingency Fund and the Calamity Relief Fund and the funds envisaged in the Disaster Management Act, 2005 (Act 53 of 2005) and has recommended that up to 10 percent of the funds available under the SDRF can be used by a State for occurrences which State considers to be 'Disasters' within its local context and which are not in the notified list of disasters of the Ministry of Home Affairs. The FFC has also recommend to expedite the development and scientific validation of the Hazard, Vulnerability and Risk Profiles of States.

As per Commission's recommendation, the contribution to the SDR Fund should be shared between the Centre and States in the ratio of 75:25 for general category States .

12.3 RESPONSIBILITIES OF THE STATE DEPARTMENTS AND AGENCIES

It is mandatory and incumbent on departments to identify specific budget heads to cover activities identified as disaster management specific to the departments.

All State Government Departments, Boards, Corporations, PRIs and ULBS will prepare their DM plans, including the financial projections to support these plans. The necessary financial allocations will be made as part of their annual budgetary allocations and ongoing programmes. They will also identify mitigation projects and project them for funding in consultation with the SDMA/DDMA to the appropriate funding agency. The guidelines issued by the NDMA vis-a-vis various disasters may be consulted while preparing mitigation projects.

12.4 STATE GOVERNMENT FUNDING

As Stated in the section (48) of the DM Act 2005, the State Government shall establish for the purposes of the Act the following funds:

1. **State Disaster Response Fund:** This fund will be constituted and made available to the SEC for meeting the expenses for emergency response, relief and rehabilitation.
2. **District Disaster Response fund:** This fund will be constituted and made available to the District Disaster Management Authority for meeting the expenses for emergency response, relief and rehabilitation.
3. **State Disaster Mitigation Fund:** This fund will be constituted and made available to the SEC for meeting the expenses on mitigation activities.

4. District Disaster Mitigation Fund: This fund will be constituted and made available to the District Disaster Management Authority for meeting the expenses on mitigation activities.

State Disaster Response Fund

The SDRF fund is constituted jointly by GOI and State Government in the ratio of 75:25

12.5 CENTRAL GOVERNMENT FUNDING

The National Disaster Response Fund (NDRF) have been made available to the National Executive Committee (NEC) to be applied towards meeting the expenses for emergency response, relief and rehabilitation in accordance with the guidelines laid down by the Central Government in consultation with the National Authority.

- Project funds from Government of India
- State special funds
- State Development fund
- Departmental specific project funds
- Project fund/ soft loans from International agencies

The DM Act 2005 has mandated upon the Government to ensure that the funds are provided by the Ministries and Departments within their budgetary allocations for the purpose of disaster management. The Act has stressed upon the need for mainstreaming of the Disaster Risk Management by way of making definite budgetary arrangements for the purpose by the respective Ministries and Departments within their overall agenda.

The Finance Ministry, Government of India, in their Guidelines for Flexi Funds within Centrally Sponsored Schemes (CSS) (copy enclosed) dated 06-09-2016 have also Stated that the Flexi Fund component within Centrally Sponsored Schemes can be used to undertake mitigation/restoration activities in case of natural calamities.

Long Term Disaster Mitigation includes Disaster Risk Reduction and Climate Change Reversal activities by creating new infrastructure as well as regular maintenance of the existing and the newly created infrastructure for sustainable risk reduction.

Considering the above points, it has been decided to approach Long term Disaster Mitigation with the following strategy.

- i) Flexi Fund component within Centrally Sponsored Schemes. It can be used to undertake mitigation/restoration activities for risk reduction in accordance with the Guidelines framed by Finance Ministry Government of India for utilization of Flexi Funds within Centrally Sponsored Schemes (CSS).
In respect of the above, the State Relief Commissioner will identify disaster risk reduction needs of vulnerable areas and send it to Secretaries of the respective administrative departments to enable them to channelize funds for addressing the disaster risk concerns within the scope of individual projects/programmes.
- ii) long term Disaster Risk Reduction through project-based funding by the State Government
 - a. The Government of Tamil Nadu will allocate funds to the State Relief Commissioner and Commissioner of Revenue Administration for preparation of detailed project reports aimed at Disaster Risk Reduction.
 - b. The projects will be recommended and placed by the State Relief Commissioner and Commissioner of Revenue Administration before the State Executive Committee for being funded by the State Government.
 - c. The SEC will also decide to pose select projects for External Assistance.

- iii) The funds provided annually for Northeast Monsoon preparedness to various departments.
 - a. The funds will be placed at the disposal of the State Relief Commissioner and Commissioner of Revenue Administration.
 - b. The departments will send the proposals for mitigation of disaster risk reduction to the SRC& CRA.
 - c. The SRC&CRA will allocate funds to different departments based on the proposals received

BUILD BACK BETTER

13.1 APPROACH

Tamil Nadu is one of the few States that addresses the long-term concerns of the Community by not only building resilient infrastructures but also by improving access to services, imparting new skills, strengthening livelihood security and expanding services with well-coordinated actions as part of the Build Back Better strategies.

The process of “Building Back Better” starts with the commitment to deliver the best with the available resources and also by accessing international funding & implementing the Projects within specified time limits.

The Build Back Better strategies adopted by Tamil Nadu instill confidence in the communities which were psychologically traumatized and economically devastated due to unprecedented disasters.

The activities and measures initiated under build back better strategies focus on prevention and mitigation of disaster risks.

As a part of build back better strategies and experience gained during the past disasters, Government of Tamil Nadu undertook need assessment in a post-disaster scenario, taking into account not only the damages that have been caused to the infrastructure, losses Incurred by the community but also design interventions needed through a detailed assessment carried out by different agencies encompassing Housing, Industry, Public Infrastructure, Health, Agriculture and – other sectors.

Based on the needs assessment, projects are undertaken with a special focus on risk-proofing the housing infrastructure of the vulnerable sections and enhancing livelihood opportunities and resilience of the community.

In addition, the infrastructure of different sectors is built back better. The core philosophy principle of Building Back Better is deeply ingrained in all the project designs and interventions.

13.2 THE COMPLETED MAJOR PROJECTS

In the recent past and on-going for the purpose of rehabilitation and reconstruction of Housing, Public Infrastructures, Livelihood systems to enhance

the resilience of the community and also for Disaster Risk Reduction are detailed below:-

13.2.1 TSUNAMI REHABILITATION

The Government of Tamil Nadu implemented a number of projects one after the other to rehabilitate the Tsunami affected areas. The Emergency Tsunami Rehabilitation Project (ETRP), Tsunami Emergency Assistance Programme (TEAP), Vulnerable Reduction to Coastal Communities (VRCC) Rajiv Gandhi Rehabilitation Package Aided by Government of India and currently the Coastal Disaster Risk Reduction Project (CDRRP) have addressed various aspects such as Housing, Livelihood, of the Tsunami affected areas and the community Shelters, Fisheries infrastructures, Reclamation of agricultural lands, Reconstruction of Public Infrastructures, Community Based Disaster Risk Management etc.

13.2.2 Multi Hazard Resistant Houses

All the houses were designed as Multi- Hazard Resistant, with cyclone and earthquake proof features. The plinth area of each house was 325 sq ft with a hall, bedroom, kitchen and toilet and met the expectations of the community. All the houses were provided with rainwater-harvesting structures.

Fly ash bricks were used in construction, which is stronger and eco-friendlier than the common red bricks. In bigger settlements, Common Effluent Treatment Plants were established. Pattas for the houses were given in the joint name of husband and wife.

All the houses were provided with a staircase which served many purposes, like a safety provision to run to a higher level in case of another calamity, an open space to dry their fish, etc.

It will also be very useful to them when they construct the first floor in future. The habitations were developed with adequate space to enable easy evacuation at times of emergencies, with amenities of permanent nature and with suitable rainwater harvesting. As a precautionary step against future natural calamities, bio-shields in major re-settlements and near all the existing habitations were taken up.

The reconstructed houses post Tsunami have withstood the fury of Thane cyclone (which was historical) and the floods of December 2015.

The houses were safe and the provision of the staircase had created additional space to move to the higher level in case of inundation due to flood. This bears testimony to the Build Back Better policy which the Govt of Tamil Nadu have been following consistently.

13.2.3 Livelihood support for the fisherman:

Fishing is the most obvious activity along the coast and is the major livelihood of the Tsunami affected coastal communities. About 90% of the population in these coastal villages are engaged in fishing and fisheries related activities and the remaining 10 percent are engaged in agriculture, livestock and microenterprise.

The destruction and damages of livelihood assets, equipment and infrastructure due to tsunami has impacted the livelihood of the fishermen in particular and the coastal community in general. Multipronged strategies were adopted to restore the livelihood opportunities, which inter alia includes asset replacement, skill up-gradation,, alternate employment opportunities to diversify into non-fisheries activities to tide over off season and low catches.

13.2.4 Strengthening Fisheries Infrastructure

The fisheries sector and the communities dependent on fishing are the most vulnerable to natural disasters, climate change and the degradation of the marine environment. The Fisheries sector provides livelihood, not only to a large community of fisher-folk engaged directly in fishing activity, but also to a much large population engaged in selling, transporting, processing and other fisheries related activities.

13.2.5 Reclamation of Agricultural Lands

The farmers also suffered a massive set back due to the devastation of the tsunami. Submergence of land by sea water led to the top soil being eroded and an alarming increase in salinity making the lands unfit for cultivation. The treatment package sanctioned by the Government included application of soil ameliorants like gypsum for reclamation of salt affected soils, raising salt tolerant crops with appropriate land management and agronomic practices.

13.2.6 Reconstruction of Public Infrastructure

The wrath of the tsunami was severely inflicted upon the public infrastructure. Besides causing severe damage to Roads & Bridges irreparable damage was caused to Government buildings, Water and Sanitation facilities as well. The Government, with the assistance of Asian Development Bank and World Bank, reconstructed the damaged public infrastructure.

13.3 The major infrastructure that was Built Back Better includes the Multi- FLOOD REMEDIAL WORKS TAKENUP BY WATER RESOURCES DEPARTMENT

Purpose Evacuation Shelters. While rebuilding damaged infrastructure, new critical infrastructure that had been missing earlier were also thoughtfully built. This included community halls, Public Distribution systems (PDS), activity centres for fishermen, upgrading water supply, roads and sanitation systems, Cyclone Resilient Electrical Network and restoration and rehabilitation of damaged school buildings.

13.2.7 Mission on Sustainable Dry Land Farming

The Mission on Sustainable Dry land Agriculture (MSDA), focuses on improving the production and productivity of millets, pulses, oilseeds and cotton in an extent of around 25 Lakh Acre of dryland in a phased manner from 2016- 17 to 2019-20, for which an amount of Rs.802.90 Crore has been sanctioned. The programme is being implemented on a cluster approach with participation of farmers and the major activities include construction of water harvesting structures, adoption of new agronomical interventions, value addition to fetch remunerative returns to the dry land farmers. It is proposed to establish 1000 dry land clusters of 1000 Ha. each, during the project period of four years with Primary Agricultural Credit Cooperative Societies as the focal unit for each cluster. Cluster-wise Crop area has been identified and the Cluster Development Team and Block Level Team have been formed to take up the following activities:-

- & Financial assistance will be extended to the entry point activities like creation of water harvesting structures viz., Farm ponds, Percolation ponds, community ponds and check dams.
- & Financial assistance for Land development activities viz., summer ploughing.

& Agronomical assistance at 50% subsidy will be extended for distribution of short duration, drought-resistant seeds of Pulses, Millets, Oilseeds and Cotton.

Each nodal Primary Agricultural Cooperative Credit Societies will extend credit for setting up Micro Enterprises such as Mini Dhal Mill, Oil expellers and Millet processing units. Financial assistance will also be extended to Farmer Producers Organisation or Farmers Club for establishing Mini Dhal Mills, Oil Expellers, Millet Processing Units, sales outlets, packaging and branding of products, so as to enhance the livelihood opportunities of the small and marginal farmers.

Unemployed rural youth will be encouraged by providing assistance with 80% subsidy per cluster for creating custom hiring centres.

13.3 FLOOD REMEDIAL WORKS TAKENUP BY HIGHWAYS DEPARTMENT CHENGALPATTU (H) DIVISION

In Chengalpattu Revenue District Government roads having a length noted against each category is being maintained by the Chengalpattu (H) C&M Division.

State Highways Roads	291.700 Km
Major District Roads	221.840 Km
Other District Roads	745.564 Km
Sugar Cane Roads (ODR)	24.400 Km
Total	1283.504 Km

Due to the onset of North East Monsoon, in Chengalpattu District there was heavy flood and there was no possibility for free flow of rain water. Due to this traffic was interrupted. This occurred due to insufficient vents of bridges and culverts. Hence, the following works were taken up under priority basis for phase- III.

The name and cost of Construction for each works are listed below Phase-III

1. Reconstruction of Box Culvert at km 0/10 of km 28/4 of Chennai - Mamallapuram road to Thazhambur H/C road Est. Amt. Rs.50.00 Lakhs
2. Reconstruction of Bridge at Km 0/4 of Semmanjeri road to DLF Road Est.Amt.Rs.325 Lakhs

In this connection the above works were taken up under Flood Mitigation Measures to Tackle Inundation of Flood water. The above works have been completed and free flow of rain water is ensured.

13.3.1 HIGHWAYS CHENNAI CITY ROADS DIVISION

Chennai city roads division of Highways Department maintains **116.03 Km** km length of roads in Chengalpattu district. All these roads are important arterial and sub arterial roads that traverse through the urban/suburban areas of Chennai with dense residential and commercial settlements on both sides of the entire length of roads.

During 2015 and 2017 monsoon, heavy rainfall was received within short duration in many occasions. As a result, the capacities of existing culverts and minor bridges became inadequate and surrounding areas got inundated. Also most of the roads were not provided with storm water drain which resulted in rainwater overflowing on the riding surface.

In order to prevent inundation of roads and surrounding areas, vulnerable locations were identified and comprehensive proposal to carry out the flood mitigation works such as conversion of pipe culverts to rcc box culverts, construction of additional vents / box culverts, construction of new culverts, construction of storm water drain to drain the surface water and to carry the water from feeder roads, construction of macro drain to dispose the surplus water from water bodies, construction of retaining wall along the roadside canals and appurtenances for pedestrian subways was submitted to the government for approval and sanction. In the past The government has scrutinized the proposal and sanctioned an amount of rs 74.02 Crores to the chennai city roads division to take up the permanent flood remedial works to eradicate inundation under comprehensive road infrastructure development programme 2018-19.

13.4 FLOOD REMEDIAL WORKS TAKENUP BY WATER RESOURCES DEPARTMENT

I. Flood Mitigation Works (Public Works Department)

**COMPLETED FLOOD MITIGATION WORKS (Announcement Works 2023-24)
G.O. Ms. No.32, Water Resources (I.Spl.2) Department, Dated.17.05.2022
in Chengalpattu District**

Sl. No.	Name of Work	Est. Amt.	Physical Progress (in %)	Remarks
1	Providing Emergency Network of Flood carrier Channel between Ottiyambakkam Channel and Madurapakkam Drain to Pallikaranai Swamp in Semmenchery and Perumbakkam Area in Tambaram, Vandalur, Sholinganallur Taluk of Chengalpattu & Chennai District. (Slice A B C and D)			
(i)	Slice A - Providing Emergency network of flood carrier Macro drain from Madurapakkam Odai through DLF Campus road at L.S. 0m to L.S.500m in Vandaloor Taluk of Chengalpattu District.	Rs.2170.00 Lakhs	Work Completed	By implementing this project the inundation in residential areas of Ottiyambakkam, Perumbakkam, Semmanchery & Arasankalani and the surrounding areas was considerably reduced
(ii)	Slice B - Providing Emergency network of flood carrier Macro drain from Madurapakkam Odai through DLF Campus road at L.S. 500m to L.S.970m in Vandaloor Taluk of Chengalpattu District.	Rs.2650.00 Lakhs		
(iii)	Slice C - Construction of Cut and Cover Macro Drain- From Madurapakkam Odai to Existing Channel (Northern Side of DLF) and Construction of Retaining wall on both side of open channel at Northern side of DLF from LS 0m - 600m in Tambaram Taluk of Chengalpattu District	Rs.2400.00 Lakhs		
(iv)	Slice D - Construction of Retaining Wall at both side of existing drain in Perumbakkam and Semmanchery village in Tambaram and Sholinganallur Taluk of Chengalpattu and Chennai District	Rs.2430.00 Lakhs		
2	Providing Macro Drain Cut & Cover for missing link of Ottiyambakkam Tank to Arasankalani Tank and link to Pallikaranai Swamp in Tambaram Taluk of Chengalpattu District. (Slice A and B)			
(i)	Slice A - Construction of Cut & Cover Macro Drain from Arasankalani velanthangal Tank to Swamp in Tambaram Taluk of Chengalpattu District.	Rs.2900.00 Lakhs	Work Completed	By implementing this project the inundation in residential areas of Ottiyambakkam, Perumbakkam, Semmanchery & Arasankalani and the surrounding areas was considerably reduced
(ii)	Slice B -Construction of Cut & Cover Macro Drain from Ottiyambakkam Surplus course Missing link to Arasankalani velanthangal Tank in Tambaram Taluk of Chengalpattu District.	Rs.3982.00 Lakhs		

**ON GOING FLOOD MITIGATION WORKS
(Announcement Works 2024-25) in Chengalpattu District**

Sl. No.	Name of Work	Est. Amt.	Physical Progress (in %)	Remarks
G.O. (Ms.) No. 541 / Revenue and Disaster Management, Disaster Management Wing, D.M II Section / Dated: 26.10.2023				
1	Formation of Cut & Cover macro drain from Irumbuliur Tank to GST Road, Peerkankaranai Flood Regulator to Irumbuliur Macro Drain, link drain from GST Road under tunnel to the Mudichur Road Cut & Cover junction in Tambaram Taluk of Chengalpattu District	Rs.9650.00 Lakhs	38%	
G.O. (Ms.) No. 16 / Water Resources (I.S.I.2) Department / Dated: 10.02.2024				
2	Construction of Cut & Cover Macro Drain from Moovarasampattu Tank to Keelkattalai Channel in Tambaram Taluk of Chengalpattu District.	Rs.3370.00 Lakhs	15%	
3	Construction of Cut & Cover along the Dargas Road from Pappan Channel to Adayar River in Tambaram Village and Taluk of Chengalpattu District	Rs.1200.00 Lakhs	5%	
4	Providing Retaining Wall for Existing Channel and Formation of Cut & Cover Macro Drain under the Existing road from Sembakkam Tank Surplus Course to Nanmangalam Tank in Tambaram Taluk of Chengalpattu District	Rs.3000.00 Lakhs	35%	
5	Construction of Additional Double Vent Cut & Cover Macro Drain from Narayanapuram Tank to Pallikkaranaai Swamp in Sholinganallur Taluk of Chennai District	Rs.4380.00 Lakhs	-	Awaited permission from Highways Department

ON GOING
2024 PREMONSOON PREPARDNESS WORKS in Chengalpattu District

Sl. No	Name of Work	Est Amount (Rs. Cr.)	Date of Commencement	Stage of Work (in %)	Remarks
1	Removal of weeds, vegetations and desilting from Kilkattalai surplus course upto Narayanapuram tank by using floating machinery, conveying & dumping the removed materinals outside the residential area by using poclain machinery tippers & labourers in Pallavaram Taluk of Chengalpattu district.	0.25	15.07.2024	40%	
2	Removal of weeds, vegetations and shoals from Nanmangalam Tank surplus course upto Kilkattalai tank, Sembakkam tank surplus course upto Nanmangalam Chitlapakkam Surplus Courses upto HRCE by using machinery conveying & dumping the removed materials outside the residential area by using poclain machinery tippers & labourers in Pallavaram Taluk and tambaram taluk of Chengalapttu district.	0.20		30%	
3	Removal of weeds Vegetation and Floating materials in Sithalapakkam Surplus course, Perumbakkam surplus course upto Swamp by using Machinery conveying and dumping the removed materials outside the residential area by using poclain machinery tippers & labourers in Tambaram Taluk of Chengalpattu district.	0.20		10%	
4	Removal of weeds Vegetation and Floating materials in Vengaiwasal Chitteri Surplus course upto Perumbakkam tank by using Machinery conveying and dumping the removed materials outside the residential area by using poclain machinery tippers & labourers in Tambaram Taluk of Chengalpattu district.	0.10	12.07.2024	80%	
5	Removal of weeds Vegetation and Floating materials in Ottiyambakkam Surplus course by using Machinery conveying and dumping the removed materials outside the residential area by using poclain machinery tippers & labourers in Tambaram Taluk of Chengalpattu district.	0.10	12.07.2024	60%	
6	Removal of weeds Vegetation and Floating materials in Madurapakkam Odai by using Machinery conveying and dumping the removed materials outside the residential area by using poclain machinery tippers & labourers in Tambaram Taluk of Chengalpattu district.	0.10	15.07.2024	35%	

7	Removal of weeds, Vegetations and Shoal of Thiruneermalai Surplus (Nattu Kalvai) Course using machinery, conveying and dumping the removed materials outside the residential area by using poclain machinery Tippers & Labourers in Pallavaram Taluk of Chengalpattu District.	0.15		55%	
8	Removal of weeds, vegetations and shoals in Pappan channel in Tambaram municipality limit upto Adayar river using conveying and dumping ther removed machinery Tippers & Labourers in Tambaram Taluk of Chengalapttu district.	0.15		10%	
9	Removal of weeds, vegetations, Floating materials and hycinth the Adayar river from downstream of Sriperumbudur road bridge to upstream of Kishkintha road birdge using machinery, conveying and dumping the removed materials outside the residential area by using poclain machinery Tippers & Labourers in Kundrathur taluk of Kancheepuram District and Tambaram Taluk of Chengalpattu district.	0.20		30%	
10	Removal of weeds, Vegetations and floating materials of Guduvanchery Surplus Course upto Mannivakkam Village Reach - I from L.S 0m to 3450m , by using macherinery, conveying and dumping the removed materials outside the residential area by using poclain machinery, Tippers & Labourers in Vandalur Taluk of Chengalpattu District.	0.20		50%	
11	Removal of weeds, Vegetations and floating materials of Guduvanchery Surplus Course Reach -II Mannivakkam Village to TVH Rear Vandalur to Valaja Road from L.S 3450m to 6450m , by using macherinery, conveying and dumping the removed materials outside the residential area by using poclain machinery, Tippers & Labourers in Vandalur Taluk of Chengalpattu District.	0.20		50%	
12	Removal of weeds, Vegetations and floating materials Nandivaram Surplus Course to Urapakkam Village from L.S 0m to 1250m and Urapakkam Channel From L.S.0 to 850m by using macherinery, conveying and dumping the removed materials outside the residential area by using poclain machinery, Tippers & Labourers in Vandalur Taluk of Chengalpattu District.	0.15		60%	
13	Removal of weeds, Vegetations and floating materials of Urapakkam Surplus Course from NH45 to Mannivakkam Supply channel from LS 2000m to 4150m by using macherinery, conveying and dumping the removed materials outside the residential area by using poclain machinery, Tippers & Labourers in Vandalur Taluk of Chengalpattu District.	0.15		50%	

14	Removal of weeds, Vegetations and floating materials of Vallancheri Surplus course to Guduvancheri Periya Eri from LS 0m to 2250m by using macherinery, conveying and dumping the removed materials outside the residential area by using poclain machinery, Tippers & Labourers in Vandalur Taluk of Chengalpattu District.	0.10		70%	
15	Removal of weeds, Vegetations and floating materials of Water weeds and floating materials in Gundur & Melamaiyur Surplus Course using macherinary, conveying and dumping the removed materials low lying area using poclain machinery, Tippers & Labourers in Chengalpattu Taluk of Chengalpattu District.	0.10		70%	
16	Removal of weeds, Vegetations and floating materials of Water weeds and floating materials in Neenjalamduvu anicut to P.V.Kalthur Tank Supply Channel from 0 to 9650m using macherinary, conveying and dumping the removed materials low lying area using poclain machinery, Tippers & Labourers in Chengalpattu Taluk of Chengalpattu District.	0.20		50%	
17	Premonsoon Prepardness, Monitoring and appurtenant work for Flood Regulator Shutter and Anicut Scour vents Adayar Zero point Head Regulator, Adanur Head Regulator, Manimangalam Flood Regulator, Mallaipattu Flood Regulator, Varadharapuram anicut, Madurapakkam Anicut, Agaramthen Tank, Seliyur Flood Regulator, Sembakkam Flood Regulator, Chitlapakkam Flood Regulator, Velachery Tank, Pallavaram Tank and Narayanapuram Flood Regulator in Kancheepuram, Chengalpattu and Chennai District.	0.15		50%	
18	Premonsoon Prepardness, Monitoring and appurtenant work for Flood Regulator Shutter and Anicut Scour vents of Neenjal Maduvu, Kolavoy Flood Regulator, Urapakkam Flood Regulator, Nandivaram Flood Regulator and Mannivakkam Flood Regulator in Chengalpattu District.	0.10		60%	
19	Desilting, Removal of Water weeds and floating materials in Thaiyur Surplus Course and Manjalnner Odai by using poclain machinery, Tippers & Labourers in Thirupporur Taluk of Chengalpattu District.	0.15		20%	

20	Desilting, Removal of Water weeds and floating materials in Navalur Surplus Course, Kazhipattur Maduvu and Katrampalli Surplus Course by using poclain machinery, Tippers & Labourers in Thirupporur Taluk of Chengalpattu District.	0.15	90%
21	Desilting, Removal of Water weeds and floating materials in Manamathy Surplus Course by using poclain machinery, Tippers & Labourers in Thirupporur Taluk of Chengalpattu District.	0.15	80%
22	Removal of Weeds, Hyacinth and Scrub Jungle in Pudupattinam Tank Supply Channel, Kollimedu Anicut, Pattarakalani Tank by using macherinery, conveying and dumping the removed materials outside the residential area by using poclain machinery, Tippers & Labourers in Thirukalukundram Taluk of Chengalpattu District.	0.10	90%

II.Flood Mitigation Works (Rural Development)

Sl. No	Name of the Block	Name of the Panchayat	Name of the Habitation	Name of the Work	Length In Meters	Estimate Amount in Rs.	Stage	
1	Thiruporur	Kelambakkam	Sathakuppam	Providing Earthen Drain @Kanchan Kutti to veerana Chennel	272	57000	Completed	
2				Providing Earthen Drain @ Veerana Chennal	800	168000	Completed	
3			Kelambakkam	Kelambakkam	Providing Earthen Drain @Kelambakkam Burial ground to B-Canal Chennel	507	105000	Completed
4				Providing Earthen Drain @ Madha Koil Street Chennel	986	208000	Completed	
5		Padur	Padur	Providing Earthen Drain @Along Padur Bye Pass Road	226	47000	Completed	
6				Providing Earthen Drain @Kazhipattur Road to Padur Arachi Lake (Kolapancheri)	351	74000	Completed	
7			Padur Colony	providing Earthen Drain @ Kazhipattur Road to	1000	221000	Completed	

				Padur Arachi Lake (Kolapancheri)			
8		Thalambur	Thalambur	Providing Earthen Drain @ Gandhi Nagar Road to Semmancherry Thangal	196	41000	Completed
9			Karanai	Providing Earthen Drain @ Ottiyambakkam Weir to Kananai Eri	650	137000	Completed
10				Providing Earthen Drain @ Karaiani Main Road to Indira Gandhi Street	379	80000	Completed
11			Thaalambur	Providing Earthen Drain @ Agani College to Thalambur Eri	1000	221000	Completed
				Sub Total	6367	1359000	

Sl. No	Name of the Block	Name of the Panchayat	Name of the Habitation	Name of the Work	Length In Meters	Estimate Amount in Rs.	Stage
1	St.Thomas Mount	Vengaivasal	RG Nagar	Providing Earthen Drain to RG nagar in Vengaivasal	1160	244000	Completed
2			Vignarajapuram	Providing Earthen Drain to Vignarajapuram in Vengavasal	1300	273000	Completed
3		Agaramthen	Kurunji nagar	Providing Earthen drain to Kurunji nagar In Agaramthen	4400	924000	Completed
4			Ambedkar nagar	Providing Earthen drain to Ambedkar nagar in Agaramthen	3600	756000	Completed
5			Sakthi nagar	Providing Earthen drain to Sakthi nagar in Agaramthen	600	126000	Completed
6		Moovarasampattu	Ragava nagar	Providing Earthen drain to Ragava nagar	1400	294000	Completed
7		Polichalur	Bharathi nagar	Providing Earthen drain to Bharathi nagar	500	105000	Completed

8			Andal nagar	Providing Earthen drain to Andal nagar	1500	315000	completed
9			Devadoss nagar	Providing Earthen drain to Devadoss nagar	450	95000	completed
10			Agatheeswarar nagar	Providing Earthen drain to Agatheeswarar nagar	800	168000	completed
11			Dhivya doss nagar	Providing Earthen drain to Dhivya doss nagar	250	53000	completed
12			Vinayaga nagar	Providing Earthen drain to Vinayaga nagar	730	153000	completed
13			Moovar nagar	Providing Earthen drain to Moovar nagar	1500	315000	completed
14			Shanmuga nagar	Providing Earthen drain to Shanmuga nagar	550	116000	completed
15			Rajeswari nagar	Providing Earthen drain to Rajeswari nagar	650	137000	completed
16			Arul murugan nagar	Providing Earthen drain to Arul murugan nagar	310	65000	completed
17			Ponnurangam nagar	Providing Earthen drain to Ponnurangam nagar	500	105000	completed
18			Lakshmi nagar	Providing Earthen drain to Lakshmi nagar	450	95000	completed
19			Nehru nagar	Providing Earthen drain to Nehru nagar	350	74000	completed

20	St.Thomas Mount	Medavakkam	Babu nagar	Providing Earthen drain to Babu nagar, Babu nagar Extention	1200	252000	completed
21			Vimala nagar	Providing Earthen drain to Vimala Nagar, Iswary Gardern, Gayathri Nagar	1904	400000	completed
22		Nanmangalam	Indira nagar	Providing Earthen drain to Indira nagar to Indira nagar 6th Street	580	122000	completed
23			Ponniyamman Nagar	Providing Earthen drain to Ponniyamman Nagar	1600	336000	completed

24			Ambedkar nagar	Providing Earthen drain to Ambetkar main Road	1500	315000	completed
25			Nehuru Nagar	Providing Earthen drain to Nehru Nagar Main road	500	105000	completed
26			Vaithiyalingam Nagar	Providing Earthen drain to Vaithiyalingam Nagar	610	128000	completed
27			Rajaji Nagar	Providing Earthen drain to Rajaji Street	530	111000	completed
28			Seenivasan Street	Providing Earthen drain to Seenivasan Street	620	130000	completed
29			Nanmangalam Village	Providing Earthen drain to Nanmangalam Chennel	300	63000	completed
30		Perumbakkam	Valluvar Nagar, Jeya Nagar	Providing Earthen drain to Valluvar Nagar, Jeya Nagar	1360	286000	completed
31			Muthamil Nagar	Providing Earthen drain to Nethaji Nagar, Muthamil Nagar, Krishnavenyammal Nagar	2360	496000	completed
32			Sri Krishna Nagar	Providing Earthen drain to Sri Krishna Nagar, Anandammal Nagar, Prabhu Nagar	3000	630000	completed
				sub Total	37064	7787000	

Sl. No	Name of the Block	Name of the Panchayat	Name of the Habitation	Name of the Work	Length In Meters	Estimate Amount in Rs.	Stage
1	Kattankolathur	Nedungundram	Puthur	Providing Earthen drain to Vignesh Avenue	520	100000	completed
2				Providing Earthen drain to Saravana Nagar	510	120000	completed
3				Providing Earthen drain to Murugan Nagar	415	110000	completed
4				Providing Earthen drain to Sheeba bagar	480	100000	completed
5			Alapakkam	Providing Earthen drain to NGO	620	130000	completed

			Nagar Phase-I, II, III			
6		Nedungundram	Providing Earthen drain to Devaraj Nagar I, II, III	430	120000	completed
7	Providing Earthen drain to Saraswathi Nagar		425	100000	completed	
8	Providing Earthen drain to SSM Nagar		610	130000	completed	
9		Kolapakkam	Providing Earthen drain to Narayana Nagar	450	105000	completed
10			Providing Earthen drain to Janagapuri & Madhanapuri	550	125000	completed
11		Urapakkam	Providing Earthen drain to Rajiv Gandhi Nagar	415	110000	completed
12		Urapakkam	Providing Earthen drain to Veerapandi Kattabomman Nagar	425	100000	completed
13		Urapakkam	Providing Earthen drain to Selliyamman Nagar	420	100000	completed
14		Urapakkam	Providing Earthen drain to MG Nagar	520	120000	completed
15		Urapakkam	Providing Earthen drain to Selvaraj Nagar	620	122000	completed
16		Urapakkam	Providing Earthen drain to Jagadeesh Nagar	610	130000	completed
17		Karanaipudhucheri	Providing Earthen drain to Jeyendra Saraswathi nagar	625	125000	completed
18		Kattur	Providing Earthen drain to Anna Nagar	525	110000	completed
19		Gokulam Colony	Providing Earthen drain to Gokulam Colony	515	110000	completed
20		Kayarambedu	Providing Earthen drain to Vishnu Priya Nagar	510	100000	completed
21		Kayarambedu	Providing Earthen drain to Moolakazhani	120	120000	completed
22		Kayarambedu	Providing Chitheri Ubari Neer Supply Channel	110	100000	completed

23	Mannivakkam	Mannivakkam	Providing Earthen drain to Vishnu Nagar	520	120000	completed		
24		Mannivakkam	Providing Earthen drain to Thangavel Nagar, Ganesh Nagar	540	125000	completed		
25		Mannivakkam	Providing Earthen drain to 400ft Road	510	115000	completed		
26		Mannivakkam	Providing Earthen drain to Thamarai Tangal to Adyar River	550	130000	completed		
27		Vandalur	Vandalur	Providing Chinna eri to Periya Eri Supply Chennal	900	120000	completed	
28			Vandalur	Providing Bharathidasan Street to Mudichur Eri Supply Chennal	450	100000	completed	
29			Otteri Extention	Providing Otteri Extension to Railway Salai to Periya Eri Supply Chennal	1200	150000	completed	
30			Otteri Extention	Providing Otteri Extension Balaraman Mudaliar Street to Periya Eri Supply Chennal	1100	140000	completed	
31		Kattankolathur	Perumattunallur	Rajaji Nagar	Providing Earthen drain to Rajaji Nagar	965	135000	completed
32				Gandhi Nagar	Providing Earthen drain to Gandhi Nagar	1000	140000	completed
33	Lakshmi nagar			Providing Earthen drain to Lakshmi Nagar	552	100000	completed	
34	Patel Nagar			Providing Earthen drain to Pate; Magar	475	100000	completed	
35	Selvi Nagar			Providing Earthen drain to Selvi Nagar	728	130000	completed	
36	Swathi Nagar			Providing Earthen drain to Swathi Nagar	667	125000	completed	
37	Thangapapuram			Providing Earthen drain to Thangapapuram	1060	140000	completed	
38	Varadharajapuram			Providing Earthen drain to Varadharajapuram	736	130000	completed	

39			Vijayapuram	Providing Earthen drain to Vijayapuram	963	135000	completed
40			Vimal Nagar	Providing Earthen drain to Vimal Nagar	997	135000	completed
				Sub Total	24338	4757000	
				Grand Total	67769	13903000	

Long Term Flood Mitigation Works – Priority List

Sl. No	Name of Work	Estimate Amount (in Crore)	Remarks
1	Construction of Cut & Cover for missing link of Urapakkam Tank to Mannivakkam Tributary and Adhanur Tributary to control the flooding in Urapakkam Village in Vandalur Taluk of Chengalpattu District.	65.41	Priority I
2	Construction of Flood Protection Wall for missing link of Weir No. 2 & 3 of Nandivaram Karanaipuducheri Hissa Tank to Urapakkam Tank in Vandalur Taluk of Chengalpattu District	90.77	Priority I
3	Formation of Cut & Cover Macro Drain from Padur Pudhupakkam Hissa Eri to B'Canal, Construction of Flood Regulator and Retaining Walls in Padur Village of Thirupporur Taluk of Chengalpattu District.	52.00	Priority I
4	Formation of Cut & Cover Macro Drain from Navalur Surplus OMR Gandhi Nagar Main Road to B'Canal, Construction of Flood Regulator and Retaining Walls in Navalur Village of Thirupporur Taluk of Chengalpattu District.	45.00	Priority I
5	Formation of Cut & Cover macro drain from Irumbuliyur Tank to GST Road, Peerkankaranai Flood Regulator to Irumbuliyur Macro Drain, link drain from GST Road under tunnel to the Mudichur Road Cut & Cover junction in Tambaram Taluk of Chengalpattu District.	87.60	Priority I
6	Formation of Cut & Cover macro drain from Tambaram Pudu Thangal weir to Pappan Channel, Providing flood protection wall to pappan channel and river adyar at D/s of Dargas road bridge in Tambaram Taluk of Chengalpattu District.	23.40	Priority I
7	Formation of Link Channel from Sembakkam Tank surplus course to Nanmangalam Tank in Tambaram Taluk of Chengalpattu District.	28.00	Priority I
8	Modernisation of Link channel between Kovilambakkam Tank to Keelkattalai Channel in Alandur Taluk of Chennai and Chengalpattu District.	15.00	Priority I

9	Formation of Flood Protection Wall and drainage to Neenjal Maduvu in Chengalpattu Taluk of Chengalpattu District.	30.00	Priority I
10	Formation of Cut & cover Macro drain linking Chitlapakkam surplus to Selaiyur - Sembakkam Macro Drain in Tambaram Taluk of Chengalpattu District	30.00	Priority I
11	Formation of Cut & Cover network of drain from Melamaiyur Tank to Kolavoy Tank at Thirukazhukundram bridge in Chengalpattu Taluk of Chengalpattu District	5.00	Priority I
12	Construction of Flood Protection Wall in Urapakkam Surplus Course and Mannivakkam Tributary in Urapakkam & Mannivakkam Village in Vandalur Taluk of Chengalpattu District.	45.00	Priority II
13	Construction of Cut & Cover for missing link of Nandivaram Tank to Urapakkam Surplus Course in Nandivaram & Urapakkam Village in Vandalur Taluk of Chengalpattu District	23.35	Priority II
14	Construction of Flood Protection Wall from Nandivaram Tank Weir No. 1 to Urapakkam Tank and Regrading of Surplus course in Nandivaram Village in Vandalur Taluk of Chengalpattu District	21.36	Priority II
15	Construction of Flood Protection Wall and Regrading of Adayar Tributary from Zero Point @ L.S. 0m to L.S 6200m in Guduvanchery and Mannivakkam Village in Vandalur Taluk of Chengalpattu District	70.60	Priority II
16	Formation of Cut & Cover Macro Drain from Perungalathur Big Tank to Mudichur Tank in Tambaram Taluk of Chengalpattu District	12.50	Priority II
17	Formation of Cut & Cover Macro Drain from Perungalathur Chitheri - Seekarayan Eri in Tambaram Taluk of Chengalpattu District.	15.50	Priority II
18	Flood Mitigation Works in Mudichur Tank, Perungalathur Big Tank, Perungulathur Chitheri & Seekarayan Eri and Formation of Flood escape Channel from Seekarayan Eri to Adayar River in Tambaram Taluk of Chengalpattu District	80.50	Priority II
19	Formation of Lined Link Channel between Nemilichery Tank to Nanmangalam Tank in Pallavaram Taluk in Chengalpattu District	21.00	Priority II
20	Formation of Cut & Cover Macro drain for the left out portions from Selaiyur Tank to Sembakkam Tank in Tambaram Taluk of Chengalpattu District	64.85	Priority II
21	Formation of Cut & Cover Macro drain for Rajakilpakkam Tank to Sembakkam Tank in Tambaram Taluk of Chengalpattu District	30.00	Priority II

22	Formation of Macro drain for the left out portions from Nanmangalam Tank to Keelkattalai Drain partly open channel and partly Cut & Cover Drain in Tambaram Taluk of Chengalpattu District (LA)	145.00	Priority II
23	Formation of Cut & Cover from Talambur Tank weir to Navalur Surplus Course in Vandalur Taluk of Chengalpattu District.	80.00	Priority II
24	Construction of Macro Drain from Nenmeli Chitheri to Sogandi Tank in Thirukalukundram Taluk of Chengalpattu District	20.00	Priority II
25	Construction of Macro Drain from Pudhupatinam Kodanganeri to Buckingham Canal in Thirukalukundram Taluk of Chengalpattu District	15.00	Priority II
TOTAL		1116.84	

Projects Under Programme for Result (P forR)

CHENNAI PARTNERSHIP PROGRAMME- LIST OF WORKS

Sl.no	Name of Proposed Project	Basin/ Sub Basin	District	Geo Location	Estimate Cost in Crores
1	Construction of check dam across Manamathy Maduvu in Panjanthiruthi village in Thiruporurtaluk of Chengalpattu district	Kovalam	Chengalpattu	12°38'57.65"N, 80° 8'48.67"E	12.50
2	Construction of check dam across Manamathy Maduvu in Pandithamedu village in Thiruporurtaluk of Chengalpattu district	Kovalam	Chengalpattu	2°39'47.77"N, 80°10'4.11"E	11.55
5	Construction of Check Dam across Palar River	Lower Palar	Chengalpattu	12°45'9.33"N, 79°55'10.22"E	67.75

	near Palur Village by Converting the existing Sub - Surface Dyke in Chengalpattu District.				
				TOTAL	91.80

ECO RESTORATION WORKS UNDER E-MAT AND EP-RED Scheme Work

Sl. No	Name of Work	Estimate Amount (in crore)	Over all Expenditure (in crore)	Stage of Works
1	Eco - Restoration and Rehabilitation of Chitlapakkam Tank in Tambaram Taluk of Chengalpattu District.	25.00	19.81	95% of Work Completed 1. Deepening, Revetment, Removal of Debris & Garbage, Weir & Regulator, Lining of Cut & Cover Work completed 2. Walkway (80%), Compound Wall (60%) Home theater & Bathroom blocks (70%) completed and balance is in progress 3. Foreshore Bund and Macro Drain Work is pending
2	Eco - Restoration of Vengaivasal Periya Eri in Tambaram Taluk of Chengalpattu District.	3.58	-	85 % of work completed 1. Bund Strengthening, Walkway, Foot Bridge , Foreshore Bund completed 2. Mudflats (50%) completed remaining pending
3	Eco Restoration and Protection of Peerkankaranai tank in Tambaram Taluk of Chengalpattu District.	9.81	4.58	65% of Work Completed 1. Bund Strengthening, Deepening, Kerb Wall, Regulator Work completed 2. Compound Wall (50%), Turfing (50%) completed 3. Walkway and Park Work yet to be started

13.5 FLOOD REMEDIAL WORKS TAKENUP BY RURAL DEVELOPMENT DEPARTMENT

In order to prevent inundation of roads and surrounding areas, vulnerable locations were identified and a comprehensive proposal to carry out the flood mitigation works such as conversion of pipe culverts to RCC Box culverts, construction of

Additional vents / box culverts, construction of new culverts, construction of storm water drain to drain the surface water and to carry the water from feeder roads was sent to the govt.

MICHAUNG FLOOD DAMAGED ROADS RESTORATION

COMPLETED WORKS

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Amount Spent Sofar
1	KATTANKOLATHUR	Mannivakkam	Colony	Providing Cement Concrete Road to Thiruvengadam Nagar 2nd street in Mannivakkam Panchayat	1260000	1258620
2	KATTANKOLATHUR	Mannivakkam	Rajathi Kalaignar Nagar	Providing Cement Concrete Road Road Drain and RCC Slab Culvert to Sai Nagar in Mannivakkam Panchayat	2610000	2609446
3	KATTANKOLATHUR	Mannivakkam	Rajathi Kalaignar Nagar	Providing Cement Concrete Road to Kalaignar Nagar 2nd Street in Mannivakkam Panchayat	1890000	1869179
4	KATTANKOLATHUR	Mannivakkam	Rajathi Kalaignar Nagar	Providing Cement Concrete Road Drain and RCC Slab Culvert Jayaprakash Nagar 2nd Street in Mannivakkam Panchayat	2610000	2609590
5	KATTANKOLATHUR	Mannivakkam	Colony	Providing Cement Concrete Road to Thiruvengadam Nagar 1St street in Mannivakkam Panchayat	1260000	1258876
6	KATTANKOLATHUR	Mannivakkam	Rajathi Kalaignar Nagar	Providing Cement Concrete Road to K.K Nagar Anganwadi Street in Mannivakkam Panchayat	1260000	1256439
7	KATTANKOLATHUR	Mannivakkam	Rajathi Kalaignar Nagar	Providing Cement Concrete Road to K.K Nagar Church Road in Mannivakkam Panchayat	945000	944125
8	KATTANKOLATHUR	Mannivakkam	Rajathi Kalaignar Nagar	Providing Cement Concrete Road to K.K Nagar Amman Nagar in Mannivakkam Panchayat	1260000	1243376
9	KATTANKOLATHUR	Urapakkam	Kilambakkam	Providing Cement Concrete Road to Guruvayurappan Street in Urapakkam Panchayat	756000	755350
10	KATTANKOLATHUR	Urapakkam	Kilambakkam	Providing Cement Concrete Road to Kilambakkam Sakthi Nagar 1st Street in Urapakkam Panchayat	756000	755208
11	KATTANKOLATHUR	Urapakkam	Kilambakkam	Providing Cement Concrete Road to Kilambakkam Sakthi Nagar 2,3rd Street in Urapakkam Panchayat	630000	629678
12	KATTANKOLATHUR	Urapakkam	Kilambakkam		819000	818149

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Amount Spent Sofar
				Providing Cement Concrete Road to Eswaran koil Street in Urapakkam Panchayat		
13	KATTANKOLATHUR	Vandaloor	Vandaloor	Providing Cement Concrete Road to Paatiamman Koil 3rd Street in Vandalur Panchayat	1638000	1637460
14	KATTANKOLATHUR	Vandaloor	Vandaloor	Providing Cement Concrete Road to Vandalur Anna Street in Vandalur Panchayat	725000	724688
15	THIRUPORUR	Kelambakkam	Kelambakkam	Providing Cement Concrete Road to Post office Street	330000	329210
16	THIRUPORUR	Kelambakkam	Santhakuppam colony	Providing Cement Concrete Road to Masuthi Street	325000	324650
17	THIRUPORUR	Kelambakkam	Santhakuppam colony	Providing BT Road to Pillayar Koil Street	5000000	4999680
18	THIRUPORUR	Kelambakkam	Sathankuppam village	Providing Cement Concrete Road to Pillayar Koil Cross Street	2424000	2422140
19	THIRUPORUR	Nemmeli	Krishnakaranai	Providing Cement Concrete Road to Nemmeli Throwpathi amman koil street	1520000	1519570
20	THIRUPORUR	Nemmeli	Soolerikadu village	Providing Cement Concrete Road to Sulerikadu Main Road	1934000	1933670
21	THIRUPORUR	Nemmeli	Soolerikadu village	Providing Cement Concrete Road to Krishnakarannai Perumal Koil ECR link road	768000	767400
22	THIRUPORUR	Nemmeli	Soolerikadu kuppam	Providing Cement Concrete Road to Thulukanathamman Koil Street	603000	602448
23	THIRUPORUR	Nemmeli	perur	Providing Cement Concrete Road to Perur Bharathiyar street	732000	731500
24	THIRUPORUR	Nemmeli	Nemmeli kuppam	Providing Cement Concrete Road to Nemmeli kuppam Main Road	741000	740555
25	THIRUPORUR	Pattipulam	Pattipulam	Providing Cement Concrete Road to Vinayagar koil cross street in 1st ward in Pattipulam village	276000	275340
26	THIRUPORUR	Pattipulam			262000	261620

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Amount Spent Sofar
			Pattipulam kuppam	Providing Cement Concrete Road to Nagalamman koil cross street in meenavar pagudhi		
27	THIRUPORUR	Pattipulam	Pattipulam kuppam	Providing Cement Concrete Road to Nagalamman koil street in meenavar pagudhi	1025000	1024670
28	THIRUPORUR	Pattipulam	Pattipulam kuppam	Providing Cement Concrete Road to Thiruvalluvar street street in meenavar pagudhi	888000	887350
29	THIRUPORUR	Pattipulam	Pattipulam kuppam	Providing Cement Concrete Road to Abdulkalam street in meenavar pagudhi	1302000	1301330
30	THIRUPORUR	Pattipulam	Pattipulam	Providing Cement Concrete Road to Vinayagar koil Main Road in 1st ward in Pattipulam village	1495000	1494540
31	THIRUPORUR	Pudupakkam	Pudupakkam	Providing Cement Concrete Road to Anna nagar ambethkar street	828000	827650
32	THIRUPORUR	Pudupakkam	Pudupakkam	Providing Cement Concrete Road to Catering avenue	990000	989444
33	THIRUPORUR	Pudupakkam	Pudupakkam	Providing Cement Concrete Road to Nehru street	524000	523637
34	THIRUPORUR	Pudupakkam	Pudupakkam	Providing Cement Concrete Road to M.R.Radha salai cross street	539000	537780
35	THIRUPORUR	Pudupakkam	Pudupakkam	Providing Cement Concrete Road to Jesraj nagar 6th cross street	413000	411650
36	THIRUPORUR	Pudupakkam	Echankadu	Providing Cement Concrete Road to Indra Gandhi street	966000	964718
37	THIRUPORUR	Pudupakkam	Pudupakkam	Providing Cement Concrete Road to Annai therasa 1st 2nd Cross Street	682000	681550
38	THIRUPORUR	Pudupakkam	Pudupakkam	Providing Cement Concrete Road to Anna nagar 1st,2nd cross street	547000	546330
39	THIRUPORUR	Thaiyur	Periyapilleri	Providing Cement Concrete Road to Madha koil street in 5th ward at Thaiyur panchayat	570000	428202
40	THIRUPORUR	Thaiyur	Thaiyur		813000	812665

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Amount Spent Sofar
				Providing Cement concrete Road to Pudhiya colony pappan kulam in 6th ward in at Thaiyur panchayat		
41	THIRUPORUR	Thaiyur	Periyapilleri	Providing Cement Concrete Road Parameshwari amman koil street in 4th ward at Thaiyur panchayat	715000	714670
42	THIRUPORUR	Thaiyur	koma nagar and madapuram	Providing Cement Concrete Road Komanagar Church opposite 1st cross street in 11th ward at Thaiyur panchayat	410000	409370
43	THIRUPORUR	Thaiyur	koma nagar and madapuram	Providing Cement Concrete Road Koman nagar 5th street in 11th ward at Thaiyur panchayat	509000	508425
44	THIRUPORUR	Thaiyur	koma nagar and madapuram	Providing Cement concrete road near anthoni house in 12th ward at Thaiyur panchayat	179000	178430
45	THIRUPORUR	Thaiyur	koma nagar and madapuram	Providing Cement concrete road near Ramesh house in 12th ward at Thaiyur panchayat	224000	223540
46	THIRUPORUR	Thaiyur	koma nagar and madapuram	Providing Cement concrete road to Kannan house to Egambaram house in 12th ward at Thaiyur panchayat	258000	257560
47	THIRUPORUR	Thaiyur	koma nagar and madapuram	Providing Cement Concrete Road to Koman nagar OHT road in 11th ward in at Thaiyur panchayat	303000	302310
48	THIRUPORUR	Thaiyur	koma nagar and madapuram	Providing Cement Concrete Road Koma nagar thalayari street in 11th ward at Thaiyur panchayat	630000	629280
49	THIRUPORUR	Thaiyur	Elavan thangal	Providing Cement Concrete Road Mahalakshmi avenue 2nd main road in 3rd ward at Thaiyur panchayat	863000	862090
50	THIRUPORUR	Thaiyur	Elavan thangal	Providing Cement Concrete Road Mahalakshmi avenue 1stmain road 1st 2nd Cross street 3rd ward in at Thaiyur panchayat	2324000	2323240
51	THIRUPORUR	Thaiyur	Elavan thangal	Providing Cement Concrete Road to St.marry's school street in 3rd ward at Thaiyur panchayat	1350000	1349510
52	THIRUPORUR	Thaiyur	Thaiyur colony	Periyama nagar bus stand in 8th ward at Thaiyur panchayat	2025000	1687171

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Amount Spent Sofar
53	THIRUPORUR	Thaiyur	Thaiyur colony	Providing Cement Concrete Road to Periyama nagar maduvankarai road to Adi dravidar Ladies Road in 8th ward at Thaiyur panchayat	1704000	1702683
54	THIRUPORUR	Thaiyur	Periyapilleri	Providing Cement Concrete Road to Kaliamman koil in 5th ward at Thaiyur panchayat	1100000	980006
55	THIRUPORUR	Thiruvidanthai	Therkupattu	Providing Cement Concrete Road to Pillayar koil 1st cross street	413000	280353
56	THIRUPORUR	Thiruvidanthai	Therkupattu	Providing Cement Concrete Road to Therukupattu Throwpathiyamma Koil street	672000	670800
57	THIRUPORUR	Thiruvidanthai	Therkupattu	Providing Cement Concrete Road to Pillayar koil 3rd cross street	380000	379881
58	THOMAS MALAI	Agaramthen	Agaramthen	Providing CC Pavement to KAKKANJI CROSS STREET at Agaramthen Panchayat	686000	682415
59	THOMAS MALAI	Agaramthen	Agaramthen	Providing CC Pavement to VOC STREET at Agaramthen Panchayat	539000	537185
60	THOMAS MALAI	Agaramthen	Agaramthen	Providing CC Pavement to ESHWARAN KOVIL STREET at Agaramthen Panchayat	588000	587315
61	THOMAS MALAI	Kovilambakkam	Kagithapuram	Providing CC Pavement to Kagithapuram 4th street at Kovilambakkam Panchayat	874000	873535
62	THOMAS MALAI	Kovilambakkam	Kagithapuram	Providing CC Pavement to Kagithapuram 1st street at Kovilambakkam Panchayat	1459000	1458524
63	THOMAS MALAI	Madurapakkam	Madurapakkam	Providing cc road to Vempuliamman Koil Street	1110000	1109382
64	THOMAS MALAI	Madurapakkam	Moolacheri	Providing cc road to Selva Perumal Nagar 3rd Cross Street	336000	335324
65	THOMAS MALAI	Madurapakkam	Moolacheri	Providing cc road to Selva Perumal Nagar 1st Cross Street	336000	335346
66	THOMAS MALAI	Madurapakkam	Moolacheri	Providing cc road to Selva Perumal Nagar 2nd Cross Street	336000	335188

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Amount Spent Sofar
67	THOMAS MALAI	Madurapakkam	Madurapakkam	Providing cc road to Sankar Nagar 2nd Cross Street	323000	322385
68	THOMAS MALAI	Madurapakkam	Madurapakkam	Providing cc road to Sankar Nagar Main road	538000	537928
69	THOMAS MALAI	Madurapakkam	Madurapakkam	Providing cc road to Sankar Nagar 1st Cross Street	430000	429218
70	THOMAS MALAI	Moovarasampattu	Ragavaa nagar	Providing CC Road with Drain to Ragava Nagar 8th Street at Moovarasampattu Panchayat	617000	616382
71	THOMAS MALAI	Moovarasampattu	Ragavaa nagar	Providing CC Road with Drain to Ragava Nagar 12th Street at Moovarasampattu Panchayat	2175000	2174384
72	THOMAS MALAI	Moovarasampattu	Ragavaa nagar	Providing CC Pavement to Ragava Nagar 7th Street at Moovarasampattu Panchayat	1143000	1142416
73	THOMAS MALAI	Nanmangalam	Nanmangalam	Providing CC pavement to Sampath nagar Street at Nanmangalam Panchayat	1525000	1524394
74	THOMAS MALAI	Nanmangalam	Nanmangalam	Providing CC pavement to Abinandhan nagar 1stStreet at Nanmangalam Panchayat	1067000	1066192
75	THOMAS MALAI	Ottiambakkam	Ottiambakkam	Providing cc road to Kalathumettu street	769000	768384
76	THOMAS MALAI	Ottiambakkam	Ottiambakkam	Providing cc road to ottiswarar nagar 2 cross street	823000	822484
77	THOMAS MALAI	Ottiambakkam	Ottiambakkam	Providing cc road to Gandhi nagar exten.	1426000	1425198
78	THOMAS MALAI	Perumbakkam	Perumbakkam	Providing CC Pavement to Puli Devan Street at Perumbakkam Panchayat	657000	656388
79	THOMAS MALAI	Perumbakkam	Perumbakkam	Providing CC Pavement to Elango adikal Cross street at Perumbakkam Panchayat	352000	351542
80	THOMAS MALAI	Perumbakkam	Perumbakkam	Providing CC Pavement to Manikkavasagar Street at Perumbakkam Panchayat	704000	703682
81	THOMAS MALAI				1022000	1021382

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Amount Spent Sofar
		polichalur kiramam	Ponnurangam nagar	Providing CC Pavement to PONNURANGAM NAGAR ROAD at Polichalur Panchayat		
82	THOMAS MALAI	polichalur kiramam	Moovar nagar	Providing CC Pavement to Moovar Nagar Rajaji Street at Polichalur Panchayat	1614000	1613352
83	THOMAS MALAI	Thiruvengeri	Thiruvengeri colony	Providing Cement Concrete Road to Singaram Street at Thiruvanchery Panchayat	368000	367786
84	THOMAS MALAI	Thiruvengeri	Thiruvengeri colony	Providing Cement Concrete Road to Raman Street at Thiruvanchery Panchayat	328000	327186
85	THOMAS MALAI	Vengavasal	Vengavasal	Providing CC road to RG Nagar Damodaran Naickar Street	495000	494488
86	THOMAS MALAI	Vengavasal	Vengavasal	Providing CC road to Jeevarathinam Street	490000	489321
87	THOMAS MALAI	Vengavasal	Vengavasal	Providing CC road to Logeswaran Street	490000	489112
88	THOMAS MALAI	Vengavasal	Vengavasal	Providing CC road to Gopalapuram Main Road	539000	538542
89	THOMAS MALAI	Vengavasal	Vengavasal	Providing CC road to RG Nagar Sadaiyandi Naickar Street	583000	582184
90	THOMAS MALAI	Vengavasal	Vengavasal	Providing CC road to RG Nagar Nadesan Naickar Street	524000	523188

PENDING WORKS

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
1	KATTANKOLATHUR	Mannivakkam	Colony	Providing Cement Concrete Road Road Drain and RCC Slab Culvert Pudhu Nagar Kanagambaram Poo Street in Mannivakkam Panchayat	1666000	Base Course

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
2	KATTANKOLATHUR	Mannivakkam	Colony	Providing Cement Concrete Road to Shanmuga Nagar Sunvilla in Mannivakkam Panchayat	1260000	Base Course
3	KATTANKOLATHUR	Mannivakkam	Mannivakkam	Providing Cement Concrete Road to Kulakarari Street in Mannivakkam Panchayat	1890000	Corewall Completed
4	KATTANKOLATHUR	Mannivakkam	Mannivakkam	Providing Cement Concrete Road to Pudhu Nagar Vellai Roja Street in Mannivakkam Panchayat	819000	1:4:8 Completed
5	KATTANKOLATHUR	Mannivakkam	Mannivakkam	Providing Cement Concrete Road to Ram Nagar 5th Street in Mannivakkam Panchayat	1260000	Corewall Completed
6	KATTANKOLATHUR	Mannivakkam	Mannivakkam	CC Road to sundar nagar to TVH in mannivakkam Panchayat	1890000	Corewall Completed
7	KATTANKOLATHUR	Mannivakkam	Mannivakkam	Providing Cement Concrete Road to Ramnagar 8th Street in Mannivakkam Panchayat	1260000	Base Course
8	KATTANKOLATHUR	Mannivakkam	Mannivakkam	Providing Cement Concrete Road and Drain to East Madaveethi Cross Street in Mannivakkam Panchayat	3540000	Base Course
9	KATTANKOLATHUR	Mannivakkam	Mannivakkam	Providing Cement Concrete Road Road Drain and RCC Slab Culvert Karpaga vinayagar Kovil Street in Mannivakkam Panchayat	3790000	Corewall Completed
10	KATTANKOLATHUR	Mannivakkam	Mannivakkam	Providing Cement Concrete Road to Varthaman Nagar School Road in Mannivakkam Panchayat	1260000	Corewall Completed
11	KATTANKOLATHUR	Mannivakkam	Mannivakkam	Providing Cement Concrete Road Road Drain and RCC Slab Culvert Ramnagar 3rd	2610000	Base Course

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
				Street in Mannivakkam Panchayat		
12	KATTANKOLATHUR	Mannivakkam	Mannivakkam	Providing Cement Concrete Road Road Drain and RCC Slab Culvert Ramnagar 9th Street in Mannivakkam Panchayat	1430000	Base Course
13	KATTANKOLATHUR	Mannivakkam	Mannivakkam	Providing Cement Concrete Road Road Drain and RCC Slab Culvert to Sivan Kovil Street in Mannivakkam Panchayat	2610000	Corewall Completed
14	KATTANKOLATHUR	Nedugundram	Alapakkam	Providing Cement Concrete Road to Thangaraj Nagar in Nedunkundram Panchayat	2016000	Base Course
15	KATTANKOLATHUR	Nedugundram	Alapakkam	Providing Cement Concrete Road to Ramasamy Nagar in Nedunkundram Panchayat	2205000	Base Course
16	KATTANKOLATHUR	Nedugundram	Alapakkam	Providing Cement Concrete Road to Perumal Nagar in Nedunkundram Panchayat	1323000	Corewall Completed
17	KATTANKOLATHUR	Nedugundram	Alapakkam	Providing Cement Concrete Road to Ramasamy Nagar Cross Street in Nedunkundram Panchayat	1260000	Physically Completed
18	KATTANKOLATHUR	Nedugundram	Kolapakkam	Providing Cement Concrete Road to Vasanthapuram 1st Cross Street in Nedunkundram Panchayat	6930000	Base Course
19	KATTANKOLATHUR	Nedugundram	Kolapakkam	Providing Cement Concrete Road to Vallalar Street in Nedunkundram Panchayat	2016000	Base Course
20	KATTANKOLATHUR	Nedugundram	Kolapakkam	Providing Cement Concrete Road and Road Drain to Janagapuri 1st and 2nd Street in Nedunkundram Panchayat	2835000	Base Course

SI. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
21	KATTANKOLATHUR	Nedugundram	Kolapakkam	Providing Cement Concrete Road to Narayana Nagar 1st and 2nd Cross Street in Nedunkundram Panchayat	1260000	1:4:8 Completed
22	KATTANKOLATHUR	Nedugundram	Kolapakkam	Providing Cement Concrete Road and Road Drain to Gangaiyamma Koil Street in Nedunkundram Panchayat	2615000	Base Course
23	KATTANKOLATHUR	Nedugundram	Kolapakkam	Providing Cement Concrete Road and Road Drain to Subash Chandra Bose Street in Nedunkundram Panchayat	1638000	Base Course
24	KATTANKOLATHUR	Nedugundram	Kolapakkam	Providing Cement Concrete Road and Road Drain to Thanthai Periyar Street in Nedunkundram Panchayat	1260000	1:4:8 Completed
25	KATTANKOLATHUR	Nedugundram	Kolapakkam	Providing Cement Concrete Road and Road Drain to Madhanapuri 1st and 2nd Cross Street in Nedunkundram Panchayat	2520000	Base Course
26	KATTANKOLATHUR	Nedugundram	Nedugundram	Providing Cement Concrete Road to kannagi Street in Nedunkundram Panchayat	1890000	1:4:8 Completed
27	KATTANKOLATHUR	Nedugundram	Nedugundram	Providing Cement Concrete Road to Sivan Koil Cross Street in Nedunkundram Panchayat	2646000	Base Course
28	KATTANKOLATHUR	Nedugundram	Nedugundram	Providing Cement Concrete Road to Mettu 1st Cross Street in Nedunkundram Panchayat	1260000	1:4:8 Completed
29	KATTANKOLATHUR	Nedugundram	Nedugundram	Providing Cement Concrete Road to Perumal Koil Street in Nedunkundram Panchayat	1575000	Base Course
30	KATTANKOLATHUR	Nedugundram	Puthur	Providing Cement Concrete Road to Sheeba Nagar Cross Street in	630000	Corewall Completed

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
				Nedunkundram Panchayat		
31	KATTANKOLATHUR	Nedugundram	Puthur	Providing Cement Concrete Road to Saravana Cross Street in Nedunkundram Panchayat	1764000	Base Course
32	KATTANKOLATHUR	Nedugundram	Puthur	Providing Cement Concrete Road to Mahalakshmi Street in Nedunkundram Panchayat	693000	Corewall Completed
33	KATTANKOLATHUR	Nedugundram	Puthur	Providing Cement Concrete Road to Kavina Garden in Nedunkundram Panchayat	945000	1:4:8 Completed
34	KATTANKOLATHUR	Nedugundram	Puthur	Providing Cement Concrete Road to Kalaingar Nagar 1st,2nd Cross Street in Nedunkundram Panchayat	2205000	Base Course
35	KATTANKOLATHUR	Nedugundram	Puthur	Providing Cement Concrete Road to Mappedu Puthur Cross Street(PDS Shop) in Nedunkundram Panchayat	1890000	Base Course
36	KATTANKOLATHUR	Nedugundram	Sathananthapuarm	Providing Cement Concrete Road to Moovendar Street in Nedunkundram Panchayat	2646000	Base Course
37	KATTANKOLATHUR	Urapakkam	Kilambakkam	Providing Cement Concrete Road to Anushiya Street, VGN Nagar in Urapakkam Panchayat	378000	1:4:8 Completed
38	KATTANKOLATHUR	Urapakkam	Kilambakkam	Providing Cement Concrete Road to Eswaran koil Street 1st Cross Street in Urapakkam Panchayat	567000	Physically Completed
39	KATTANKOLATHUR	Urapakkam	Kilambakkam	Providing Cement Concrete Road to Ram nagar Thirupur Kumaran Street in Urapakkam Panchayat	819000	1:4:8 Completed
40	KATTANKOLATHUR	Urapakkam	Kilambakkam	Providing Cement Concrete Road to Kambar Street in Urapakkam Panchayat	882000	1:4:8 Completed

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
41	KATTANKOLATHUR	Urapakkam	Kilambakkam	Providing Cement Concrete Road to Krishna Moorthy Street, VGN nagar in Urapakkam Panchayat	1386000	Base Course
42	KATTANKOLATHUR	Vandaloor	Ambethkar colony	Providing Cement Concrete Road to Vandalur Kalaingar Street in Vandalur Panchayat	630000	Corewall Completed
43	KATTANKOLATHUR	Vandaloor	Malaiadi nagar	Providing Cement Concrete Road to Malaiyadi Nagar in Vandalur Panchayat	945000	Corewall Completed
44	KATTANKOLATHUR	Vandaloor	Otteri extn.	Providing Cement Concrete Road to DS Nagar 5th Street in Vandalur Panchayat	630000	Corewall Completed
45	KATTANKOLATHUR	Vandaloor	Otteri extn.	Providing Cement Concrete Road to Otteri Extn 3rd Main Road in Vandalur Panchayat	1260000	Base Course
46	KATTANKOLATHUR	Vandaloor	Otteri extn.	Providing Cement Concrete Road to DS Nagar 2nd Street in Vandalur Panchayat	630000	Base Course
47	KATTANKOLATHUR	Vandaloor	Otteri extn.	Providing Cement Concrete Road to Otteri Extn 6th Main Road in Vandalur Panchayat	945000	Corewall Completed
48	KATTANKOLATHUR	Vandaloor	Singarathottam	Providing Cement Concrete Road to Erikarai 2nd Cross Street in Vandalur Panchayat	1229000	Corewall Completed
49	KATTANKOLATHUR	Vandaloor	Vandaloor	Providing Cement Concrete Road to Rukumaniyammal Street in Vandalur Panchayat	1260000	Corewall Completed
50	KATTANKOLATHUR	Vandaloor	Vandaloor	Providing Cement Concrete Road to Veerateswarar Koil Cross Street in Vandalur Panchayat	315000	Corewall Completed
51	KATTANKOLATHUR	Vandaloor	Vandaloor	Providing Cement Concrete Road Road Drain to Railway Station road in Vandalur Panchayat	1449000	Base Course
52	KATTANKOLATHUR	Vandaloor	Venkatesapuram	Providing Cement Concrete Road to Venkatesapuram 3rd	882000	Corewall Completed

SI. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
				Pradhana Street in Vandalur Panchayat		
53	KATTANKOLATHUR	Vandaloor	Venkatesapuram	Providing Cement Concrete Road to Venkatesapuram 9th Street in Vandalur Panchayat	1714000	Base Course
54	KATTANKOLATHUR	Vandaloor	Venkatesapuram	Providing Cement Concrete Road to Venkatesapuram 11th Street in Vandalur Panchayat	599000	Corewall Completed
55	THIRUPORUR	Kanathur Reddykuppam	Kanathur reddykuppam	Providing Cement Concrete Road to Agamathu Kabir cross Street	210000	Base Course
56	THIRUPORUR	Kanathur Reddykuppam	Kanathur reddykuppam	Thulukanathamman koil 1st, 2nd 3rd cross street	462000	Base Course
57	THIRUPORUR	Kanathur Reddykuppam	Kanathur reddykuppam	Providing Cement Concrete Road to Thulukanathamman koil street	688000	Base Course
58	THIRUPORUR	Kanathur Reddykuppam	Kanathur reddykuppam	Providing Cement Concrete Road to Bilal Ayub Settu street	800000	Base Course
59	THIRUPORUR	Kanathur Reddykuppam	Kanathur reddykuppam	Providing Cement Concrete Road to Agamathu Kabir Street	820000	Base Course
60	THIRUPORUR	Kanathur Reddykuppam	Meeran nagar	Providing Cement Concrete Road to Jahir Hussain street	1165000	Base Course
61	THIRUPORUR	Kanathur Reddykuppam	Meeran nagar	Providing Cement Concrete Road to Quaide Millath Street	656000	Base Course
62	THIRUPORUR	Kelambakkam	Kelambakkam	Providing Cement Concrete Road to Iyyappan Street	715000	Base Course
63	THIRUPORUR	Kelambakkam	Kelambakkam colony	Providing Cement Concrete Road to Madha Koil Cross Street	809000	Base Course
64	THIRUPORUR	Kelambakkam	Kelambakkam colony	Providing Cement Concrete Road to Nehru Nagar	739000	Corewall Completed
65	THIRUPORUR	Kelambakkam	Kelambakkam colony	Providing Cement Concrete Road to Nandhana Nagar Cross street	519000	Base Course

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
66	THIRUPORUR	Kelambakkam	Kelambakkam colony	Providing Cement Concrete Road to Ambedkar street	704000	Base Course
67	THIRUPORUR	Kelambakkam	Sathankuppam village	Providing Cement Concrete Road to Kamarajar Avenue	2104000	Base Course
68	THIRUPORUR	Kelambakkam	Sathankuppam village	Providing Cement Concrete Road to Krishna nagar Main Road	1419000	Corewall Completed
69	THIRUPORUR	Kelambakkam	Sathankuppam village	Providing Cement Concrete Road to Ganapathy nagar 1,2 Cross Street	500000	Base Course
70	THIRUPORUR	Kelambakkam	Sathankuppam village	Providing Cement Concrete Road to SRS Nagar Cross street	413000	Base Course
71	THIRUPORUR	Kelambakkam	Sathankuppam village	Providing Cement Concrete Road to Gangaiyamman Koil Street	4991000	Base Course
72	THIRUPORUR	Kelambakkam	Sathankuppam village	Providing Cement Concrete Road to Rajeshwari nagar 6th cross street	990000	1:4:8 Completed
73	THIRUPORUR	Kovalam	Ansari nagar	Providing Cement Concrete Road to Ansari nagar 1st Street	1750000	Corewall Completed
74	THIRUPORUR	Kovalam	Kovalam	Providing Cement Concrete Road to Matha kovil 2nd st	705000	Base Course
75	THIRUPORUR	Kovalam	Kovalam	Providing Cement Concrete Road to Eagavalli amman koil 1st street	672000	Base Course
76	THIRUPORUR	Kovalam	Kovalam kuppam	Providing Cement Concrete Road to Kanniyamma koil 2nd street	825000	Base Course
77	THIRUPORUR	Kovalam	Kovalam kuppam	Providing Cement Concrete Road to Kanniyamma koil 1st street	770000	Base Course
78	THIRUPORUR	Kovalam	New majith nagar	Providing BT Road to Puthumajith 3rd street	2508000	WMM Spreading
79	THIRUPORUR	Kovalam	New majith nagar	Providing Cement Concrete Road to Puthumajith 2nd street	1242000	Corewall Completed

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
80	THIRUPORUR	Mutthukaadu	Egattur	Providing Cement Concrete Road Muttukadu Egattur A BG road with drain	4985000	Corewall Completed
81	THIRUPORUR	Padur	Padur	Providing Cement Concrete Road toRajan Nagar 2nd cross street	166000	Base Course
82	THIRUPORUR	Padur	Padur	Providing Cement Concrete Road toGandhinagar Road	1275000	Base Course
83	THIRUPORUR	Padur	Padur	Providing Cement Concrete Road to Rajan Nagar	1824000	Base Course
84	THIRUPORUR	Padur	Padur	Providing Cement Concrete Road toRajan nagar 1st Cross street	138000	Base Course
85	THIRUPORUR	Padur	Padur colony	Providing Cement Concrete Road toKazhipattur Link Cross Road	544000	Corewall Completed
86	THIRUPORUR	Padur	Padur colony	Providing Cement Concrete Road toKazhipattur Link Road-1	1101000	Corewall Completed
87	THIRUPORUR	Paiyanur	Anthoni nagar	Paiyanour Anthony Nagar road KM 0/0 - 1/050	4725000	WMM Metal Collection
88	THIRUPORUR	Pattipulam	Pattipulam	Providing Cement Concrete Road to Padavattamman koil cross street in Salavankuppam colony	345000	Corewall Completed
89	THIRUPORUR	Pattipulam	Pattipulam kuppam	Providing Cement Concrete Road to CSI church cross street in Salavankuppam colony	414000	Base Course
90	THIRUPORUR	Pattipulam	Pattipulam kuppam	Providing Cement Concrete Road to Pattipulam village irular Kudi iruppu Pattipulam village	688000	Corewall Completed
91	THIRUPORUR	Pattipulam	Pattipulam kuppam	Providing Cement Concrete Road to Pada salai street in 1st ward in Pattipulam village	1927000	Base Course
92	THIRUPORUR	Pattipulam	Pattipulam kuppam	Providing Cement Concrete Road to Anjnayar Koil Street ward 8	552000	Base Course

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
93	THIRUPORUR	Pattipulam	Pattipulam kuppam	Providing Cement Concrete Road to Arignar Anna cross street in Pattipulam colony	495000	Corewall Completed
94	THIRUPORUR	Pattipulam	Pattipulam kuppam	Providing Cement Concrete Road to Indra Gandhi Street in Pattipulam colony	523000	Corewall Completed
95	THIRUPORUR	Pattipulam	Pattipulam kuppam	Providing Cement Concrete Road to Kakkan street in Pattipulam colony	299000	Base Course
96	THIRUPORUR	Pattipulam	Salavan kuppam	Providing Cement Concrete Road to Vinayagar koil cross street in Salavankuppam village	230000	Corewall Completed
97	THIRUPORUR	Pattipulam	Salavan kuppam	Providing Cement Concrete Road to Vinayagar koil street in Salavankuppam village ward 8	1863000	Base Course
98	THIRUPORUR	Pudupakkam	Pudupakkam	Pudhupakkam Rajaji Salai 0/0 - 0/914	7725000	WMM Metal Collection
99	THIRUPORUR	Thaiyur	Balamma nagar and kuppama nagar	Providing Cement concrete Road to Sengeniyyamma koil road in 7th ward at Thaiyur panchayat	908000	Base Course
100	THIRUPORUR	Thaiyur	Elavan thangal	Providing Cement Concrete Road Jothi nagar to Vinoth nagar road Main Road and 1st,2nd, cross streets in 3rd ward at Thaiyur panchayat	3243000	Corewall Completed
101	THIRUPORUR	Thaiyur	Elavan thangal	Providing Cement Concrete Road TAS Ramamoorthy nagar in 3rd ward at Thaiyur panchayat	2078000	Base Course
102	THIRUPORUR	Thaiyur	Eriethirvoy colony	Providing Cement Concrete Road Eri ethirvayal BG Road	1403000	Base Course
103	THIRUPORUR	Thaiyur	Eriethirvoy colony	Providing Cement Concrete Road Eri ethirvayal Prarthana salai	3554000	Corewall Completed
104	THIRUPORUR	Thaiyur	Eriethirvoy colony	Providing Cement Concrete Road Eri ethirvayal 1st Cross street	660000	Corewall Completed

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
105	THIRUPORUR	Thaiyur	Eriethirvoy colony	Providing Cement Concrete Road Eri ethirvayal 2nd Cross street	671000	Base Course
106	THIRUPORUR	Thaiyur	koilmaniyam	Providing Cement Concrete Road Koil maniyam vinayagar koil 1st street in 2nd ward at Thaiyur panchayat	2443000	Base Course
107	THIRUPORUR	Thaiyur	koilmaniyam	Koil maniyam vinayagar koil 2nd street in 2nd ward at Thaiyur panchayat	1348000	Corewall Complete d
108	THIRUPORUR	Thaiyur	koma nagar and madapuram	Providing Cement concrete road near stalin house in 12th ward at Thaiyur panchayat	193000	1:2:4 Complete d
109	THIRUPORUR	Thaiyur	koma nagar and madapuram	Providing Cement concrete road to near Kanchana house in 12th ward at Thaiyur panchayat	172000	1:2:4 Complete d
110	THIRUPORUR	Thaiyur	koma nagar and madapuram	Providing Cement concrete road near chandra house in 12th ward at Thaiyur panchayat	158000	1:2:4 Complete d
111	THIRUPORUR	Thaiyur	Periyapilleri	Providing Cement Concrete Road to Periya pilleri 1st cross street in 5th ward at Thaiyur panchayat	1546000	Base Course
112	THIRUPORUR	Thaiyur	Thaiyur	Providing Cement Concrete Road to Rajalskshmi nagar main road and 1st,2nd Cross st in 1st ward at Thaiyur panchayat	1762000	Corewall Complete d
113	THIRUPORUR	Thaiyur	Thaiyur	viding Cement Concrete Road Senganmal sivan koil opposite main road and Cross Streets in 10th ward at Thaiyur panchayat	4095000	Corewall Complete d
114	THIRUPORUR	Thaiyur	Thaiyur	Providing Cement Concrete Road Panchayat office back side road in 1st ward at Thaiyur panchayat	1595000	Base Course
115	THIRUPORUR	Thaiyur	Thaiyur colony	Providing Cement Concrete Road to Senganmal kulakarai	3710000	Corewall Complete d

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
				street in 10th ward in at Thaiyur panchayat		
116	THIRUPORUR	Thandalam	Mettuthandalam	Providing Cement Concrete Road to Pari vallal street	1397000	Base Course
117	THIRUPORUR	Thandalam	Mettuthandalam	Providing Cement Concrete Road to Mettu thandalam Main road 2nd cross street	275000	Base Course
118	THIRUPORUR	Thandalam	Mettuthandalam	Providing Cement Concrete Road to Erikarai street	1628000	Base Course
119	THIRUPORUR	Thandalam	Mettuthandalam	Providing Cement Concrete Road to Palandiyamma koil 1st street	517000	Corewall Completed
120	THIRUPORUR	Thandalam	Mettuthandalam	Providing Cement Concrete Road to Palandiyamma Thidal Street	770000	1:2:4 Completed
121	THIRUPORUR	Thandalam	Mettuthandalam	Providing Cement Concrete Road to Sannathi Cross Street	1501000	Base Course
122	THIRUPORUR	Thandalam	Pallathandalam	Providing Cement Concrete Road to Gangaiyamma koil Street	413000	Corewall Completed
123	THIRUPORUR	Thandalam	Thandalam	Providing Cement Concrete Road to Thulukanathamman koil Main Street	1033000	Corewall Completed
124	THIRUPORUR	Thandalam	Thandalam	Providing Cement Concrete Road to Murugasan nagar	1029000	Base Course
125	THIRUPORUR	Thandalam	Thandalam	Providing Cement Concrete Road to Pachiyappa Nagar Main road	539000	Corewall Completed
126	THIRUPORUR	Thandalam	Thandalam	Providing Cement Concrete Road to Pachiyappa 1st,2nd,3rd Cross street	479000	Base Course
127	THIRUPORUR	Thazhambur	Thazhambur	Providing BT Road Thalambur Ponmar Road to MCC Shed Road	4088000	WMM Spreading
128	THIRUPORUR	Thiruvandanthai	Therkupattu	Providing BT Road to ECR to Ponniamman Koil Road	2719000	WMM Metal Collection

SI. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
129	THOMAS MALAI	Agaramthen	Agaramthen	Providing CC Pavement to Balamurugan Avenue Main Road at Agaram then Panchayat	627000	Base Course
130	THOMAS MALAI	Agaramthen	Agaramthen	Providing CC Pavement to Gokul Nagar Street at Agaramthen Panchayat	220500 0	Base Course
131	THOMAS MALAI	Agaramthen	Agaramthen	Providing CC Pavement to Balamurugan Avenue 2nd Street at Agaramthen Panchayat	162000	Base Course
132	THOMAS MALAI	Agaramthen	Agaramthen	Providing CC Pavement to Balamurugan Avenue 1st Street at Agaram then Panchayat	441000	Base Course
133	THOMAS MALAI	Agaramthen	Balram nagar	Providing CC Pavement to Balaram Nagar 2nd Cross Street at Agaramthen Panchayat	206000	Base Course
134	THOMAS MALAI	Agaramthen	Balram nagar	Providing CC Pavement to Balaram Nagar 3rd Street at Agaramthen Panchayat	666000	Base Course
135	THOMAS MALAI	Agaramthen	Balram nagar	Providing CC Pavement to Balaram Nagar 2nd Street at Agaramthen Panchayat	887000	Base Course
136	THOMAS MALAI	Agaramthen	Mummoorthi nagar	Providing CC Pavement to Karunya Cross Street at Agaramthen Panchayat	421000	Base Course
137	THOMAS MALAI	Agaramthen	Sakthi nagar	Providing CC Pavement to Reshma Garden Street at Agaramthen Panchayat	196000 0	Base Course
138	THOMAS MALAI	Agaramthen	Thiruvengadaburam	Providing CC Pavement to THIRUVENGADAPURA M 7TH STREET at Agaramthen Panchayat	534000	Base Course
139	THOMAS MALAI	Agaramthen	Thiruvengadaburam	Providing CC Pavement to THIRUVENGADAPURA M 8TH STREET at Agaramthen Panchayat	539000	Base Course
140	THOMAS MALAI	Agaramthen	Thiruvengadaburam	Providing CC Pavement to THIRUVENGADAPURA M 4TH STREET at Agaramthen Panchayat	593000	Base Course

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
141	THOMAS MALAI	CowlBazar	Cowlbazar	Providing BT Road with CC drain to Gerukampakkam Salai Street at Cowl Bazar Panchayat	467000 0	BM Progress
142	THOMAS MALAI	CowlBazar	Cowlbazar	Providing CC Pavement to Anna Street at Cowl Bazar Panchayat	100900 0	Base Course
143	THOMAS MALAI	CowlBazar	Cowlbazar	Providing CC Pavement to Bajanai Koil Street at Cowl Bazar Panchayat	107600 0	Base Course
144	THOMAS MALAI	CowlBazar	Cowlbazar	Providing CC Pavement with CC drain to Manivannan Street at Cowl Bazar Panchayat	803000	Base Course
145	THOMAS MALAI	Kovilambakkam	Kagithapuram	Providing CC Pavement to Kagithapuram 2nd street at Kovilambakkam Panchayat	142600 0	Physically Completed
146	THOMAS MALAI	Kovilambakkam	Kagithapuram	Providing CC Pavement to Kagithapuram 6th street at Kovilambakkam Panchayat	740000	Base Course
147	THOMAS MALAI	Kovilambakkam	Kagithapuram	Providing BT Pavement to LIC Nagar 6th street at Kovilambakkam Panchayat	449300 0	BM Progress
148	THOMAS MALAI	Kovilambakkam	Kagithapuram	Providing CC Pavement to Bhakkiyalakshmi Nagar street at Kovilambakkam Panchayat	141200 0	Physically Completed
149	THOMAS MALAI	Kovilambakkam	Kagithapuram	Providing CC Pavement to Kagithapuram 5th street at Kovilambakkam Panchayat	726000	Base Course
150	THOMAS MALAI	Kovilambakkam	Kovilambakkam colony	Providing BT Pavement to LIC Nagar 5th street at Kovilambakkam Panchayat	449300 0	BM Progress
151	THOMAS MALAI	Kovilambakkam	Rajeshwari nagar	Providing CC Pavement to Rajeswari Nagar 4th street at Kovilambakkam Panchayat	942000	Base Course
152	THOMAS MALAI	Kovilambakkam	Rajeshwari nagar	Providing CC Pavement to Rajeswari nagar Krishna Nagar Main Road at Kovilambakkam Panchayat	107600 0	Base Course

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
153	THOMAS MALAI	Madurapakkam	Kovilaancheri village	Providing cc road to Kovilancheri Mayana Salai	740000	Base Course
154	THOMAS MALAI	Madurapakkam	Madurapakkam	Providing cc road to Mandaiveli 5th Cross Street	678000	Base Course
155	THOMAS MALAI	Madurapakkam	Madurapakkam	Providing cc road to Amman Nagar	773000	Base Course
156	THOMAS MALAI	Madurapakkam	Madurapakkam	Providing cc road to Vengadamangalam Link road	646000	Base Course
157	THOMAS MALAI	Madurapakkam	Madurapakkam	Providing cc road to Annai Theresa Nagar 11th Cross Street	874000	Base Course
158	THOMAS MALAI	Madurapakkam	Madurapakkam	Providing cc road to Sumangali Nagar 3rd Cross Street	269000	Base Course
159	THOMAS MALAI	Madurapakkam	Madurapakkam	Providing cc road to Sumangali Nagar 2nd Cross Street	605000	Base Course
160	THOMAS MALAI	Madurapakkam	Madurapakkam	Providing cc road to Ambedkar Cross Street	441000	Base Course
161	THOMAS MALAI	Madurapakkam	Madurapakkam	Providing cc road to Sumangali Nagar 1st Cross Street	605000	Base Course
162	THOMAS MALAI	Madurapakkam	Madurapakkam	Providing cc road to Mandaiveli 1st Cross Street	101700 0	Base Course
163	THOMAS MALAI	Madurapakkam	Moolacheri	Providing cc road to Pozhachi Amman Koil Street	350400 0	Base Course
164	THOMAS MALAI	Madurapakkam	Moolacheri	Providing cc road to Selva Perumal Nagar Main road	100900 0	Base Course
165	THOMAS MALAI	Madurapakkam	Moolacheri	Providing cc road to Moolacheri Vempuli amman Koil Street	538000	Base Course
166	THOMAS MALAI	Madurapakkam	Rakeshsarma nagar	Providing cc road to Rakesh Sharma nagar 1st Cross Street	545000	Base Course
167	THOMAS MALAI	Madurapakkam	Rakeshsarma nagar	Providing cc road to Rakesh Sharma nagar 2nd Cross Street	558000	Base Course

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
168	THOMAS MALAI	Madurapakkam	Rakeshsarma nagar	Providing cc road to Rakesh Sharma nagar Main Road	105600 0	Base Course
169	THOMAS MALAI	Medavakkam	Bell nagar	Providing CC Pavement to Bhel nagar 4th st at Medavakkam Panchayat	123100 0	Base Course
170	THOMAS MALAI	Medavakkam	Medavakkam	Providing BT Pavement Mullai st 12th ward at Medavakkam Panchayat	309200 0	BM Progress
171	THOMAS MALAI	Medavakkam	Medavakkam	Providing BT Pavement Shanthin Avenue at Medavakkam Panchayat	840000	BM Progress
172	THOMAS MALAI	Medavakkam	Medavakkam	Providing BT Pavement Thiruppur Kumaran St at Medavakkam Panchayat	952000	BM Progress
173	THOMAS MALAI	Medavakkam	Medavakkam	Providing BT Pavement Velavan street at Medavakkam Panchayat	307600 0	BM Progress
174	THOMAS MALAI	Medavakkam	Ranganatha puram	Providing BT Pavement Perumal Koil st Ranganathapuram at Medavakkam Panchayat	147000 0	BM Progress
175	THOMAS MALAI	Medavakkam	Sairam nagar	Providing BT Pavement Providing BT pavement Sairam nagar 2nd st at Medavakkam Panchayat	157500 0	BM Progress
176	THOMAS MALAI	Moovarasampattu	Moovarasampattu	Providing BT Road to Kothavari Street at Moovarasampattu Panchayat	538000	Base Course
177	THOMAS MALAI	Moovarasampattu	Moovarasampattu	Providing BT Road to Vengateshwara Nagar at Moovarasampattu Panchayat	673000	BM Progress
178	THOMAS MALAI	Moovarasampattu	Ragavaa nagar	Providing CC Road with Drain to Ragava Nagar 13th Street at Moovarasampattu Panchayat	184900 0	Base Course
179	THOMAS MALAI	Moovarasampattu	Ragavaa nagar	Providing CC Road with Drain to Ragava Nagar 11th Street at Moovarasampattu Panchayat	304500 0	Base Course
180	THOMAS MALAI	Mudichur	An colony	Providing cc road to EB Office Road	613000	Base Course

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
181	THOMAS MALAI	Mudichur	An colony	Providing cc road to AN Colony 2nd main Road	647000	Base Course
182	THOMAS MALAI	Mudichur	Captain sasikumar nagar	Providing cc road to Sasikumar Nagar 5th Street	2172000	Base Course
183	THOMAS MALAI	Mudichur	Captain sasikumar nagar	Providing cc road to Sasikumar Nagar Main Road	2308000	Base Course
184	THOMAS MALAI	Mudichur	Eb colony	Providing cc road to EB Colony main Road	1376000	Base Course
185	THOMAS MALAI	Mudichur	Indhira nagar	Providing cc road to Indira Nagar 3rd Street	549000	Base Course
186	THOMAS MALAI	Mudichur	Indhira nagar	Providing cc road to Indira Nagar 10th Street	921000	Base Course
187	THOMAS MALAI	Mudichur	Indhira nagar	Providing cc road to Indira Nagar 9th Street	902000	Base Course
188	THOMAS MALAI	Mudichur	Lakshmi nagar	Providing cc road to Vidyalakshmi Street	941000	Base Course
189	THOMAS MALAI	Mudichur	Lakshmi nagar	Providing cc road to South Lakshmi Nagar 2nd Street	1039000	Base Course
190	THOMAS MALAI	Mudichur	Mudichur	Providing cc road to Kamajar Street	796000	Corewall Complete d
191	THOMAS MALAI	Mudichur	Mudichur	Providing cc road to Gandhi Street	4344000	Corewall Complete d
192	THOMAS MALAI	Mudichur	Mudichur	Providing cc road to VOC Street	2263000	Base Course
193	THOMAS MALAI	Mudichur	Mudichur west	Providing cc road to Anna Street	1348000	Base Course
194	THOMAS MALAI	Mudichur	Muthamizh nagar	Providing cc road to Muthamil Nagar	882000	Base Course
195	THOMAS MALAI	Mudichur	Saranaga avenue	Providing cc road to Saranga Avenue 2nd Street	907000	Base Course

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
196	THOMAS MALAI	Nanmangalam	Nanmangalam	Providing CC pavement to Kamar street at Nanmangalam Panchayat	177500 0	Base Course
197	THOMAS MALAI	Nanmangalam	Nanmangalam	Providing CC pavement to Kannagi street at Nanmangalam Panchayat	166800 0	Base Course
198	THOMAS MALAI	Nanmangalam	Nanmangalam	Providing CC pavement to Pandiyan street at Nanmangalam Panchayat	150600 0	Base Course
199	THOMAS MALAI	Nanmangalam	Nanmangalam	Providing CC pavement to Ozhaiyar street at Nanmangalam Panchayat	151700 0	Base Course
200	THOMAS MALAI	Nanmangalam	Nanmangalam	Providing CC pavement to Abinandhan nagar main Street at Nanmangalam Panchayat	207700 0	Base Course
201	THOMAS MALAI	Nanmangalam	Nanmangalam	Providing CC pavement to Elango Street at Nanmangalam Panchayat	172200 0	Base Course
202	THOMAS MALAI	Nanmangalam	Nanmangalam	Providing CC pavement to Lakshmi 1st Street at Nanmangalam Panchayat	129800 0	Base Course
203	THOMAS MALAI	Ottiambakkam	Ottiambakkam	Providing cc road to ottiswarar nagar 1 cross street	153400 0	Base Course
204	THOMAS MALAI	Ottiambakkam	Ottiambakkam colony	Providing cc road to biben rao street	257700 0	Base Course
205	THOMAS MALAI	Ottiambakkam	Ottiambakkam colony	Providing cc road to ambethkar cross street	200900 0	Base Course
206	THOMAS MALAI	Perumbakkam	Indira nagar	Providing CC Pavement to Indhira Ghanthi at Perumbakkam Panchayat	211600 0	Base Course
207	THOMAS MALAI	Perumbakkam	Nesamani nagar	Providing CC Pavement to Nesamani Nagar 8th Street at Perumbakkam Panchayat	293000	Base Course
208	THOMAS MALAI	Perumbakkam	Nethaji nagar	Providing CC Pavement to Nethaji Nagar 7th street at Perumbakkam Panchayat	704000	Base Course

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
209	THOMAS MALAI	Perumbakkam	Perumbakkam	Providing CC Pavement to Shanthy Nagar 7th street at Perumbakkam Panchayat	469000	Base Course
210	THOMAS MALAI	Perumbakkam	Perumbakkam	Providing CC Pavement to Shanthy Nagar 6th street at Perumbakkam Panchayat	528000	Base Course
211	THOMAS MALAI	Perumbakkam	Perumbakkam	Providing CC Pavement to Shanthy Nagar 5th street at Perumbakkam Panchayat	117200 0	Base Course
212	THOMAS MALAI	Perumbakkam	Perumbakkam	Providing CC Pavement to Sekaran Nagar 2nd main Road at Perumbakkam Panchayat	219200 0	Base Course
213	THOMAS MALAI	Perumbakkam	Perumbakkam	Providing CC Pavement to Sekaran Nagar 1st street at Perumbakkam Panchayat	352000	Base Course
214	THOMAS MALAI	Perumbakkam	Perumbakkam	Providing CC Pavement to Rajiv Ghanthy Street at Perumbakkam Panchayat	171500 0	Base Course
215	THOMAS MALAI	Perumbakkam	Perumbakkam	Providing CC Pavement to Elango adikal street at Perumbakkam Panchayat	111400 0	1:2:4 Complete d
216	THOMAS MALAI	Perumbakkam	Perumbakkam	Providing CC Pavement to Kulakarai Street at Perumbakkam Panchayat	114400 0	Base Course
217	THOMAS MALAI	Perumbakkam	Perumbakkam	Providing CC Pavement to Aladiamman Koil Street at Perumbakkam Panchayat	133400 0	Base Course
218	THOMAS MALAI	polichalur kiramam	Balaji nagar	Providing CC Pavement to Balaji nagar DURAI KANNU STREET at Polichalur Panchayat	646000	Base Course
219	THOMAS MALAI	polichalur kiramam	Bavaani nagar	Providing CC pavement to Bhavani nagar 1ST CROSS STREET at Polichalur Panchayat	807000	Base Course
220	THOMAS MALAI	polichalur kiramam	Moovar nagar	Providing CC Pavement to MOOVAR NAGAR INDRA GANDHI STREET at Polichalur Panchayat	807000	Base Course

SI. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
221	THOMAS MALAI	polichalur kiramam	Police commissioner colony	Providing CC Pavement to Police Commissioner colony MAIN ROAD at Polichalur Panchayat	1291000	Base Course
222	THOMAS MALAI	polichalur kiramam	Prem nagar	Providing CC pavement to Prem nagar PATEL STREET at Polichalur Panchayat	710000	Corewall Completed
223	THOMAS MALAI	polichalur kiramam	Venkateshwara nagar	Providing CC Pavement to VENKATESHWARA NAGAR ISTA SIDHI VINAYAGAR KOVIL STREET at Polichalur Panchayat	2152000	Base Course
224	THOMAS MALAI	Siththaalapaakkam	Kannikovil nagar	Providing CC road to Kannikoil Main Road	4241000	Base Course
225	THOMAS MALAI	Siththaalapaakkam	Nagalakshmi nagar	Providing CC road to Sabari Avenue Main Road	2175000	Base Course
226	THOMAS MALAI	Siththaalapaakkam	Nagalakshmi nagar	Providing CC road to Nagalakshmi Avenue main Road	1574000	Patches Progress
227	THOMAS MALAI	Siththaalapaakkam	Nagalakshmi nagar	Providing CC road to Vetri vel Nagar to Sabari Avenue joint Road	1740000	Base Course
228	THOMAS MALAI	Siththaalapaakkam	Sankarapuram	Providing CC road to Vijay Avenue 7th Street	959000	Base Course
229	THOMAS MALAI	Siththaalapaakkam	Sankarapuram	Providing CC road to Dream park 8th street	706000	Base Course
230	THOMAS MALAI	Siththaalapaakkam	Siththaalapaakkam	Providing CC road to Varadharaja perumal kovil Street	1984000	Base Course
231	THOMAS MALAI	Siththaalapaakkam	Siththaalapaakkam	Providing CC road to Aravind Avenue	1520000	Base Course
232	THOMAS MALAI	Siththaalapaakkam	Siththaalapaakkam	Providing CC road to Jothi mangala Nagar	1930000	Base Course
233	THOMAS MALAI	Siththaalapaakkam	Siththaalapaakkam village	Providing CC road to Senthamil Nagar Main Road	733000	Base Course

SI. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
234	THOMAS MALAI	Thirusulam	Ranianna nagar	Providing CC Pavement to Rani anna nagar to Subam nagar at Thirusulam Panchayat	269500 0	Base Course
235	THOMAS MALAI	Thirusulam	Thirusulam	Providing CC Pavement to Kumaran nagar street at Thirusulam Panchayat	196000 0	Base Course
236	THOMAS MALAI	Thirusulam	Thirusulam	Providing CC Pavement to Magala vinayar koil cross street at Thirusulam Panchayat	392000	Base Course
237	THOMAS MALAI	Thirusulam	Thirusulam	Providing CC Pavement to Poonga nagar main street at Thirusulam Panchayat	809000	Base Course
238	THOMAS MALAI	Thirusulam	Thirusulam	Providing CC Pavement to vembuliaman koil cross street at Thirusulam Panchayat	588000	Base Course
239	THOMAS MALAI	Thirusulam	Thirusulam	Providing CC Pavement to Arasu thoguppu veedu 1st street at Thirusulam Panchayat	833000	Base Course
240	THOMAS MALAI	Thiruvanchery	Ambedkar nagar	Providing Cement Concrete Road to Mullai street extension at Thiruvanchery Panchayat	220500 0	Base Course
241	THOMAS MALAI	Thiruvanchery	Ambedkar nagar	Providing Cement Concrete Road to Subhan Street at Thiruvanchery Panchayat	115200 0	Base Course
242	THOMAS MALAI	Thiruvanchery	Ambedkar nagar	Providing Cement Concrete Road to Anga Muthu Pillai Street at Thiruvanchery Panchayat	343000	Base Course
243	THOMAS MALAI	Thiruvanchery	Ambedkar nagar	Providing Cement Concrete Road to Thiruvalluvar Street at Thiruvanchery Panchayat	784000	Base Course
244	THOMAS MALAI	Thiruvanchery	Ambedkar nagar	Providing Cement Concrete Road to Arjunan Street at Thiruvanchery Panchayat	735000	Base Course
245	THOMAS MALAI	Thiruvanchery	Sathyamurthy nagar	Providing Cement Concrete Road to Sai Nagar at Thiruvanchery Panchayat	588000	Base Course

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
246	THOMAS MALAI	Thiruvanchery	Sathyamurthy nagar	Providing Cement Concrete Road to Ayyanar Street at Thiruvanchery Panchayat	980000	Base Course
247	THOMAS MALAI	Thiruvanchery	Thiruvanchery	Providing Cement Concrete Road to Vaijeyanthimala Street at Thiruvanchery Panchayat	1294000	Base Course
248	THOMAS MALAI	Thiruvanchery	Thiruvanchery	Providing Cement Concrete Road to Govindaraj Street at Thiruvanchery Panchayat	441000	Base Course
249	THOMAS MALAI	Thiruvanchery	Thiruvanchery	Providing Cement Concrete Road to Venugopal Pillai Street at Thiruvanchery Panchayat	647000	Base Course
250	THOMAS MALAI	Thiruvanchery	Thiruvanchery colony	Providing Cement Concrete Road to Jothi Nagar at Thiruvanchery Panchayat	613000	Base Course
251	THOMAS MALAI	Thiruvanchery	Thiruvanchery colony	Providing Cement Concrete Road to John Kennadi Street at Thiruvanchery Panchayat	598000	Base Course
252	THOMAS MALAI	Thiruvanchery	Thiruvanchery colony	Providing Cement Concrete Road to Jegajeevanram Street at Thiruvanchery Panchayat	245000	Base Course
253	THOMAS MALAI	Thiruvanchery	Thiruvanchery colony	Providing Cement Concrete Road to Gandhi Street at Thiruvanchery Panchayat	466000	Base Course
254	THOMAS MALAI	Thiruvanchery	Thiruvanchery colony	Providing Cement Concrete Road to Bharathidhasan Street at Thiruvanchery Panchayat	392000	Base Course
255	THOMAS MALAI	Thiruvanchery	Thiruvanchery colony	Providing Cement Concrete Road to Kulakkarai 1st Cross Street at Thiruvanchery Panchayat	245000	Base Course
256	THOMAS MALAI	Thiruvanchery	Thiruvanchery colony	Providing Cement Concrete Road to Ambethkar Street at Thiruvanchery Panchayat	245000	Base Course

SI. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
257	THOMAS MALAI	Thiruvengeri	Thiruvengeri colony	Providing Cement Concrete Road to Nanthanar Street at Thiruvanchery Panchayat	250000	Base Course
258	THOMAS MALAI	Thiruvengeri	Thiruvengeri colony	Providing Cement Concrete Road to Nataraj Street at Thiruvanchery Panchayat	368000	Base Course
259	THOMAS MALAI	Thiruvengeri	Thiruvengeri colony	Providing Cement Concrete Road to Rajaram Street at Thiruvanchery Panchayat	735000	Base Course
260	THOMAS MALAI	Thiruvengeri	Thiruvengeri colony	Providing Cement Concrete Road to Siva Shanmugam Pillai Street at Thiruvanchery Panchayat	637000	Base Course
261	THOMAS MALAI	Thiruvengeri	Thiruvengeri colony	Providing Cement Concrete Road to Subramani Street at Thiruvanchery Panchayat	147000	Base Course
262	THOMAS MALAI	Thiruvengeri	Thiruvengeri colony	Providing Cement Concrete Road to Thamarai Street at Thiruvanchery Panchayat	392000	Base Course
263	THOMAS MALAI	Thiruvengeri	Thiruvengeri colony	Providing Cement Concrete Road to Thirumalai Nagar Thiruvanchery Panchayat	1083000	Base Course
264	THOMAS MALAI	Thiruvengeri	Thiruvengeri colony	Providing Cement Concrete Road to Thulukkanam Street at Thiruvanchery Panchayat	147000	Base Course
265	THOMAS MALAI	Vengaivasal	Adinath avenue	Providing CC road to adhinath avenue 4th street	840000	Base Course
266	THOMAS MALAI	Vengaivasal	Ananda nagar	Providing CC road to lakshmi street	474000	Base Course
267	THOMAS MALAI	Vengaivasal	Vengavasal	Providing CC road to Akshayam Avenue	583000	Patches Completed
268	THOMAS MALAI	Vengaivasal	Vengavasal	Providing CC road to Barma colony street	343000	Base Course

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
269	THOMAS MALAI	Vengaivasal	Vengavasal	Providing CC road to Bogar Avenue (Aadhinath Avenue)	1975000	Base Course
270	THOMAS MALAI	Vengaivasal	Vengavasal	Providing CC road to sanmugam street	196000	Base Course
271	THOMAS MALAI	Vengaivasal	Vengavasal	Vengaivasal to Mambakkam road in Vengaivasal Panchayat - Km - (0/0 - 0/920)	4801000	WMM Metal Collection
272	THOMAS MALAI	Vengaivasal	Vengavasal	Providing CC road to Alwin Nagar 1,2nd Street	686000	Base Course
273	THOMAS MALAI	Vengaivasal	Vengavasal	Providing CC road to Sivapoosanam 6th Street	828000	Base Course
274	THOMAS MALAI	Vengaivasal	Vengavasal	Providing CC road to Subramanian Street	490000	Base Course
275	THOMAS MALAI	Vengaivasal	Vengavasal	Providing CC road to Thenral Nagar 1,2nd Street	588000	Base Course
276	THOMAS MALAI	Vengaivasal	Vengavasal	Providing CC road to Vignarajapuram 3rd Main Road	696000	Base Course
277	THOMAS MALAI	Vengaivasal	Vengavasal	Providing CC road with CC Drain to Poonga 1st Cross Street	1511000	Base Course
278	THOMAS MALAI	Vengaivasal	Vignarajapuram	Providing CC road to saraswathy gopal street	504000	Base Course
279	THOMAS MALAI	Vengaivasal	Vignarajapuram	Providing CC road to Vignarajapuram 2nd Main Road Extention to Mohid flarenz street	3165000	Base Course
280	THOMAS MALAI	Vengaivasal	Visalakshi nagar	Providing CC road with drain to Vishalakshi Nagar 4TH Street	378000	Base Course
281	THOMAS MALAI	Vengaivasal	Visalakshi nagar	Providing CC road with drain to KK SALAI GREEM HOMES Street	420000	Base Course
282	THOMAS MALAI	Vengaivasal	Visalakshi nagar	Providing CC road with drain to Vishalakshi Nagar 3RD Street	713000	Base Course

Sl. No	Block Name	Village Name	Habitation Name	Work Name	AS Value	Current Stage
283	THOMAS MALAI	Vengaivasal	Visalakshi nagar	Providing CC road with drain to KK SALAI 7TH CROSS Street	755000	Base Course
284	THOMAS MALAI	Vengaivasal	Visalakshi nagar	Providing CC road to Jayalakshmi Nagar Main Road	686000	Base Course

13.6 FLOOD REMEDIAL WORKS TAKENUP BY TOWN PANCHAYAT DEPARTMENT

Sl. No	Name of the Town Panchayat	No.of Work	Completed	Length in KM	Estimate Amount Rs.in Lakhs
1	Karunguzhi	1	1	2.198	126.0
2	Mamallapuram	1	1	0.508	52.00
3	Acharapakkam	1	1	2.000	128.00
	TOTAL	3	3	4.706	306.0

13.7 FLOOD REMEDIAL WORKS TAKENUP BY MUNICIPALITIES

There are 4 Municipalities viz., Chengalpet, Madhurantagam, Maraimalainagar, Nanthivaram Guduvancherry under administrative control of Chengalpattu District . Since this district is situated along the Bay of Bengal, the Municipalities in this district get heavy rainfall every year during the monsoon period and most of the places get inundated during heavy rains. The Municipalities have identified 72 places as vulnerable areas and inundation occurs in these places during monsoon.

A Precautionary measures taken before monsoon:

The following precautionary measures are taken by the municipalities before monsoon:

The storm water drains and lead channels are desilted and blockages are removed. Action is taken to remove the dangerous and uprooted trees and to protect the buildings.

Measures taken to prevent the spread of cholera and dysentery.

- a. All the overhead water tanks are daily cleaned and inspected by the officers responsibility.
- b. Hotels, hostels, fish market, meat market are inspected daily and action are taken to confiscate and discard food items farmed to be stale.
- c. People are advised to drink boiled and filter water.
- d. Action is taken to discard the decayed vegetables.

All the Municipal staff, employees and workers are instructed to be prepared to involve themselves in round the clock katcha drainwork diversion and interception of drain work. Action taken to provide cell phone to all the employees All the relief shelters, Municipal schools are inspected to ensure their soundness and suitability of building to accommodate the victims during monsoon.

MAINSTREAMING OF DISASTER MANAGEMENT IN DEVELOPMENTAL PLANS

Mainstreaming Disaster Risk Reduction into Developmental Planning

Risks due to disasters are exacerbated due to lack of holistic approaches in developmental planning and project implementation. The multitude of schemes currently implemented in different sectors have not imbibed disaster risk concerns which arise due to natural causes and anthropogenic intervention at global and local stage. It is essential to mainstream risk concerns in to developmental plans so as to have a multi-pronged strategy to address the risks that are caused both due to natural and manmade causes

14.1 The Legal Context

The Disaster Management (DM) Act mandated the DDMA to “lay down guidelines to be followed by the departments of the Government of the State for the purposes of integration of measures for prevention of disasters and mitigation in their development plans and projects and provide necessary technical assistance, therefore, to “review the development plans of the different departments of the State and ensure that prevention and mitigation measures are integrated therein”.

Under Section 38 (2) (e) of the Act, the State Government is to ensure that the integration of measures for prevention of disaster or mitigation has been incorporated by the departments of the Government of the State in their development plans and projects. The State Government is further to ensure integration of measures to reduce or mitigate the vulnerability of different parts of the State to different disasters in the state development plan 38 (2) (f).

14.2 Purpose of Mainstreaming

Mainstreaming Disaster Management into the development planning process has the following purposes

1. To make certain that all the development programs and projects that originate from or funded by the Government will have a consideration for reducing the risks.
2. To make certain that all the development programs and projects that originate from or are funded by the Government do not inadvertently increase vulnerability to disaster in all sectors: social, physical, economic and environment.
3. To make certain that all the disaster relief and rehabilitation programs and pro-jects that originate or are funded by the Government are designed to contribute to development aims and to reduce future

disaster risk.

4. To make certain that area specific plan (prone to disasters) are prepared so as to enable the convergence of all future development programs and projects to reduce the risks.

“Do No Harm Approach” The objectives of Disaster Prevention will be realized through “Do No Harm Approach”. The development plans will incorporate elements of impact assessment, risk reduction, and adoption of the ‘Do No Harm’ approach. Measures such as urban planning and zoning, updating of building codes their enforcement, adoption of disaster resilient housing designs flood proofing, the establishment of early warning systems, generating community awareness, creating technical competence and promoting disaster resistant technologies will be some of the priority areas.

14.3 Mainstreaming Risk concerns a way of disaster management

‘Mainstreaming Disaster Risk Reduction’ means completely institutionalizing Disaster Risk Reduction within the development and recovery agenda. ‘Mainstreaming DRR’, is a logical corollary to the systems approach and it means completely institutionalizing DRR within the developmental planning and projects. Accordingly, the following processes will ensure institutionalization of disaster risk reduction

14.3.1 On-going schemes and projects of the Ministries and Departments of GoI and GoTN, as well as of all Government agencies and Institutions, including Public Sector Undertakings, will be selectively audited by designated Government agencies for ensuring that they have addressed the disaster risk and vulnerability profiles of the local areas where such schemes and activities are being undertaken.

14.3.2 At conceptualization or funding stage itself, the developmental schemes will be designed with consideration of any potentially hazardous impact associated with it and incorporate measures for mitigation of the same.

14.3.3 All the developmental schemes will be pragmatic, incorporating the awareness of local disaster risks and vulnerabilities, and ensuring that the schemes have addressed these concerns and included specific provisions for mitigating such concerns;

14.4 Guiding Principles for Mainstreaming Resilient Communities

The mainstreaming efforts will centre around anticipation of disaster and planning and executing disaster risk reduction strategies in order to promote community resilience through enhancement of their Livelihood opportunities, Health, protecting their Culture & Heritage, Socio Economic Assets. As part of the community involvement and promoting leadership among youth approximately 2227 abled body youngsters have been enrolled as first responders including 597 numbers of women. These First Responders are trained in Search, Rescue Evacuation operations involving governmental & non-governmental agencies. The systems approach will accord highest priority to community involvement and capacity building in risk management and protecting the integrity of ecosystems to enhance their resilience.

Integrated Development of Vulnerable Areas

Besides focusing on treatment of the entire river basin for risk reduction, the main focus of mainstreaming disaster risk concerns into developmental plans will be on integrated development of vulnerable areas so as to reduce the existing disaster risks and prevent the emerging and new challenges. The development of the vulnerable areas besides main streaming disaster risk concerns into the individual schemes convergence of both structural & non-structural measures will be promoted. In addition all risk reduction strategies will accord primary to social and financial inclusive growth. The approach besides preventing & reducing hazard exposure to vulnerability & disaster will also ensure the resilience of the District through robust preparedness preventive and mitigation strategies.

Restoration & sustainable management of ecosystems

The mainstreaming of risk concerns into development plans will be planned at the river eco systems basis so as to secure advantage of various eco system services rendered by the River Eco system and other ecosystems that inter phase between the rivers and the Coastal eco systems. Special focus will be laid on restoration and protection of fragile and vulnerable specialties eco systems such as creeks, Marsh Lands and Wet lands. In order to achieve the above objective Government have constituted a wetland authority at the State and district level and as initiated special purpose vehicles to river restoration projects for eg.

CRRT and studies have been initiated for comprehensive Development of Adyar, Kosathalayar, Coovam so as to minimize the risks of urban floods in Chennai and Peri urban areas falling in Chengalpattu, Kancheepuram and Tiruvallur District.

Major Areas identified for mainstreaming risk concerns into developmental plans.

The focus will be on major thrust areas for mainstreaming risk concerns into development plans taking into account risk reduction as an essential investment to promote sustainable and inclusive development. The major thrust areas identified are

- 14.4.1 Natural Resources Conservation
- 14.4.2 Comprehensive River Basin development
- 14.4.3 Restoration & Sustainable Management of Ecosystems
- 14.4.4 Sustainable Agricultural Development
- 14.4.5 Inclusive Development

The State Government has been implementing a multitude of projects and programmes in the above thrust areas which hitherto were being implemented with sectoral priorities and with less priority on Disaster Risk Concerns in the planning and implementation stages. In order to leverage the risk reduction potential of these programmes the risk concerns will be mainstreamed into the project components and they will be implemented with a focus to reduce the disaster risks of the vulnerable areas identified in the districts. These schemes will also be integrated with the special projects which are targeted to reduce the risks in the vulnerable areas. The Convergence and mainstreaming risk concerns into these major thrust areas will enhance resilience of the community and the state in facing different disasters. The mainstreaming and convergence also incorporate the principle of Build Back Better to risk proof the Community from major disasters to a great extent.

In order to enhance the resilience of the farming community to face the vagaries of monsoon and impacts of climate change, sustainable agricultural practices will be followed on a mission mode with special focus on rainfed agriculture. Mainstreaming of risk reduction strategies will be incorporated in relevant schemes to promote recharging of the ground water aquifer through Integrated Watershed Management approaches, Comprehensive Rain Water Harvesting at the household, community and institutional levels. Addressing the problems of sea water incursion in the vulnerable coastal areas will be one of the major focus areas through establishment of tail end regulators, construction of Bed Dams and injection of fresh water in the tail end areas of the drainage systems which drain into the estuaries under the MGNREGS, State schemes as well as special risk reduction schemes including funding by the Private Sector.

The main streaming will give priority for carrying out works in vulnerable areas under five Major Themes Viz Sustainable Agricultural Development, Natural Resources Conservation Comprehensive Flood Protection & Sustainable Management of Ecologically fragile area and Inclusive Development

<p>Natural Resources Conservation Schemes Kudimaramathu</p> <ul style="list-style-type: none"> • MGNREGS- Improving Inflow Channels, Tree Planting • Watershed Development • Special Area Development Programmes • Integrated Tribal Development • Micro Irrigation • Rain Water Harvesting • Artificial Recharging of Ground Water • New Irrigation Projects • Prevention of Sea Water Intrusion 	<p>To address Drought, Floods, Landslides, Heat waves and Climate Impact</p>
<p>Comprehensive Management of River Basins -Schemes</p> <ul style="list-style-type: none"> • IAMWARM / TNIAMP • Kudimaramathu Works • Clearing & Widening Drainage Carriers to Original Standards • Check Dams across River Courses with necessary scour vents for recharging the Downstream stretches • Construction of Regulators and barrages • Riverine Reservoirs • Instream Reservoirs • Interlinking of Rivers • Tail End Regulators 	<p>To give protection during Floods & Cyclones Floods by Structural interventions like</p> <ol style="list-style-type: none"> a) improving Storage Capacity of Water Bodies b) Moderate flood flows by diversion,

Sustainable Management of Ecologically fragile areas Schemes <ul style="list-style-type: none"> • Rain Water Harvesting • Artificial recharging through check dams and recharge shafts • Prevention of sea water intrusion • Rejuvenation of failed Wells • Eco restoration of marsh lands, estuaries and creeks. • Conservation & Restoration of Creeks Marshlands and Wetlands • River grading works 	Flood and drought Mitigation and Livelihood Support
Sustainable Agricultural Development Schemes <ul style="list-style-type: none"> • Mission for Sustainable Dry Land Agriculture, Rain fed Area Development for Horticulture Clusters 	To Combat Drought and Climate mitigation
Inclusive development Schemes Social Security Schemes and Capacity building of the vulnerable sections Livelihood schemes	Community resilience

Kudimaramathu Works 2020-21

G.O.(Ms).No.,98 PW(W1)Dept. Date.22.04.2020

SL. No	Name of work	Estimate Amount (In Lakhs)	Ayacut in Ha
Chengalpattu District			
1	Rehabilitation of Kinar Tank in Maduranthagam Taluk of Chengalpattu District. (Left Out Works of Kudimaramathu 2016-17)	64.00	414.980
2	Rehabilitation of Meiyur Tank in Maduranthagam Taluk of Chengalpattu District.	45.30	404.050
3	Rehabilitation of Vedal Peria Eri in Cheyyur Taluk of Chengalpattu District.	50.00	321.100
4	Rehabilitation of Vedal thangal in Cheyyur Taluk of Chengalpattu District.	60.00	321.100
5	Rehabilitation of Zamin Endathur Periya Eri in Maduranthagam Taluk in Chengalpattu District	18.70	227.000

SL. No	Name of work	Estimate Amount (In Lakhs)	Ayacut in Ha
6	Rehabilitation of Cheyyur Chekkeri Tank in Cheyyur Taluk of Chengalpattu District.	35.00	160.830
7	Rehabilitation of Karunguzhi Tank in Maduranthagam Taluk in Chengalpattu District	36.20	158.700
8	Rehabilitation of Vaiyavoor Velleri Thangal in Maduranthagam Taluk of Chengalpattu District.	50.70	130.770
9	Rehabilitation of Karumbakkam Tank in Cheyyur Taluk of Chengalpattu District.	60.00	128.760
10	Rehabilitation of Pazhaiyanur Tank and Anicut in Maduranthagam Taluk of Chengalpattu District. (Left Out Works of Kudimaramahu 2016-17)	119.00	120.650
11	Rehabilitation of Orathur Tank in Maduranthagam Taluk in Chengalpattu District	45.00	117.000
12	Rehabilitation of Agaram Tank in Cheyyur Taluk in Chengalpattu District	45.00	115.880
13	Rehabilitation of Puliparankoil Tank in Maduranthagam Taluk of Chengalpattu District.	27.80	109.310
14	Rehabilitation of Paiyambadi Tank in Maduranthagam Taluk of Chengalpattu District.	23.60	107.020
15	Rehabilitation of Araiappakkam Tank in Maduranthagam Taluk of Chengalpattu District.	25.65	103.630
16	Rehabilitation of Pukkathurai Peria Eri in Maduranthagam Taluk of Chengalpattu District.	44.10	100.810
17	Rehabilitation of Minal Chithamur Tank in Maduranthagam Taluk of Chengalpattu District.	42.00	97.450
18	Rehabilitation of Puthirankottai Tank in Cheyyur Taluk in Chengalpattu District	50.00	94.770
19	Rehabilitation of Mugundhagiri Tank in Cheyyur Taluk in Chengalpattu District	45.00	91.760
20	Rehabilitation of Karunagacheri Tank in Maduranthagam Taluk of Chengalpattu District.	31.00	90.280
21	Rehabilitation of Munnuthikuppam Tank in Maduranthagam Taluk of Chengalpattu District.	15.80	89.880

SL. No	Name of work	Estimate Amount (In Lakhs)	Ayacut in Ha
22	Rehabilitation of Pondur Periya Eri in Cheyyur Taluk of Chengalpattu District.	50.00	87.690
23	Rehabilitation of Nettram Bakkam Tank in Maduranthagam Taluk of Chengalpattu District.	50.00	82.920
24	Rehabilitation of Vettur Tank in Maduranthagam Taluk of Chengalpattu District.	40.00	81.390
25	Rehabilitation of Kodithandalam Tank in Maduranthagam Taluk of Chengalpattu District.	31.80	80.570
26	Rehabilitation of Salaiyur Tank in Maduranthagam Taluk of Chengalpattu District.	40.00	79.260
27	Rehabilitation of Vazhapattu Tank in Maduranthagam Taluk of Chengalpattu District.	50.00	72.180
28	Rehabilitation of Kadamalaputhur Tank in Maduranthagam Taluk in Chengalpattu District	50.00	70.520
29	Rehabilitation of Kalyankulam in Maduranthagam Taluk of Chengalpattu District.	45.00	67.410
30	Rehabilitation of Palligaram Chitheri in Maduranthagam Taluk of Chengalpattu District.	17.00	60.320
31	Rehabilitation of Veliyambakkam Peria Eri in Maduranthagam Taluk in Chengalpattu District	40.00	59.960
32	Rehabilitation of Pavunthanganarai Tank in Maduranthagam Taluk of Chengalpattu District.	17.00	55.990
33	Rehabilitation of Pudupattu Tank in Cheyyur Taluk of Chengalpattu District	50.00	55.750
34	Rehabilitation of Sidhandi Tank in Maduranthagam Taluk of Chengalpattu District.	35.70	45.750
35	Rehabilitation of Veliyambakkam Chitteri Eri in Maduranthagam Taluk in Chengalpattu District	30.00	43.640
36	Rehabilitation of Neikuppi Tank in Maduranthagam Taluk of Chengalpattu District.	25.37	42.510
37	Rehabilitation of Murungai Tank in Maduranthagam Taluk of Chengalpattu District.	45.00	42.040
TOTAL		1550.72	4533.630

14.5 TN-IAMP (IAMWARM-II)

Irrigated Agriculture Modernisation and Water Resources Management Project with World Bank Assistance.

In the scenario of uncertain monsoon due to climate change it is very essential to take up Rehabilitation and restoration of irrigation infrastructure to boost the Agricultural Production and to enhance the Agriculturist income with objective of “more income per drop of water” in Tamil Nadu. Hence, the Government of Tamilnadu have formulated a New Scheme IAMWARM Project with World Bank Assistance which is implemented since 2007. This project is based on Integrated Water Resource Management concept interlinking all user Departments with Water Resources Department, especially Agriculture Department, Agricultural Engineering Department, Tamil Nadu Agriculture University, Agriculture Marketing, Animal Husbandary Department, Horticulture Department and Fisheries Department.

RAF Packages Works (Retroactive Funding)

There are 37 Tanks renovated and 40.60 Km of Supply Channels are desilted for a total value of Rs.3024.95 Lakhs. All the works are Completed.

II.TN-IAMP Phase-I Lower Palar Sub Basin

There are 18 Tanks, 1 Anicut renovated and 34.05 Km of Supply Channels are desilted for a total value of Rs.858.73 Lakhs. All the works are Completed.

14.6 MGNREGS

Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

Introduction

The Mahatma Gandhi National Rural Employment Guarantee Scheme was launched on 02.02.2006. It guarantees 100 days of employment in a financial year to any rural household whose adult members volunteer to do unskilled manual work.

Mahatma Gandhi National Rural Employment Guarantee Act is an important step towards the realization of the “right to work”. The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) framed under the Act is the only anti-poverty programme Which has legal backing.

The core objective of this scheme, as per the revised schedule-I of the MGNREG.Act, are

- ▶ Providing not less than one hundred days of unskilled manual work as a guaranteed employment in a financial year to every household in rural areas as per demand, resulting in creation of productive assets of prescribed quality and durability;
- ▶ Strengthening the livelihood resource base of the poor;
- ▶ Proactively ensuring social inclusion;
- ▶ Strengthening of Panchayat Raj institutions.

Salient Features of the Scheme

14.6.1 Provision of 100 days of guaranteed wage employment in every financial year to each registered household in the Village Panchayat, whose adult members volunteer to do unskilled labour

14.6.2 The Central Government bears 100% wage cost of unskilled manual labour. Material cost including wages of skilled and semi-skilled workers is borne by Central Government and by State Government in the ratio of 75:25.

14.6.3 No contractors or machineries are allowed.

14.6.4 In order to facilitate registration of new job cards and redressal of the grievances of workers, Rozgar Diwas (Velaivaippu Dhinam) is organized in all Village Panchayats once a month.

14.6.5 All workers shall have a right to participate in the Gram Sabha and decide the Shelf of works and the order of priority of works to be taken up under MGNREGS in their Village Panchayat.

14.6.6 The wages for unskilled labour has been fixed based on the Rural Schedule of Rates. As per the revised Schedule-I of MGNREG Act, the Schedule of Rates for

wages of unskilled labourers is so fixed that an adult person working for eight hours which include an hour of rest (i.e.,7 hours of work) will earn wages equal to wage rate.

14.6.7 Wages are equal to both men and women and the notified wage for 2020- 21 Rs.256/- per day.

14.6.8 Disbursement of wages is done through Public Financial Management System (PFMS) and wages credited to the workers accounts within 15 days.

14.6.9 One third of the beneficiaries should be women

14.6.10 Work site facilities such as drinking water, first aid kit, shade etc., shall be provided.

14.6.11 Grama Sabha conducts the social audit in respect of MGNREGS through Village Social Auditors.

12. A Toll free Help line (1299) has also been provided in each district as part of Grievance redressal mechanism

13. Under Section 12 of the MGNREG Act, Government of Tamil Nadu has constituted the State Employment Guarantee Council to advise, evaluate and monitor the implementation of the scheme.

Sl. No	Name of the District	Chengalpattu	
1	Population as per 2011 Census	Total Population Total no.of Male Total no.of Female Total no.of SC Total no.of ST	1127209 567197 560012 381110 19256
2	No. of Blocks & Block Name	8	1.St .Thomas Mount 2. Thiruporur 3.Kattankulathur 4.Thirukalukundram 5.Acharapakkam 6.Maduranthagam 7.Lathur 8.Chithamur
3	No.of Village Panchayat	359	
4	No .of Habitations	2158	
5	No of Clusters	548	
6	Total No of MGNREGS House holders	207115	
7	Total No.of Mgnregs Active Workers	219635	
8	Daily Wage per Person	Rs.256/- Per day	

ANNEXURE 1

IMPORTANT CONTACT NUMBERS TOLL FREE NO: 1077 (COLLECTORATE, CHENGALPATTU)

044-27427412 / 27427414

a) DISTRICT ADMINISTRATION

DESIGNATION	OFFICE	RESIDENCE	CELL NO
DISTRICT COLLECTOR	-	-	9445456000
DISTRICT REVENUE OFFICER	-	-	9445000953
SUPERINTENDENT OF POLICE	-	-	9498171819
PROJECT OFFICER DRDA	-	-	7305089502
PERSONAL ASST. (GENERAL) TO COLLECTOR	-	-	9445007861

b) DISTRICT ADMINISTRATION

S.NO	DESIGNATION	OFFICE	MOBILE
1	PERSONAL ASSISTANT (GENERAL)	-	9445007861
2	SPECIAL DEPUTY COLLECTOR (SSS)	-	
3	ADDL.PERSONAL ASSISTANT (LAND)	-	9944693331
4	DISTRICT SUPPLY OFFICER	-	9943947370
5	DISTRICT BACKWARD CLASSES OFFICER	-	9944129266
6	DISTRICT ADI DRAVIDAR WEL- FARE OFFICER	-	8925307555

S.NO	DESIGNATION	OFFICE	MOBILE
7	PERSONAL ASSISTANT (AGRICULTURE)	-	7708541376
8	ASSISTANT COMMISSIONER (EXCISE)	-	9443663922
9	HUZUR SARISHTADAR (GENERAL)	-	9384477740
10	HUZUR SARISHTADAR (MAGISTERIAL)	-	9042987748
11	SPECIAL TAHSILDAR (DM)	-	9940445930

REVENUE DIVISIONAL OFFICERS

S.NO	DESIGNATION	OFFICE	MOBILE
1	RDO, MADURANTAKAM	27552196	9445000415
2	SUB COLLECTOR, CHENGALPATTU	27426492	9445000414
3	RDO, TAMBARAM	22410050	9444939212

TAHSILDARS

S.NO	TALUK NAME	OFFICE	MOBILE
1	CHENGALPATTU	27426702	9445000500
2	MADURANTAKAM	27552445	9445000503
3	CHEYYUR	27531144	9445000504
4	TAMBARAM	22382210	9445000502
5	THIRUKALUKUNDRAM	27447494	9445000501
6	THIRUPORUR	27445072	9384094642
7	PALLAVARAM	22382230	9384094644
8	VANDALUR	29535507	9384094646

CORPORATIONS

S.NO	DESIGNATION	OFFICE	MOBILE
1	Tambaram	044-22261700	7397382218

MUNICIPAL DEPARTMENT

S.NO	DESIGNATION	OFFICE	MOBILE
1	RDMA	22269022	7397372827
2	REE –CPT	-	7397372828

MUNICIPAL COMMISSIONER

S.NO	MUNICIPALITY NAME	OFFICE	MOBILE
1	CHENGALPATTU	27424251	7397372826
2	MADURANTAKAM	27552312	7397372822
3	GUDUVANCHERI	22418866	9841733993
4	MARAIMALAINAGAR	27452297	7397382211

MUNICIPAL ENGINEERS

S.NO	MUNICIPALITY NAME	OFFICE	MOBILE
1	CHENGALPET	27424251	7397372825 9626886423
2	MADHURANTHAGAM	27552312	7397372821 9629679009
3	MARAIMALAINAGAR	27452297	7397382212
4	GUDUVANCHERI	22418866	7397382220 9626886423

TOWN PANCHAYAT

S.NO	DESIGNATION	OFFICE	MOBILE
1	ASSISTANT DIRECTOR OF TOWNPANCHYATS CHENGALPATTU	27237710	8925809212

TOWN PANCHAYAT - EXECUTIVE OFFICER

S.NO	TOWN PANCHAYAT NAME	OFFICE	MOBILE
1	ACHARAPAKKAM	27522775	8925809271
2	EDAKALINADU	27526110	8925809272
3	KARUNGUZHI	2756708	8925809273
4	MAMALLAPURAM	27442223	8925809274
5	THIRUPORUR	27446508	8925809275
6	THIRUKALUKUNDRAM	27447141	8925809276

BLOCK DEVELOPMENT OFFICERS

Sl.No.	Name of the Block	BDO Block Panchyat		BDO Village Panchayat	
		Personal Cell Nos.	CUG Nos.	Personal Cell Nos.	CUG Nos.
1	Kattankolathur	-	7402606061	-	7402606062
2	Thiruporur	-	7402606071	-	7402606072
3	St.Thomas Mount	-	7402606086	-	7402606075
4	Madhuranthagam	-	7402606056	-	7402606057
5	Achirappakkam	-	7402606043	-	7402606044
6	Lathur	-	7402606051	-	7402606052
7	Chithamur	-	7402606047	-	7402606048
8	Thirukalukundram	-	7402606066	-	7402606067

ANNEXURE 2

5.4 STANDARD OPERATING PROCEDURE (SOP)

The standard Operating Procedures (S.O.Ps) for various stakeholders in the district have been adapted from the National Disaster Management Plan. The SOP has been prepared with the objective of making the concerned persons understand their duties and responsibilities regarding disaster management at all levels.

All departments and agencies shall prepare their own action plans in respect of their responsibilities, under the standard operating procedures for efficient implementation.

The standard operating procedure shall be followed during normal time, warning stage, disaster stage and post disaster stage. The standard operating procedures for the relevant departments at each stage of disaster have been compiled in this section as listed below.

1. District Collector

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • To prepare District Disaster Management Plan and disseminate to different departments, agencies, Volunteers and community groups. • To ensure basic facilities for personnel who will work at district level for disaster response. • To review the preparedness level in the district twice a year and advise corrective steps in case of weakness. • To ensure preparation and maintenance of updated inventory of personnel, aid 	<ul style="list-style-type: none"> • To maintain contact with forecasting agencies and gather all possible information regarding the alert. • To ensure that all concerned in areas likely to be affected by imminent disaster receive warning signals and respond accordingly. • To inform members of District Disaster Management Authority. • To maintain contact with State Emergency Operation Centre 	<ul style="list-style-type: none"> • To convene meeting of District Disaster Management Committee. • To conduct Rapid Assessment and launch Quick Response. • To keep State Emergency Operation Centre and keep informed of the situation. 	<ul style="list-style-type: none"> • Organize initial and subsequent technical assessments of disaster affected areas and determine the extent of loss and damage and volume and nature of relief required. • Keep the District Disaster Management Committee and the State Emergency Operation Centre informed of the situation. <ul style="list-style-type: none"> • Ensure supply of food, drinking water, medical supplies and other emergency items to the affected population.

<p>material and equipment.</p> <p>& To ensure training of teams of volunteers for disseminating disaster warnings to the field level and also for evacuation, search, rescue, relief and rehabilitation operations.</p> <p>& To ensure availability of communication and transport facilities for delivery of warnings and relevant material to field personnel.</p> <p>& To ensure drills on disaster preparedness by the people of disaster prone areas for acquiring knowledge and consciousness of such preparedness.</p>	<ul style="list-style-type: none"> • To instruct all concerned to remain in readiness for responding to the emergency. • To advise concerned Officials to carry out evacuations where required, and to keep transport, relief and medical teams ready to the affected areas at a short notice. 		<ul style="list-style-type: none"> → Request State Government for assistance if the District Disaster Management Committee deems the situation to be beyond the capacity of the district to manage. → Visit and coordinate the implementation of various relief and rehabilitation programmers. <p>Coordinate the activities of NGOs in relief and rehabilitation programmes.</p>
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□ Department of District Rural Development Agency (D.R.D.A):

The D.R.D.A. is the representative of the Ministry of Rural Development in the district. The D.R.D.A. is one of the main ministries that has the mandate to implement vulnerability reduction projects to alleviate poverty and improve people's livelihoods.

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • Designate one Liaison Officer in the Department as the Disaster Management Focal Point. • Encourage disaster resistant technological practices in buildings and infrastructure. • Encourage the people in earthquake prone areas to adapt earthquake resistant technologies. • Prepare maps showing population concentration and distribution of resources. • Report activities in periodic meetings of the District Disaster 	<ul style="list-style-type: none"> • Activate Disaster Management Focal Point(Liaison Officer designated by DRDA) • Alert all concerned about impending disaster. • Ensure safety of establishments, structures and equipment in the field. • Ensure formation of Committee of Rescue, Relief, and Rehabilitation work and 	<ul style="list-style-type: none"> • Ensure information flow from affected area and maintain regular contact with State Emergency Operation Centre (24 Hours). • Coordinate the activities of District Disaster Management Committee. • Ensure availability of drinking water at times of need. • Provide necessary infrastructure to carry 	<ul style="list-style-type: none"> • Quantify the loss/ damage. • Organize reconstruction of damaged houses on self help basis with local assets and materials received from Government. • Arrange repair and re-sinking of tube-wells and cleaning of canals and ponds. • Take up repair/ reconstruction work of infrastructure damaged by disaster.

<p>Management Committee meeting convened by the District Collector, Kanyakumari District.</p> <p>→ On the basis of its developmental responsibility, Liaise with other line departments and agencies for a coordinated mitigation approach.</p>	<p>local Volunteer Teams.</p>	<p>out relief works.</p> <ul style="list-style-type: none"> • Assess initial damage. 	
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3.Department of Home:-

The Department of Home is the representative of the Ministry in the district. This is one of the main departments to provide support to the District Collector in dealing with disaster situation.

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • The Superintendent of Police shall be the Focal point for the Department. <ul style="list-style-type: none"> • Impart Training to the members of the Police Force in First Aid, evacuation, rescue and relief operations. • Identify the High Risk and Risk areas for different disaster and instruct the existing police installations located in those areas for keeping themselves in readiness for undertaking emergency rescue, 	<ul style="list-style-type: none"> • Establish the disaster control room at district level. • Arrange drills for fire extinguishing, rescue, evacuation and transportation of injured persons and prepare coordinated action plans in cooperation with concerned local agencies. • Maintain communications with 	<ul style="list-style-type: none"> • Carry out search & rescue operations. • Set up emergency evacuation shelters, and transport affected people to the shelters. • Carry out fire fighting operations. • Maintain law and order, especially during relief distribution. • Keep close watch on any criminals and anti-social activity in the area. 	<ul style="list-style-type: none"> • Arrange security for government property and installations damaged in a disaster. • Participate in damage and need assessment. • Coordinate with other officers for traffic management in and around damaged areas. • Assist the local administration in putting a stop to theft and misuse in relief operation.

<p>evacuation and relief operations.</p> <ul style="list-style-type: none"> • Coordinate with Wireless frequency of Police with the wireless network of Police with the wireless network of other departments. • Train Volunteers from among citizens, and Voluntary organization. 	<p>the police installations in the areas likely to be affected by disaster.</p> <ul style="list-style-type: none"> • Instruct all concerned to accord priority to disaster related wireless messages if required by appropriate officials. 		
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4. Department of Public Health:

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • Carry out and disseminate a risk evaluation of the population. • Develop a district plan on emergency preparedness and response within the health sector. • Develop policy framework for the department. • Ensure adequate availability of emergency health kits in high risk areas. • Train volunteers on emergency preparedness programme such as first aid and preventive measure against diseases in disaster prone areas. <p>→ Prepare a list of medical and</p>	<ul style="list-style-type: none"> • To ensure pre-positioning of emergency health kits and personnel. • Assess health infrastructure. • Assess likely health impacts and share with district disaster management committee for planning purpose. 	<ul style="list-style-type: none"> • Mobilize medical teams and paramedical personnel to go to the affected areas as part of the rapid assessment and quick response teams. • Provide medical assistance to the affected population. • Carry out technical assessment on health infrastructure availability and need. 	<ul style="list-style-type: none"> • Remain vigilant about outbreak/possibility of any epidemics and take effective steps against them. • Send report of health related activities in affected areas to the province for planning purpose.

<p>paramedical personnel in disaster prone areas and disseminate it to concern administrators.</p> <p>Establish and operate an early warning system for health threats based on the routine health information and in collaboration with other departments.</p>			
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□ **Chief N.C.C Commander in the district:-**

The chief N.C.C commander represents the ministry of defence in the district. The chief N.C.C Commander has an important role of providing security, logistics, and if necessary, assistance in distribution of relief items and provision of equipment for emergency response. He can provide trained personnel with specialized skills such as in communication technology for placement in isolated areas, and can provide specialized transportation systems.

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> Designate one liaison officer of the N.C.C commander as the disaster preparedness focal point. 	<ul style="list-style-type: none"> Establish the disaster control room. Issue cautionary instructions to all 	<ul style="list-style-type: none"> Distribute emergency relief materials to the affected people. Keep direct contact 	<ul style="list-style-type: none"> Conduct survey in affected areas and assess requirements of relief and rehabilitation.

<ul style="list-style-type: none"> • Prepare operational plan for responding to the call of the governor during disaster. • Hold drills on disaster preparedness and response. 	<p>concerned.</p> <ul style="list-style-type: none"> • Organize task forces for working of disaster control units. Each unit should be composed of one full infantry Company, engineers, doctors with medicines and nursing assistants. • Earmark a reserve task force, if needed. • Move Task Forces to the convenient positions, if needed. 	<p>with different officers.</p> <ul style="list-style-type: none"> • Dispatch situation reports to the province EOC. • Send task forces to disaster affected areas. 	<ul style="list-style-type: none"> • Assist local administration in removing the dead bodies and debris in affected areas. • Set up field hospital if required. • Participate in reconstruction and rehabilitation operation if requested.
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6. Department of Agriculture:-

Department of agriculture and livestock represents the ministry of agriculture and livestock in the district. It has a role in assessment of damage to agricultural crops and livestock, and impact of possible locust attacks. Their main role is to provide seeds and necessary planting material and other inputs to assist in early recovery.

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • Designate a focal point for disaster management within the department. • Identify areas likely to be affected. • Organize distribution of seeds, seedlings, fertilizer and implements to the affected people under loan/grant. <ul style="list-style-type: none"> • Arrange for keeping stock of seeds, fertilizers and pesticides. 	—————	<ul style="list-style-type: none"> • Monitor damage to crops and identify steps for early recovery. 	<ul style="list-style-type: none"> • Quantify the loss and damage within the quickest possible time and finalize planning of agriculture rehabilitation. • Ensure availability of adequate supply of seeds, seedlings, fertilizers, pesticides and agricultural implements.

7. Department of livestock:-

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • Designate a focal point for disaster management. • Select and earmark highlands for use as shelter for livestock during flash floods. • Programme for vaccination for protection of livestock against contagious diseases. • Prepare schemes for supplementary arrangements for rehabilitation of livestock and recouping their loss. • Take up schemes for procurement of animal feed on emergency basis for distribution in the affected 	<hr style="width: 10%; margin: auto;"/>	<ul style="list-style-type: none"> • During flood assist Community for operation relating to the rescue and shifting of stranded livestock and poultry. • During floods arrange for the quick vaccination and treatment of livestock and poultry at shelter places. • During prolonged droughts arrange for sustainability of livestock population. 	<ul style="list-style-type: none"> • Arrange a rapid survey to assess the loss. • For and dispatch Veterinary Teams with appropriate equipments and medicines to aid affected livestock. • Arrange for disposal of dead bodies of animals. • Implement all schemes for rehabilitation of livestock.

<p>areas.</p> <ul style="list-style-type: none">• Establish fodder bank schemes as security against fodder shortage for livestock due to disasters.			
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8. Department of Irrigation:

Department of Irrigation represents the Ministry of Water in the District. The department is involved in disaster mitigation in relation to drought and floods, as they affect agricultural production, irrigation systems and water supply and management. Some of these mitigation activities include rehabilitation and management of watersheds and water catchment and enforcement of land use patterns. The role of the Department is critical for improving and expanding irrigation systems to cope with drought situations and manage flood problems.

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • Designate a Liaison Officer in the Department as the Disaster Management Focal Point. • Promote watershed Development programmers □ Develop Schemes for restoration / Conservation of Irrigation system. • Ensure efficient management of flood 	<ul style="list-style-type: none"> • Alert District Disaster Management Committee. <ul style="list-style-type: none"> • Since flash floods get triggered within short time-spans take steps to alert all through telephone and wireless according to needs. • Mount watch on flood protection works and canal systems. 	<ul style="list-style-type: none"> • Open a Control Room in the Department. • Launch emergency repair operations for critically damaged flood protection works, canals and Ponds. 	<ul style="list-style-type: none"> • Take up sustained programmes for rehabilitation of flood protection works, Canals and Ponds.

<p>forecasting and warning centers and improve procedure of flood forecasts and intimation to appropriate authorities.</p> <ul style="list-style-type: none"> ● Operate Flood Information Centre in the flood season every year. □ Collect all information on weather forecast, water level of all principal rivers flowing through the district. □ Inform all concerned about daily weather news and issue regular press bulletins. □ Take steps to strengthening or flood protection works and 			
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canals before the flood protection works and canals before the flood season.			
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9. Department of communication:-

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • Introduce mobile phone network in the district. • Ensure communication links between district administration and province government, and between district and state. • Take steps to ensure power back up for communication systems during possible emergency situation. • Take proper and adequate security steps for the protection of own installations and properties. 	<ul style="list-style-type: none"> • Provide support to the Disaster Management Committee and ensure links with State. • Deliver early warning information to the agencies and communities requiring them. <ul style="list-style-type: none"> • Take steps for the protection of own property. 	<ul style="list-style-type: none"> • Operate communication systems round the clock (24 hours). • On request, provide additional communication lines for emergency communication. • Provide measures for satellite and other wireless communication from the area affected by disaster to the district. • Provide mobile communication facilities to the Rapid Assessment and Quick Response Teams. • Assess damage to telecommunication infrastructure and immediately take steps to restore it. 	<ul style="list-style-type: none"> • Take steps to fully restore and rehabilitate any damaged communication infrastructure.

10. Department of Information, Culture and Tourism:

The Department of Information, Culture and Tourism represents the Ministry of Information, Culture, and Tourism in the district. The department's most critical role is broadcasting/ disseminating warnings to communities before a disaster occurs. It also has to play a major role in education and awareness programmes for better organized preparedness and response at government and community levels.

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • Popularize the techniques of preparedness and survival during pre – disaster, disaster and post-disaster period through print, television, radio and other publicity media. • Ensure strict performance of allotted duties by print, radio, television, films and publications related departments. • Take proper and adequate security steps for the 	<ul style="list-style-type: none"> • Arrange quick collection of weather bulletins to reflect the possibility of floods. • Launch information programme for quick dissemination disaster warnings to appropriate agencies and community groups. • Take steps for the protection of own property. 	<ul style="list-style-type: none"> • Ensure that the news to be broadcast reflects the true and clear presentation of the actual position and does not create panic in the minds of the people and also advise them to desist from taking unreasonable steps. • Take steps for publicity of news directives relating to the situation issued by District Collector. • Curtail normal 	<ul style="list-style-type: none"> • Arrange dissemination of information of the short and long term measures of different ministries, departments, Agencies for relief and rehabilitation of the affected people.

<p>protection of own installations and properties.</p> <ul style="list-style-type: none"> • Prepare guidelines or policy for necessary action by mass media on reporting disasters. 		<p>programmers to broadcast essential information on disaster if requested by the District Collector.</p> <ul style="list-style-type: none"> • Arrange visit to the affected area by the local and foreign journalists in the interest of publication of accurate and true report in the news. 	
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- Department of Transport:**

Department of Transport represents the Ministry of Transport in the district. During disaster situations, the Department would need to take steps to arrange for sending personnel and relief materials to the disaster affected area and relocate the affected people.

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> Designate a Liaison Officer of the Department as the Focal Point and inform all concerned. Carry out survey of condition of all aircraft landing facilities at Taluk level. 	<ul style="list-style-type: none"> Identify and make inventory of transport vehicles and ensure that they are all in good working condition. Ensure availability of fuel, recovery vehicles for possible evacuation of people. 	<ul style="list-style-type: none"> Take steps for transportation of relief personnel and material to affected areas. Take steps for movement of affected population to safer areas. Collate and disseminate information regarding fuel availability etc., to personnel operating in the field. Launch recovery missions for stranded vehicles. 	<ul style="list-style-type: none"> Assess damage to transportation vehicles. Assess damage to aircraft landing facilities. Take steps to ensure speedy repair and restoration of transport facilities.

12. Department of Revenue and Disaster Mitigation:

Department of Revenue represents Ministry of Revenue Administration. The department has an important role regarding allocation of funds on priority basis for disaster mitigation and rehabilitation projects. It needs to ensure that development programmes implemented in disaster vulnerable areas of the province incorporate disaster mitigation measures.

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • Designate a Liaison Officer in the Department as Disaster Management Focal point. • Ensure disaster risk reduction is incorporated in all development programmes. • Prepare Hazard and Vulnerability Maps at the Village level for different kinds of disasters. • Accord appropriate 	<p style="text-align: center;">—</p>	<ul style="list-style-type: none"> • Provide information for the announcement of early warning for different kinds of disaster based on hazard forecast and vulnerability data base. 	<p>Allocate funds for the repair, reconstruction of damaged infrastructure after considering their overall loss and damage.</p>

<p>priority to disaster mitigation projects like embankments, afforestation, telecommunications and construction of safe buildings.</p> <ul style="list-style-type: none"> • Establish disaster management funding mechanism to ensure adequate resources for mitigation and preparedness work, and quick availability of resources for relief and rehabilitation when required. 			
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13. Department of Education:

Department of Education represents the Ministry of Education in the district. The department will conduct training program for teachers and children on disaster management. The department will coordinate with the local authority and arrange for mock drills, search and rescue drills. The community of students and teachers can be effectively utilized for dissemination of disaster management awareness and education to the general public.

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • Identify one Liaison Officer in the department as Disaster Management Focal Point. • In consultation with Disaster Management Authority in Kanniyakumari District under the District Collector and the Ministry of Education, include disaster related subjects in the curricula in 	<p>_____</p>	<ul style="list-style-type: none"> • In the event of the disaster, place required for emergency shelter and relief centre, educational institutions may be utilized. • Students and staff can provide local voluntary assistance for distribution of relief material and assistance to especially needy people in the locality. 	<ul style="list-style-type: none"> • Determine the extent of loss in educational institutions and prepare plans for their rehabilitation.

<p>Schools, Colleges and Technical Educational institutions.</p> <ul style="list-style-type: none"> <input type="checkbox"/> 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, through coordination with Community, as Volunteers and inspire them for rescue, evacuation and relief works. <input type="checkbox"/> Ensure that construction of all educational institutions in earthquake zones are earthquake resistant. 			
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14. Department of Mining:

Department of Mining and Industries represents the Ministry of Mining and Industries in the district. In addition to preparation and implementation of its own contingency plans, the Department will perform the following functions:

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • One Liaison Officer in the Department is to be designated as Disaster Management Focal Point. • Issue detailed instruction to the employees about their duties and responsibilities in Pre disaster and post-disaster stages of normal disaster. □ Arrange regular training for mining employees in the disaster prone areas on disaster issues. 	<ul style="list-style-type: none"> • Evacuation of the mine workers from the mines on receipt of the early warning from E.O.C., Kanniyakumari District. 	<ul style="list-style-type: none"> • To keep in contact with the District Disaster Management Committee. • Provide equipments for search and rescue. • Provide search and rescue personnel at the request of the District Collector. 	<ul style="list-style-type: none"> • After assessment of the loss or damage due to disaster, plan for rehabilitation of mines.

15. Department of Industries:

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • Designate a Liaison Officer in the Department as the Disaster Management Focal Point. • Ensure all possible steps for the security of manpower, implements, Stock, installation or Factories. • Prepare listing and locations of industries and establishments for possible sourcing of relief material during disasters. • Ensure training on preparedness programmes to be adapted at different levels for all manpower employed in factories and establishments in disaster 	<p style="text-align: center;">—</p>	<ul style="list-style-type: none"> • Request industries to provide emergency relief materials such as food products, temporary shelters, medicines and medical equipments and search and rescue equipments. 	<ul style="list-style-type: none"> • Take steps to plan for rehabilitation of industries adversely affected by disasters.

vulnerable areas. □ Promote the preparation of emergency preparedness plans by all industrial units.			

16. Department of public works:

Department of public works represents the ministry of public works in the district. The Department has a vital role in provision and maintenance of vital public infrastructure.

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • Designate one Liaison Officer in the Department as the Disaster Preparedness Focal Point. • Take precautionary steps for the protection of government property against possible loss and damage during 	<ul style="list-style-type: none"> • Instruct all officials at construction sites to keep manpower and materials prepared for protection and repair of public works. • Direct construction authorities and companies to preposition spare necessary workers and materials (search & rescue 	<ul style="list-style-type: none"> • Provide assistance to the damage assessment teams for survey of damage to roads and infrastructure. • Take steps to clear debris and assist search and rescue teams. • Provide sites for rehabilitation of affected population. 	<ul style="list-style-type: none"> • Carry out detailed technical assessment of damage to public works. • Assist in construction of temporary shelters. • Organize repairs of building damaged in the disaster. • Prepare detailed programmes for

<p>disaster.</p> <ul style="list-style-type: none"> • Formulate guidelines for safe construction of public works. • Prepare list, with specifications and position, of heavy construction equipment in the province. • Organize periodic training for engineers and other construction personnel on disaster resistant construction technologies. □ Carry out survey of condition of all highway systems at national and state level. 	<p>facilities) in or near areas likely to be affected by disaster.</p>	<ul style="list-style-type: none"> • Collate and disseminate information regarding operational and safe routes and alternate routes, fuel availability etc. to personnel operating in the field. • Launch repair missions for damaged critical infrastructure and routes. • Take steps for prompt removal of uprooted trees on the roads. 	<p>rehabilitation of damaged public works.</p> <ul style="list-style-type: none"> • Arrange technical assistance and supervision for reconstruction works as per request. • Assess damage to transportation infrastructure. • Take steps to ensure speedy repair and restoration of transport links.
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17. Department of Town, Country Planning, Panchayat Development and Housing:

Department of Town, Country Planning, Panchayat Development and Housing represents the Ministry of Urban Development and Housing in the district. The department will prepare its own contingency plan for the maintenance of public infrastructure, retrofit important common buildings and identify safer places for relocation. The department also plays an important role in developing appropriate national building codes and bye-laws and their proper implementation. In the post disaster phase, the department will take adequate steps to undertake building damage assessment and promote reconstruction.

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • Designate one liaison officer in the ministry as the disaster preparedness focal point. • Take precautionary steps for the protection of property against possible loss and damage during disaster. • Periodic training of engineers and other construction personnel 	<ul style="list-style-type: none"> • Coordinate with other development agencies for possible assistance in disaster affected areas. 	<ul style="list-style-type: none"> • Provide vital information to the disaster management committee and agencies in the field regarding status of available infrastructure that can be of use during relief operations. 	<ul style="list-style-type: none"> • Coordinate with concerned agencies for all reconstruction activities under rehabilitation programs. • Arrange technical assistance and supervision for reconstruction works as per request.

<p>on safe construction.</p> <p>Identify and plan for rehabilitation locations for those living in disaster vulnerable areas.</p> <p>Prepare building regulations for safe construction.</p>			
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• **Department of Labour:**

Department of Labour represents the Ministry of Labour in the District. The department will arrange for protection of manpower and organize special camps for differently abled labours. It will also provide necessary help and assistance for socio – economic rehabilitation.

Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> Designate a liaison officer as a focal point and inform all concerned. 	<p style="text-align: center;">—————</p>	<ul style="list-style-type: none"> Provide labour to other departments for relief supply and distribution. Provide skilled labour 	<ul style="list-style-type: none"> Take appropriate steps to provide labour assistance to concerned ministries in

<ul style="list-style-type: none"> • Issue disaster management guidelines to all industries and ensure on-site and off-site plans for all industries. • Prepare and disseminate guidelines for the labor security and safety. <ul style="list-style-type: none"> <input type="checkbox"/> Prepare and implement rules and regulations for industrial safety and hazardous waste management. <input type="checkbox"/> Prepare and disseminate public awareness material related to chemical accidents. 		<p>for maintenance of equipment and tools.</p> <ul style="list-style-type: none"> • Help in establishment of camps. • Ensure minimum wages to labour during relief work in drought or other disasters. 	<p>reconstruction and rehabilitation programmes.</p> <ul style="list-style-type: none"> • Introduce employment generation schemes and alternate livelihoods for affected population.
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19. Department of Social Welfare and women Uplift.

Department of women uplift represents the ministry of Social Welfare for Women and Children. The Department has an important role in disaster management as women are more vulnerable to disasters due to their socio-cultural status. The department will take special steps to reduce vulnerability of women in disaster prone areas. Organize Special camps for the disabled, widows, Children and other vulnerable groups.

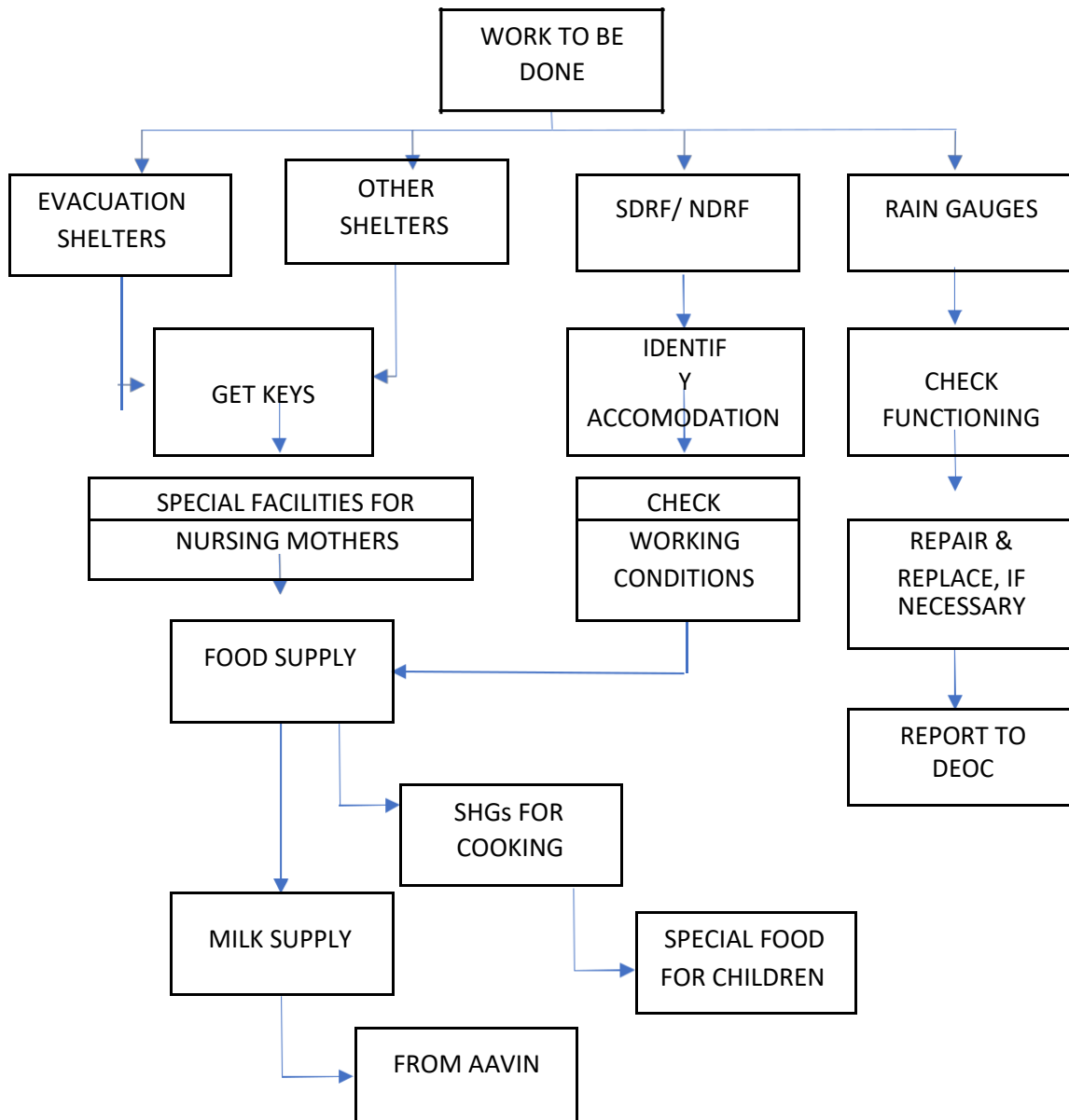
Pre - Disaster Condition	Alert and Warning Stage	During Disaster	After Disaster
<ul style="list-style-type: none"> • Designate one liaison officer as focal point and inform all concerned. • Sensitization of disaster managers related to gender issues in disaster management. Prepare special projects for socio economic uplifting of women towards disaster risk 	<p style="text-align: center;">—————</p>	<ul style="list-style-type: none"> • Involve the health ministry in catering to special health needs of women. • Establish relief camps for women and ensure fulfilment of basic needs of women in general relief camps. • To take steps for safety of women and girls in disaster affected areas. 	<ul style="list-style-type: none"> • Psycho Social Support Programme to Affected communities. • Provide accommodation to Women, Children, and Senior Citizen in Special Homes. • Prepare special programmers for the rehabilitation of women. • Ensure separate

<p>reduction.</p> <ul style="list-style-type: none"> • Organize health camps for regular medical checkups of women and aid to the needy. • Assist in provision of drinking water facilities near settlements. • Organize training programs for women and NGOs to cope with disaster situations. • Strengthening NGOs working in Disaster Management • Coordination with NGOs and INGOs in the District. <input type="checkbox"/> Monitoring Orphanages and Home for Aged. 			<p>sanitation facilities for women in relief camps.</p> <ul style="list-style-type: none"> • Introduce special vocational training programs for women. • Provide alternate livelihood training to Women and adolescents.
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ANNEXURE 3

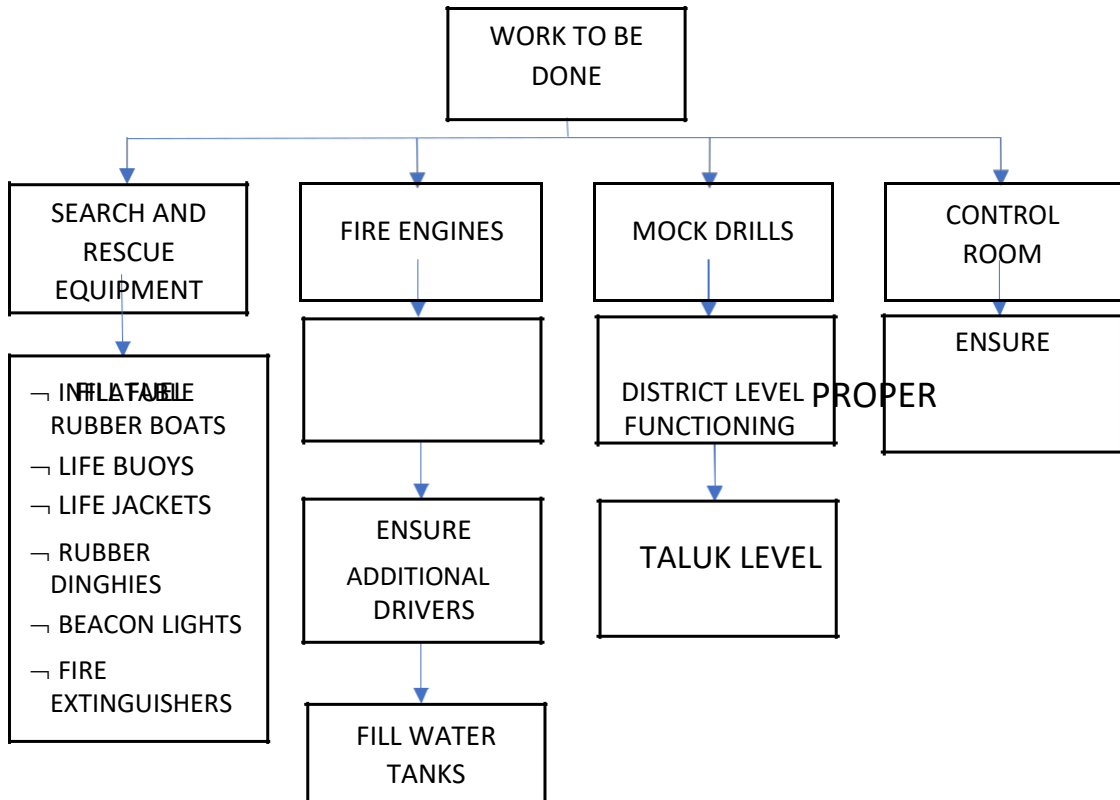
DEPARTMENT WISE PREPAREDNESS

& PREPARATORY WORK TO BE DONE BY THE REVENUE DEPARTMENT

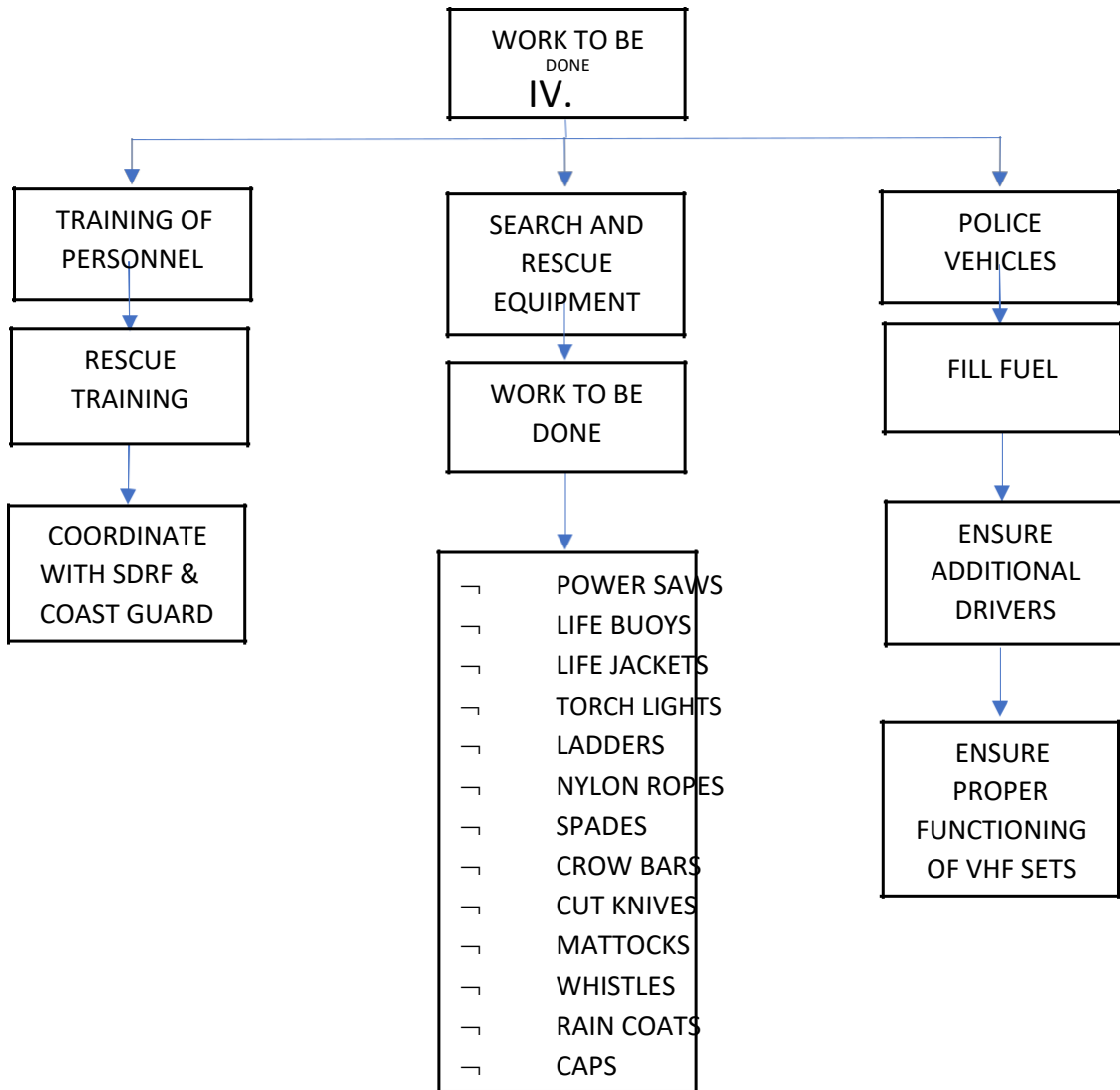


PREPARATORY WORK TO BE DONE BY THE FIRE AND RESCUE DEPARTMENT

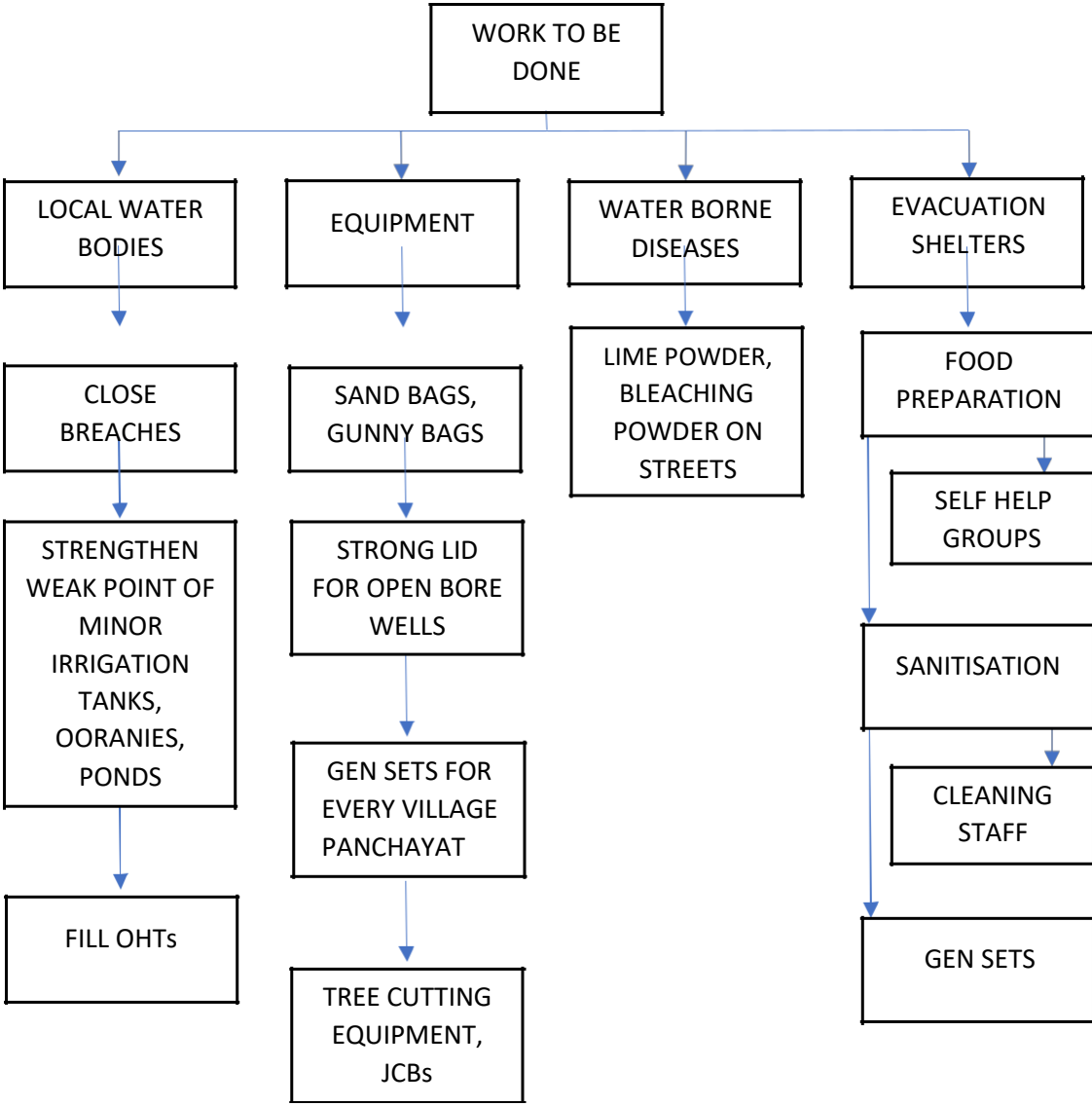
DEPARTMENT



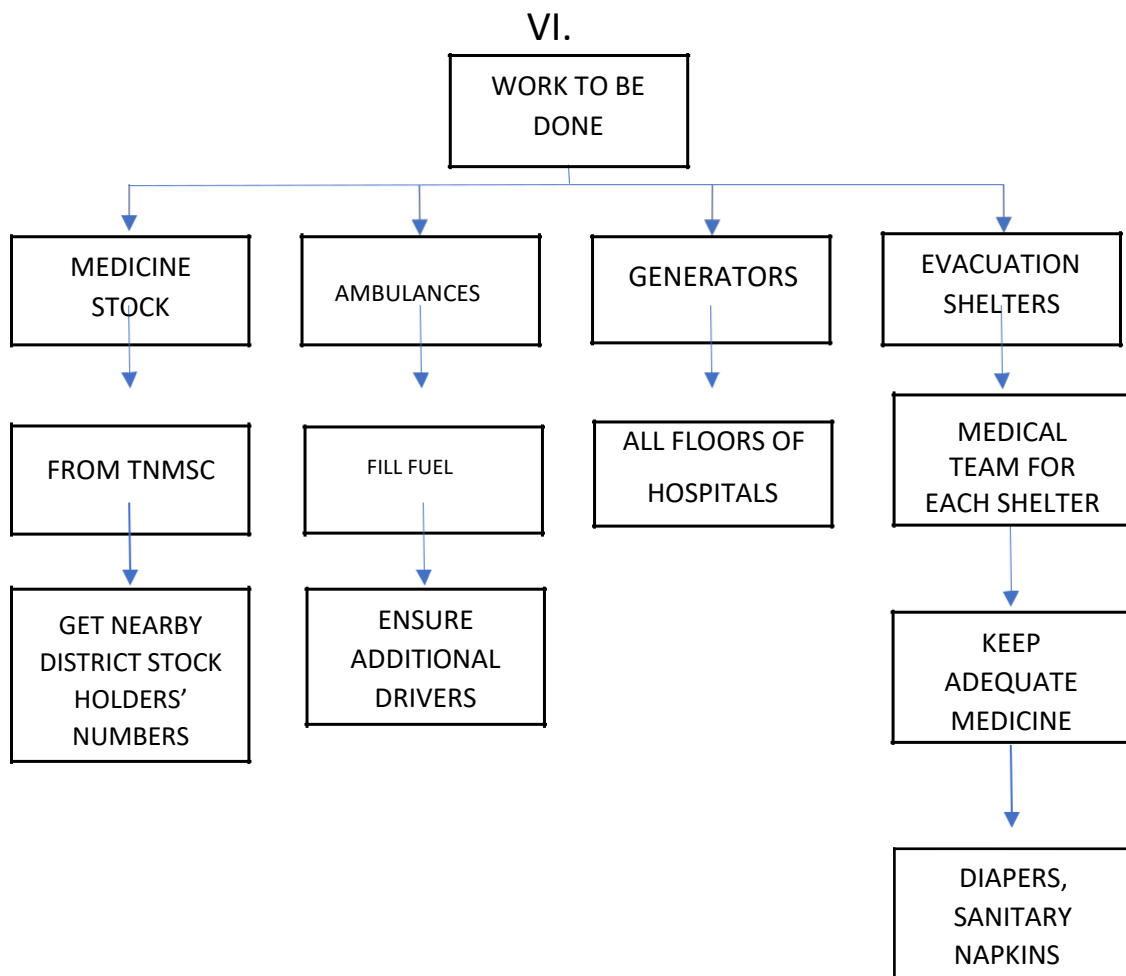
PREPARATORY WORK TO BE DONE BY
THE POLICE
DEPARTMENT



IV. PREPARATORY WORK TO BE DONE BY THE RURAL DEVELOPMENT DEPARTMENT, TOWN PANCHAYATS AND MUNICIPALITIES

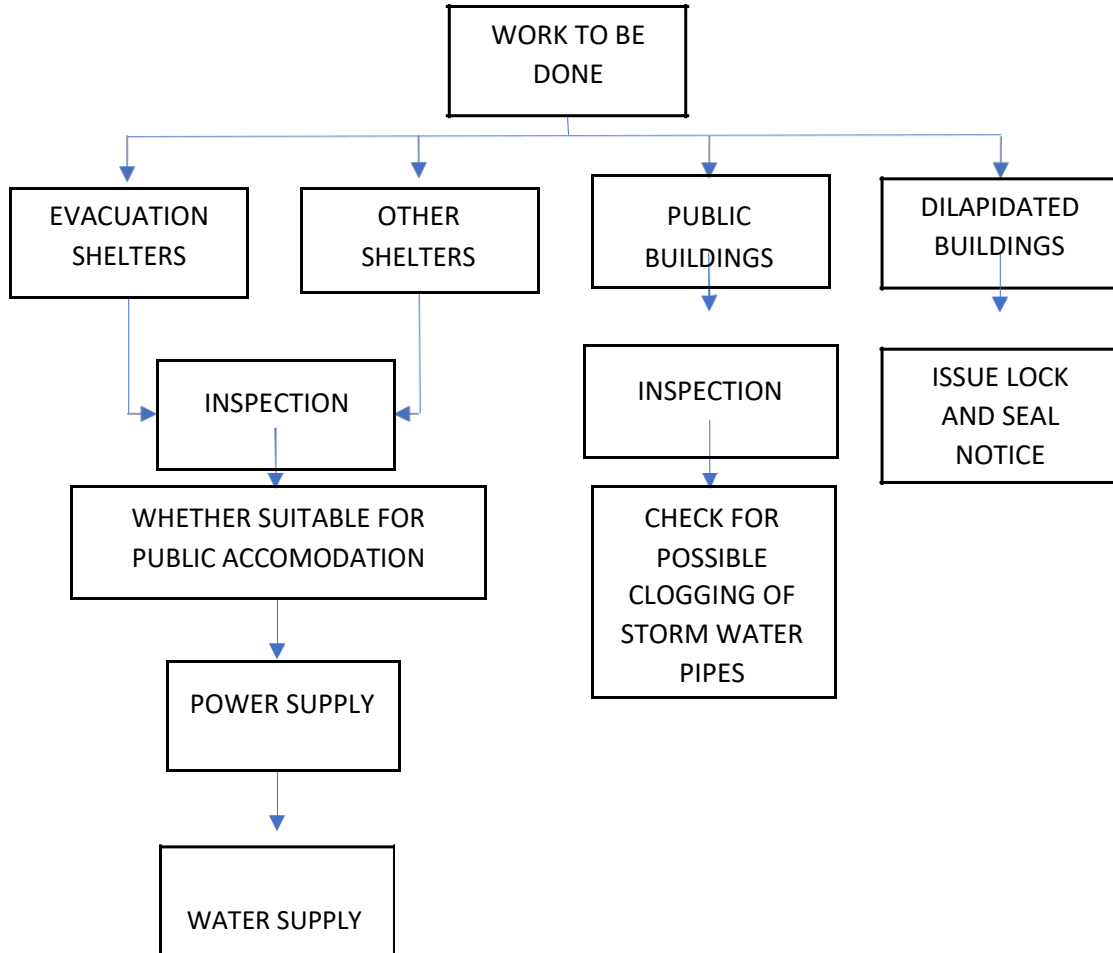


V. PREPARATORY WORK TO BE DONE BY THE HEALTH DEPARTMENT

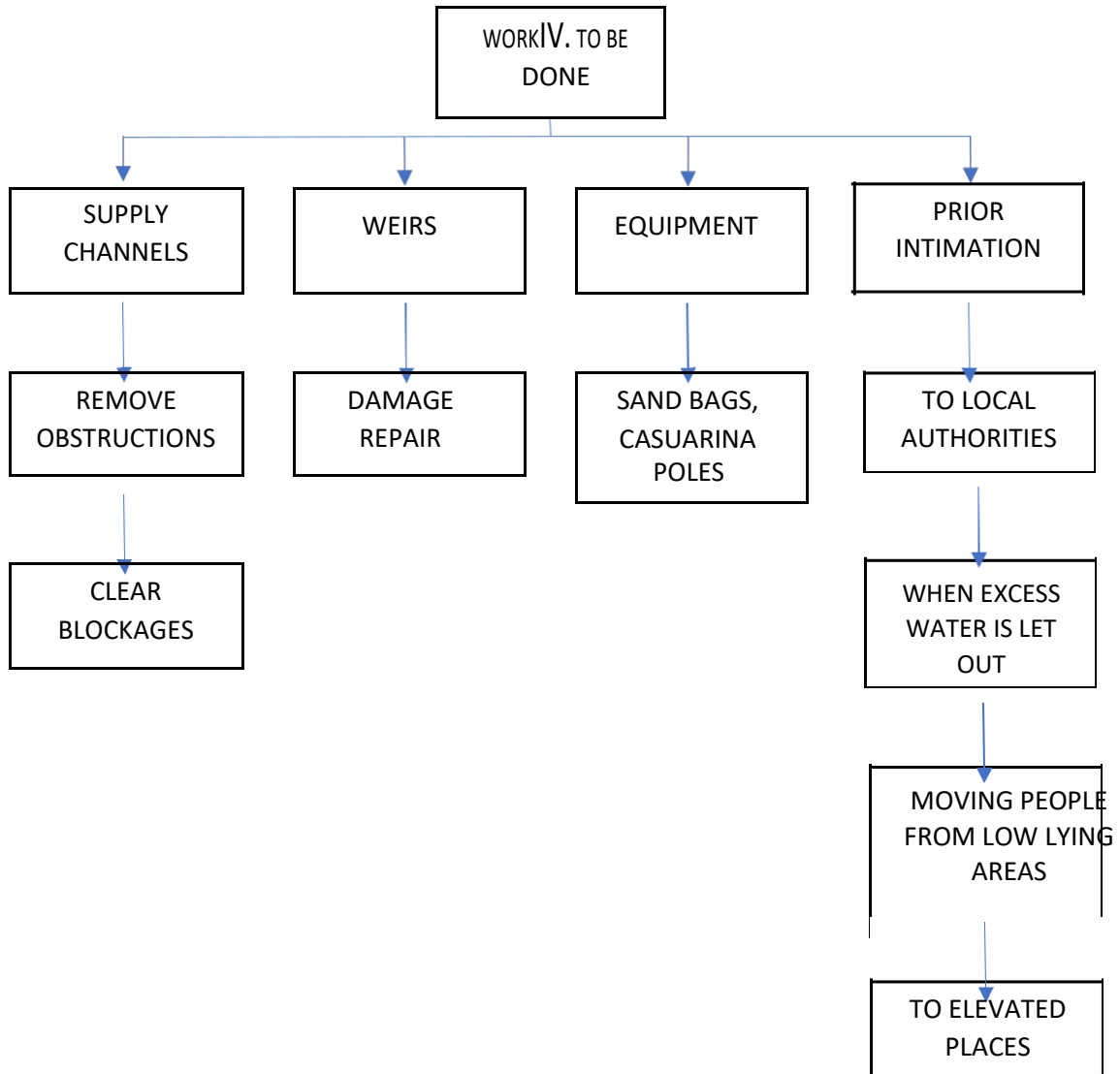


VI. PREPARATORY WORK TO BE DONE BY THE PWD (BUILDINGS)

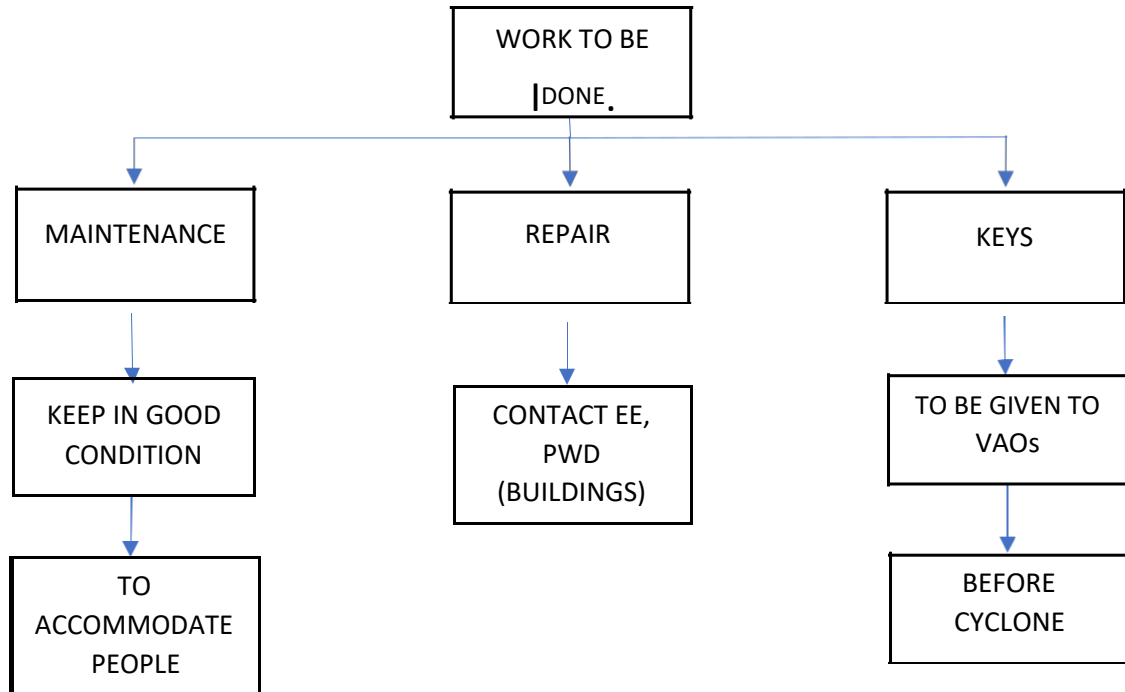
DEPARTMENT



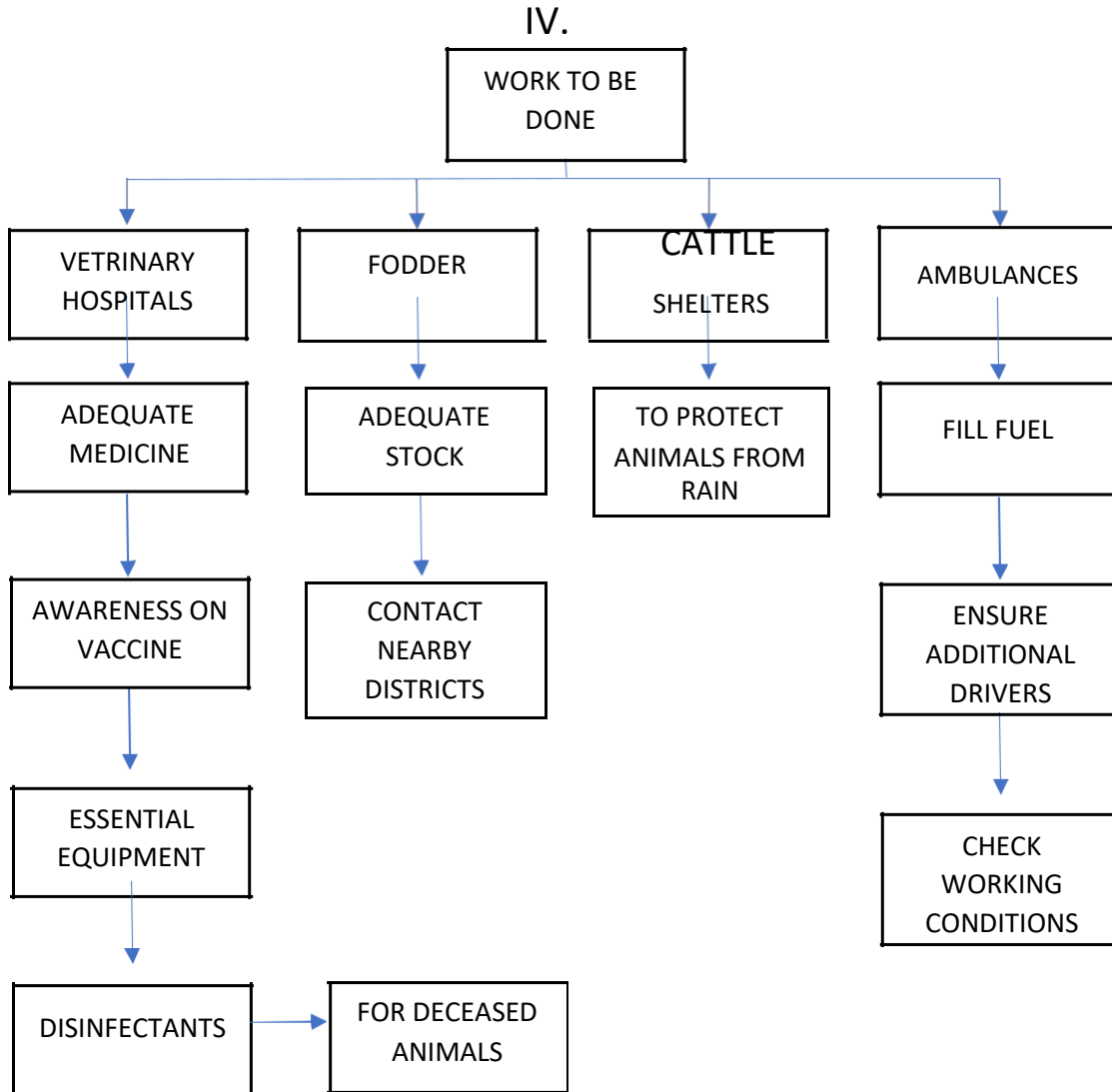
PREPARATORY WORK TO BE DONE BY THE PWD (WRO) DEPARTMENT



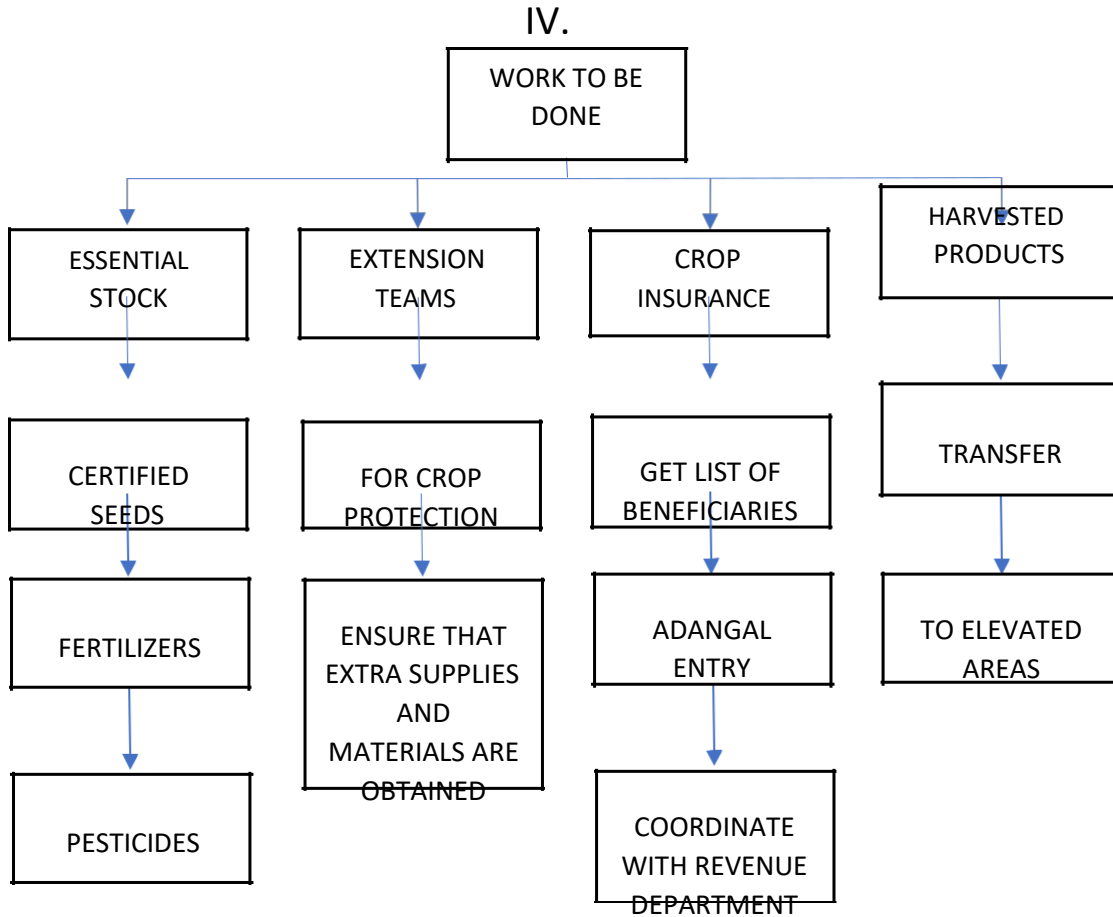
VIII. PREPARATORY WORK TO BE DONE BY THE EDUCATION DEPARTMENT



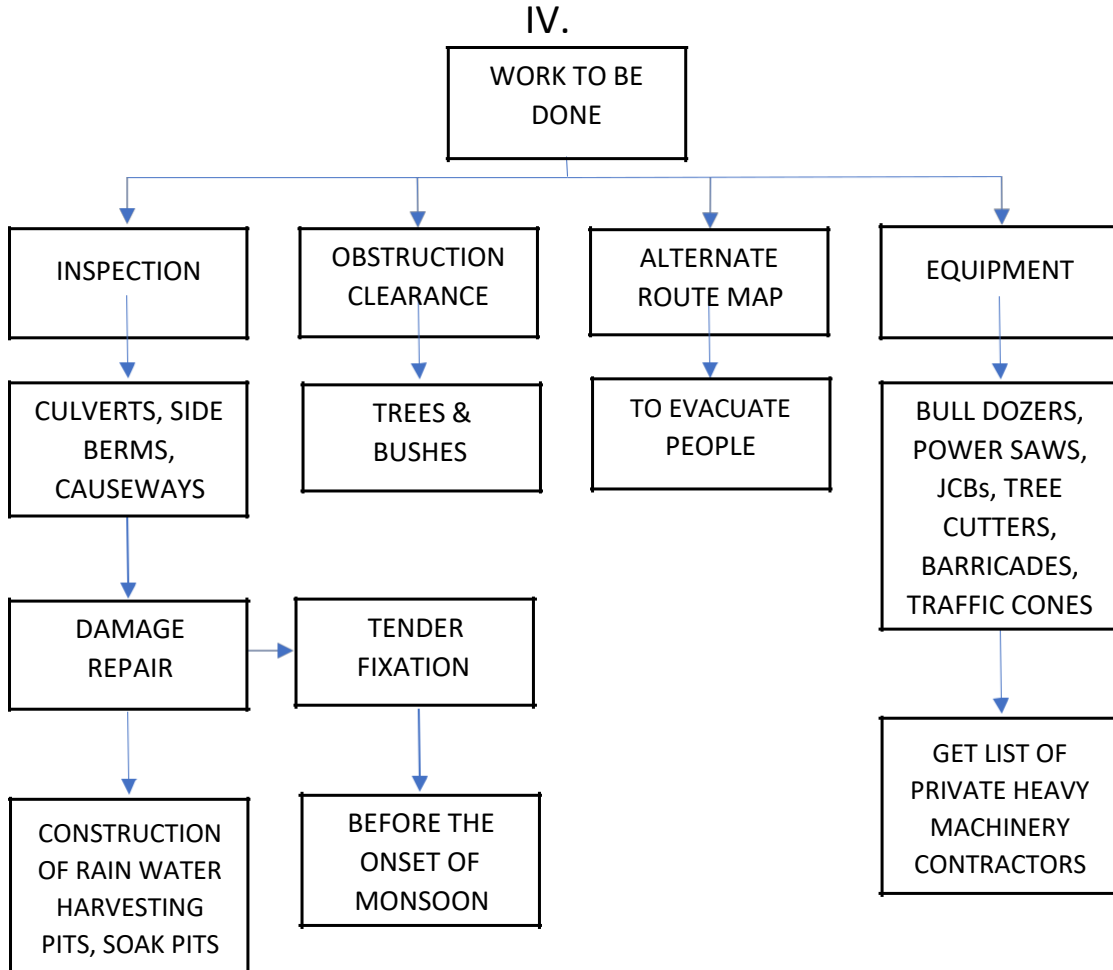
**IX. PREPARATORY WORK TO BE DONE BY THE
ANIMAL HUSBANDRY
DEPARTMENT**



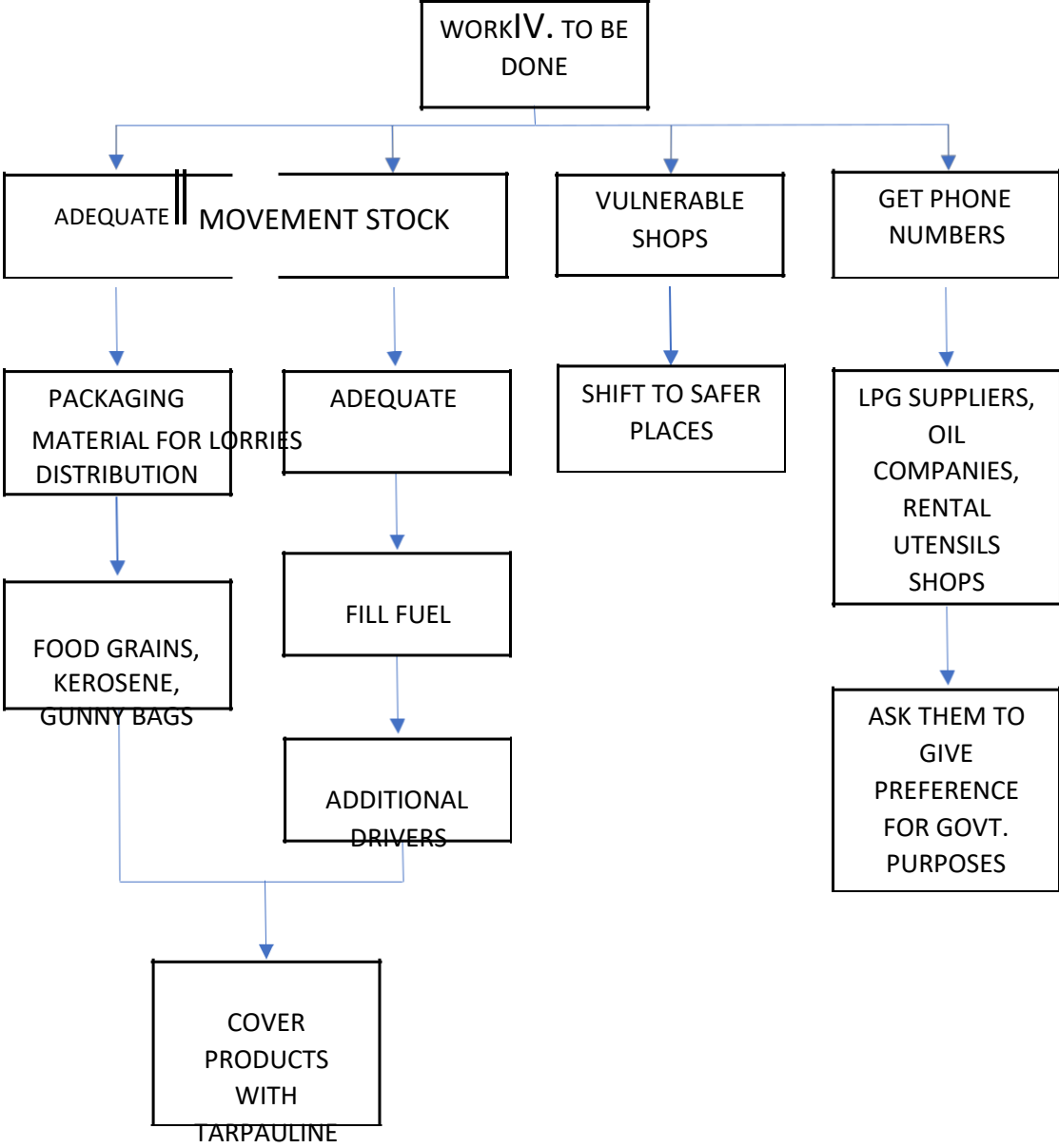
☐ PREPARATORY WORK TO BE DONE BY THE
AGRICULTURE AND
HORTICULTURE DEPARTMENT



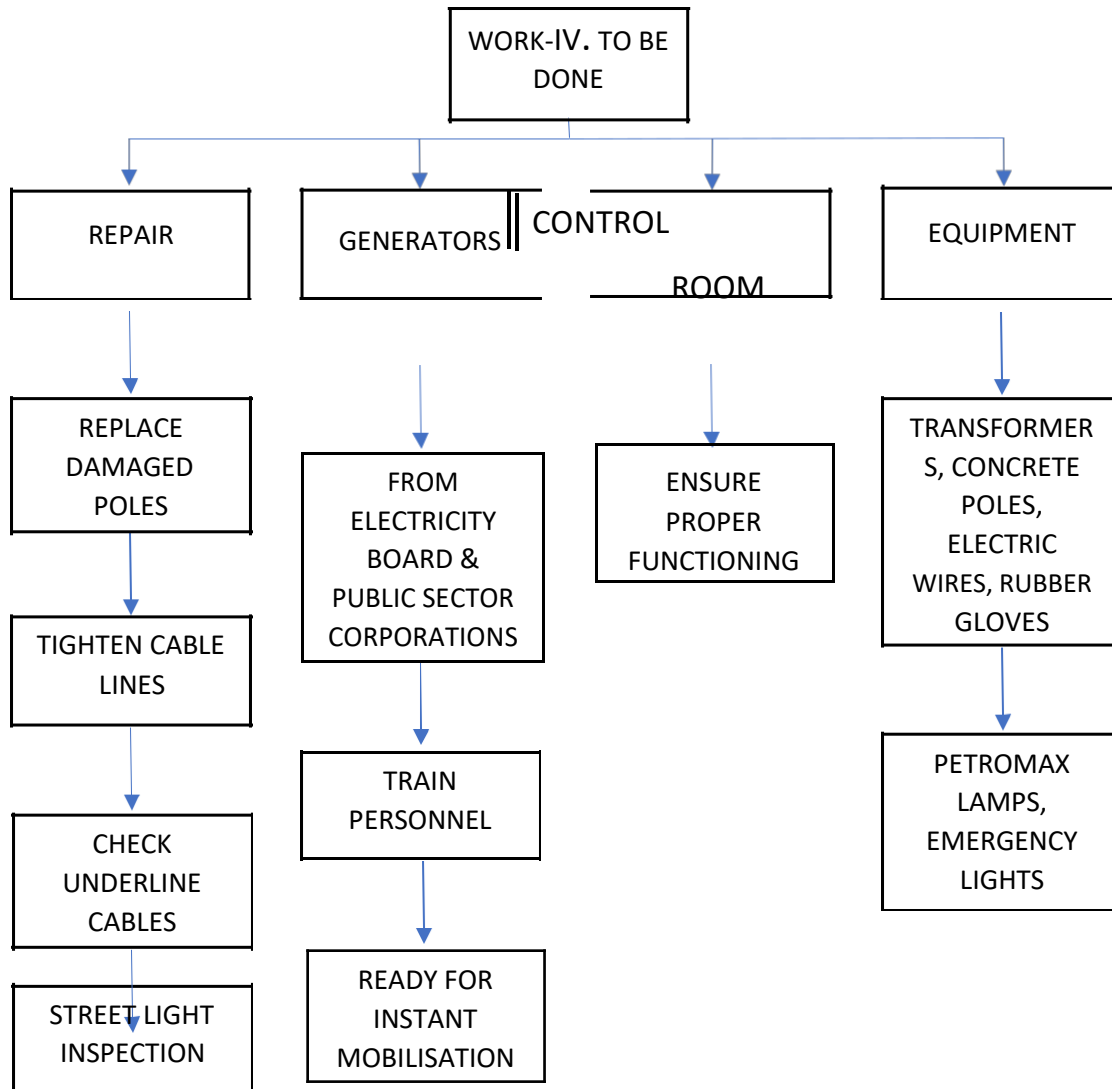
XI. PREPARATORY WORK TO BE DONE BY THE HIGHWAYS DEPARTMENT (STATE & NATIONAL)



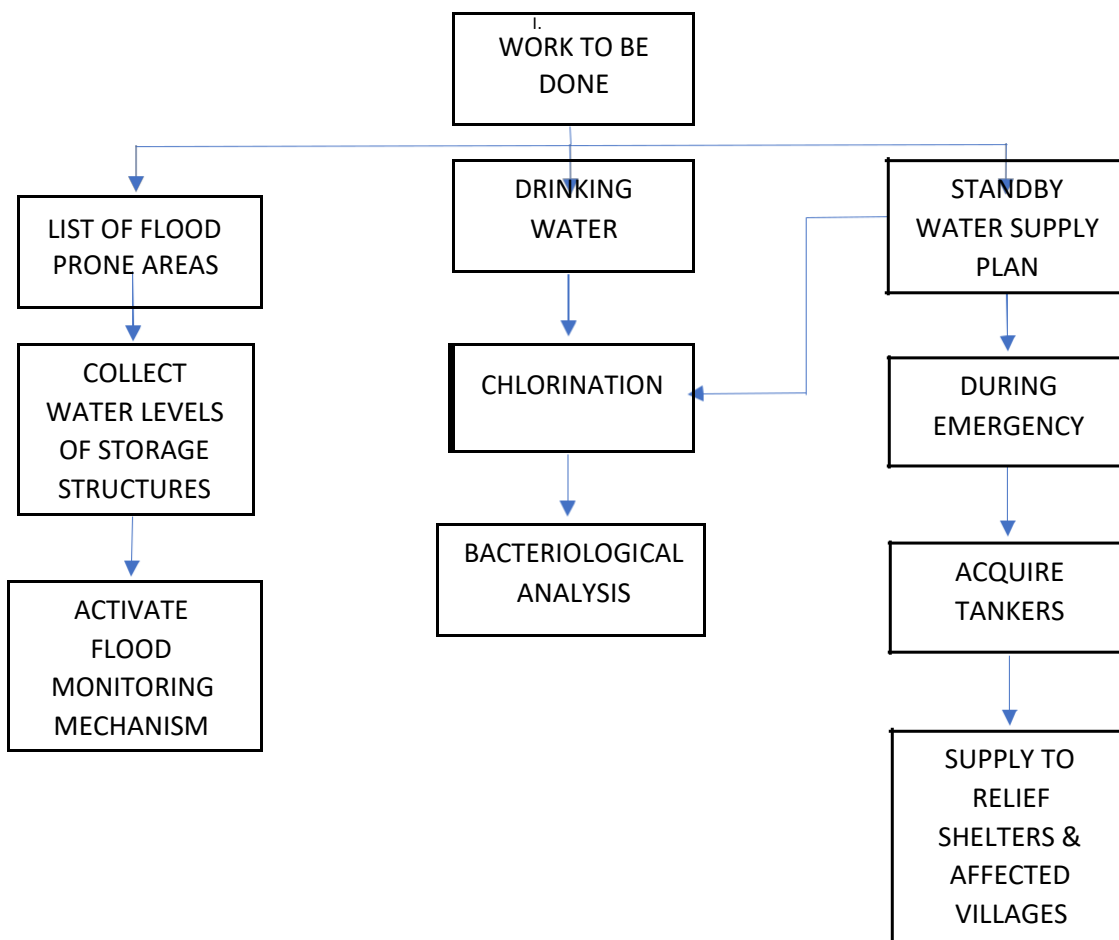
PREPARATORY WORK TO BE DONE BY THE CIVIL SUPPLIES DEPARTMENT



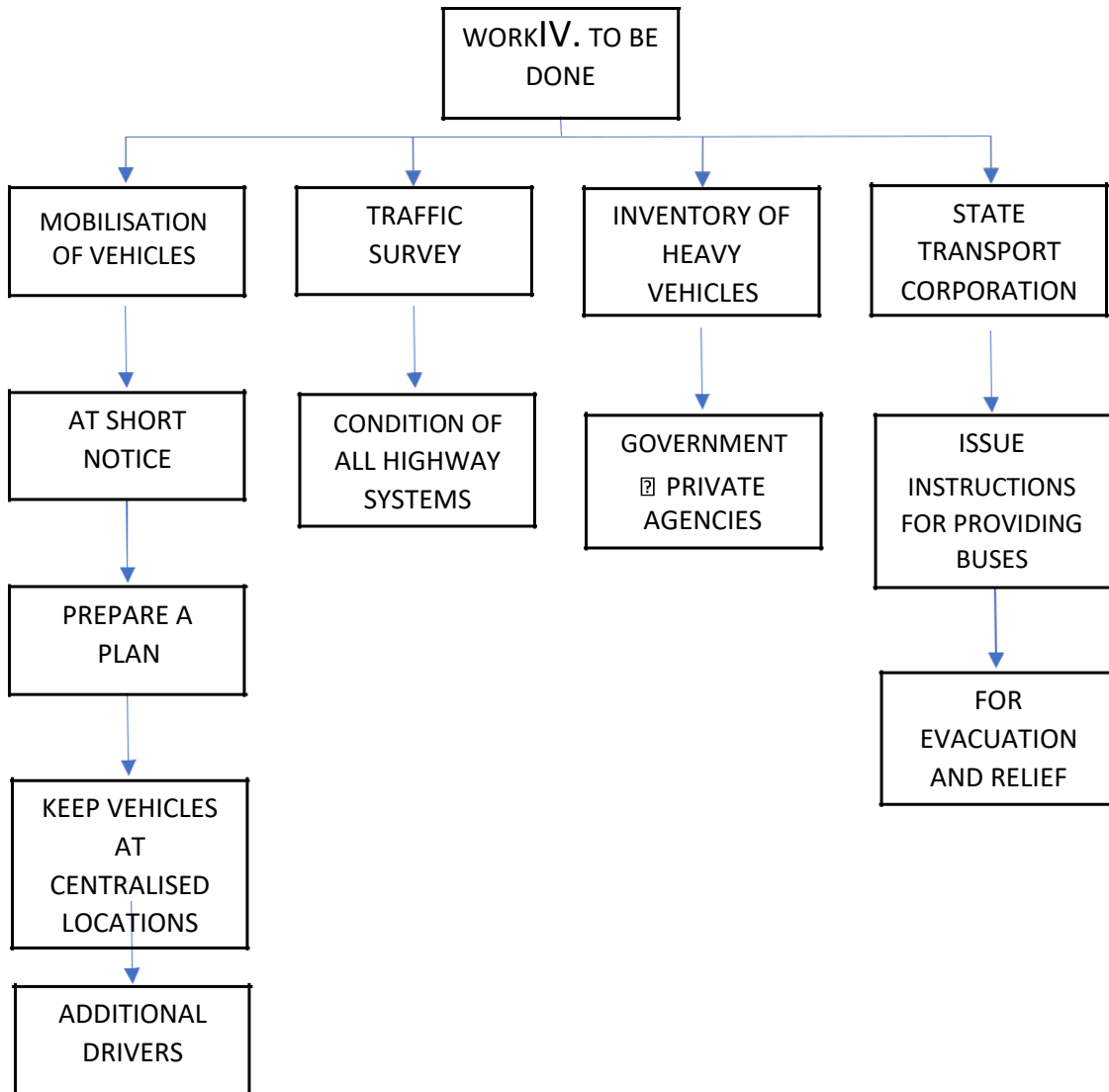
XIII. PREPARATORY WORK TO BE DONE BY THE ELECTRICITY DEPARTMENT



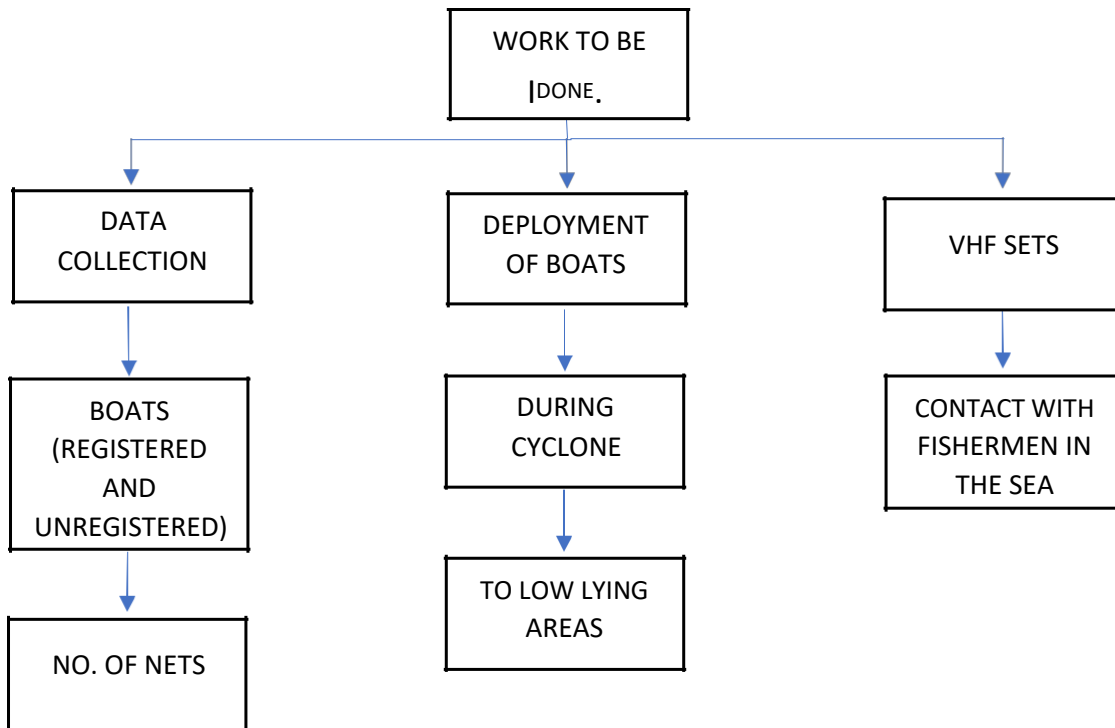
XIV. PREPARATORY WORK TO BE DONE BY THE TWAD (TAMIL NADU WATER SUPPLY AND DRAINAGE BOARD)



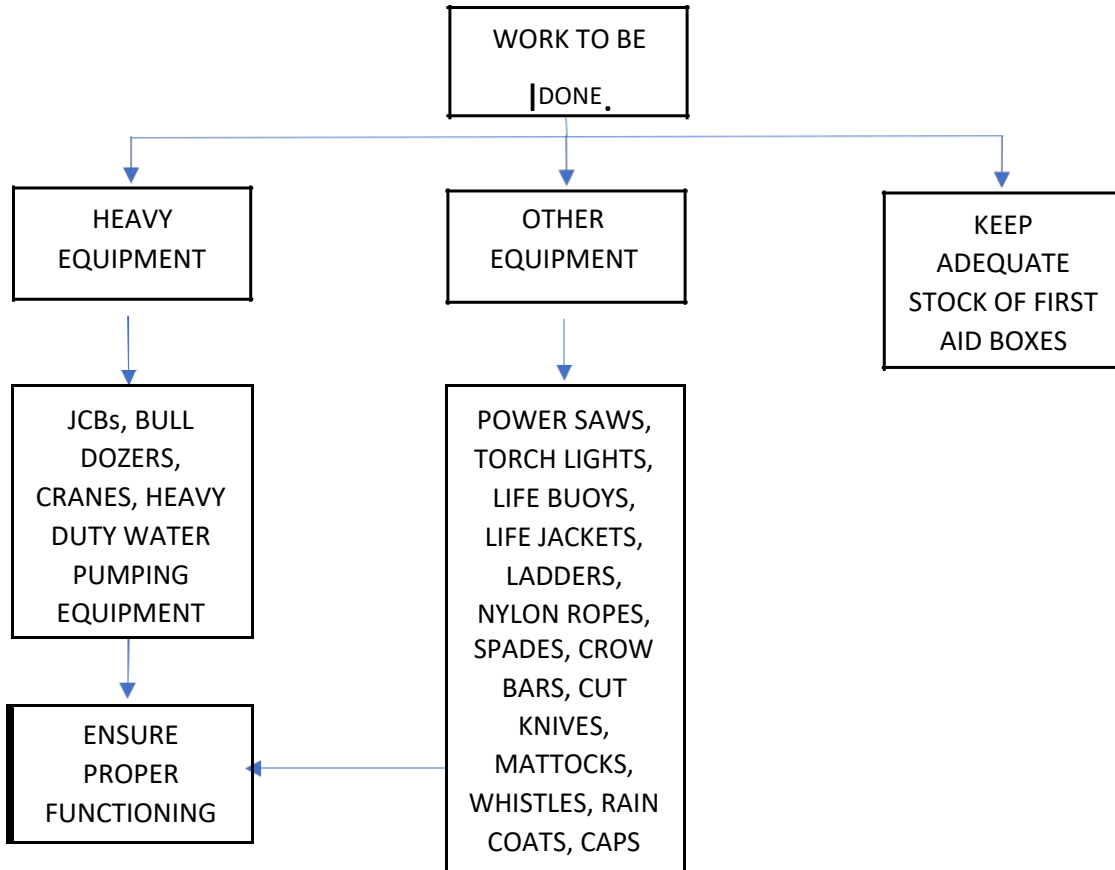
PREPARATORY WORK TO BE DONE BY THE TRANSPORT DEPARTMENT



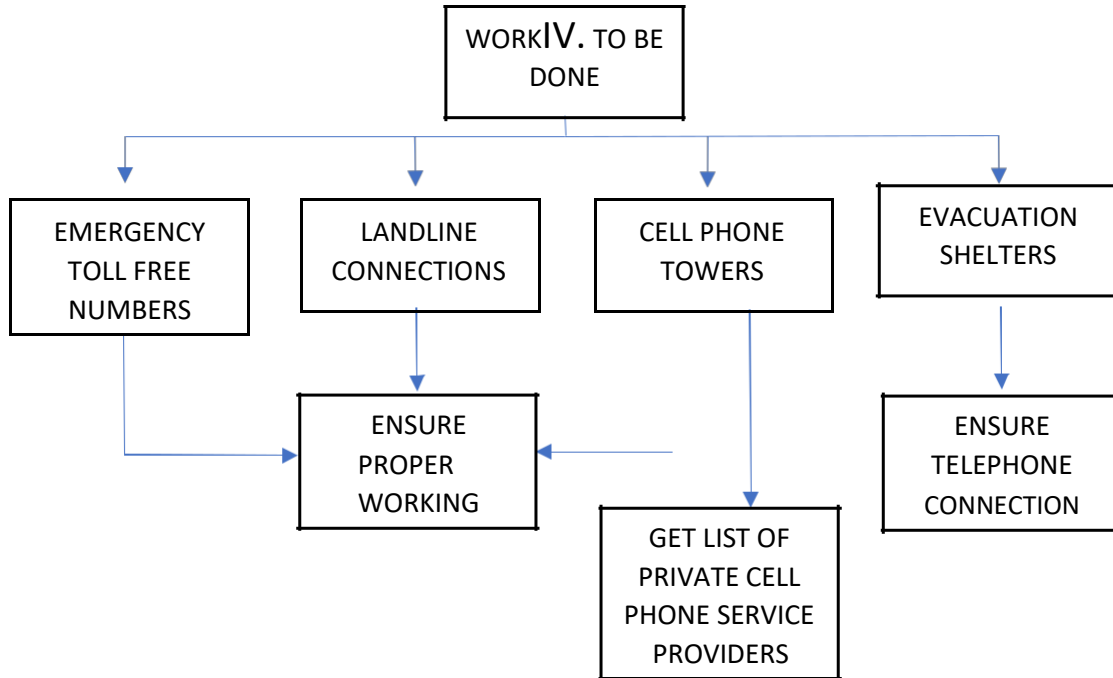
XVI. PREPARATORY WORK TO BE DONE BY THE FISHERIES DEPARTMENT



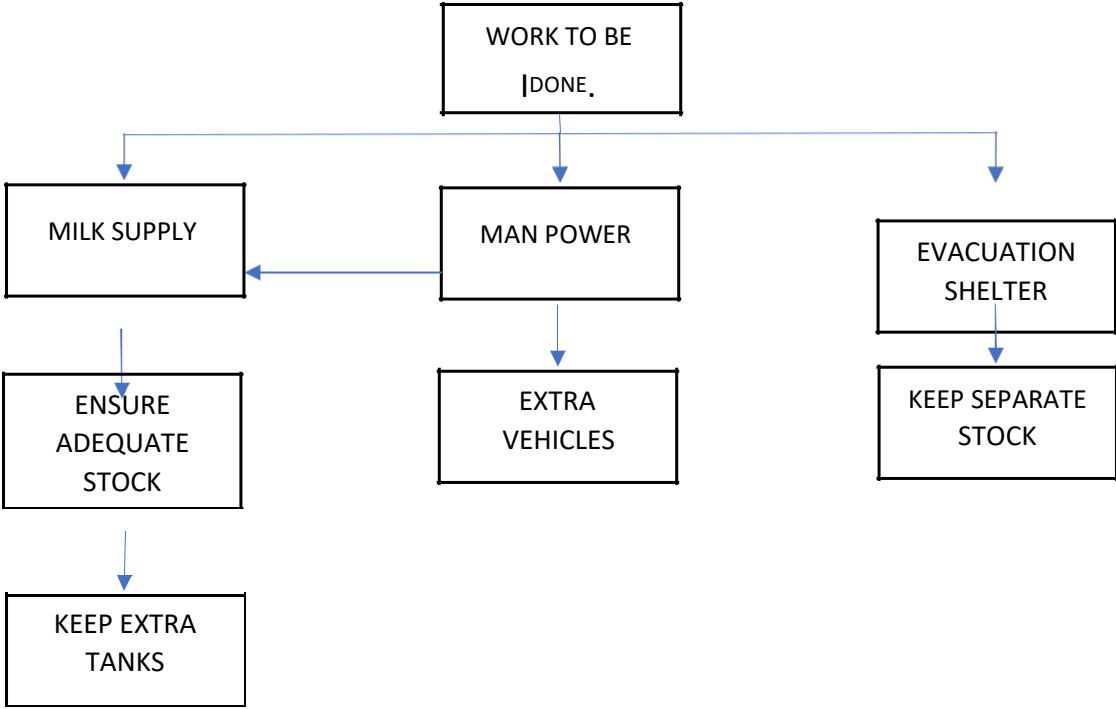
XVII. PREPARATORY WORK TO BE DONE BY THE FOREST DEPARTMENT



XVIII. PREPARATORY WORK TO BE DONE BY THE TELEPHONE DEPARTMENT

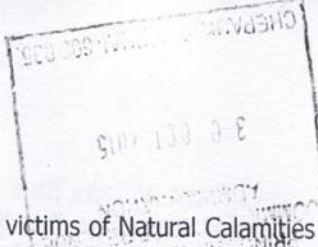




XIX. PREPARATORY WORK TO BE DONE BY THE MILK AND DAIRY DEVELOPMENT DEPARTMENT



ANNEXURE 4

CHAPTER-16 IMPORTANT GOVERNMENT ORDERS



ABSTRACT

Natural Calamities - Grant of Financial assistance to the victims of Natural Calamities namely cyclone, flood, drought, earthquake, fire, Tsunami and hailstorm - From the State Disaster Response Fund (SDRF) and the National Disaster Response Fund (NDRF) - Revised Norms of Government of India - Adopted - Orders issued.

Revenue [DM.III(2)] Department

G.O.(Ms).No.380 **Dated:27.10.2015**
Manmadha, Ippasi-11
Thiruvalluvar Andu-2046

Read:

Pl Communicate to all collect.

1. G.O.Ms.No.630/Revenue[DMIII(2)] Department, dated: 29.10.2007.
2. From the Government of India, Ministry of Home Affairs, New Delhi letter No.32-7/2014-NDM1, dated : 08.04.2015
3. From the Additional Chief Secretary / Commissioner of Revenue Administration letter No.NCI(2)/ 7837/2015, dated : 22.07.2015.

ORDER:

In the Government order first read above, the Government have issued orders adopting the revised norms of Government of India which envisage granting of enhanced relief to the victims of natural calamities under State Disaster Response Fund (SDRF)/National Disaster Response Fund (NDRF) in the form of financial assistance for loss of lives, loss of limb or eyes, grievous injuries, loss of crops, loss of cattle, damages to the houses etc., to mitigate the suffering and loss caused.

2. Based on the norms of assistance under State Disaster Response Fund communicated by Government of India, Ministry of Home Affairs, the Government of Tamil Nadu have issued several Government orders adopting the norms of financial assistance of Government of India from the State Disaster Response Fund on various occasions.

3. In the letter second read above, the Government of India have revised norms of financial assistance from the State Disaster Response Fund for certain items of relief assistance. Accordingly in the letter third read above, the Additional Chief Secretary/Commissioner of Revenue Administration has reported that the

/p.t.o/

Government of India have revised items and norms for assistance from the State Disaster Response Fund(SDRF)/ National Disaster Response Fund(NDRF) and sent the approved list of items and norms for assistance from State Disaster Response Fund(SDRF) / National Disaster Response Fund(NDRF) based on the report of the expert Group set up by the Ministry of Home Affairs. Hence, the Additional Chief Secretary/Commissioner of Revenue Administration has sought approval of the Government for adopting the revised norms of Government of India for sanction of relief from the State Disaster Response Fund(SDRF)/National Disaster Response Fund(NDRF).

4 The Government after careful consideration, accept the recommendations of the Additional Chief Secretary/ Commissioner of Revenue Administration and direct that the revised norms of Government of India or the existing State Government norms whichever are more beneficial be adopted. Accordingly the revised consolidated scale of relief is annexed. This order will come into the force from the date of issue of this order.

(By Order of the Governor)

**R.VENKATESAN
SECRETARY TO GOVERNMENT**

To

✓ The Principal Secretary/Commissioner of Revenue Administration,
Chepauk, Chennai-600 005.

The Secretary, Ministry of Home Affairs, Government of India, New Delhi-110001.

The Commissioner of Agriculture Department, Chennai-600 005

The Commissioner of Horticulture Department, Chennai-600 005

The Director of Animal Husbandry and Veterinary Sciences,
Teynampet, Chennai-600 006

The Commissioner of Fisheries, Chennai-600 006

The Director of Public Health & Preventive Medicine,
Kilpauk, Chennai-600 006

The Director of Medical Education, Chennai-600 010

The Director of Handloom, Egmore, Chennai-600 008

The Director of Treasuries and Accounts, Chennai-600 015.

Copy to

The Principal Accountant General, Chennai-600 018.

The Principal Accountant General, (Commercial & Receipt Audit), Chennai-600 018.

The Pay & Account Office, Secretariat, Chennai-600 009.

/p.t.o/ -

All District Treasury Officers.
All Departments, Secretariat, Chennai-600 009
All Head of Departments/Boards/Corporation.
The Chief Ministers Office, Chennai-600 009.
The Special Personal Assistant to Hon'ble Minister (Revenue), Chennai-600 009.
The Senior Private Secretary to Chief Secretary to Government,
Chennai-600 009.
The Private Secretary to Principal Secretary to Government,
Highways & Minor Ports Department, Chennai-600 009.
The Private Secretary to Principal Secretary to Government,
Public Works Department, Chennai-600 009.
The Private Secretary to Principal Secretary to Government,
Home Department, Chennai-600 009.
The Private Secretary to Principal Secretary to Government,
Finance Department, Chennai-600 009.
The Senior Private Secretary to Secretary to Government,
Revenue Department, Chennai-600 009.
The Finance (Revenue) Department, Chennai-600 009.
The Revenue (OP2, DM-I, DM-II, DM-IV) Department, Chennai-600 009.
Sf/Sc.

//Forwarded by Order//

J. Manoj Kumar
23/10/15

Section Officer
23/10/15

Revenue [DM.III(2)] Department

Annexure

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	GRATUITOUS 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 authority.
	(b) Ex-gratia payment for loss of a limb or eye(s)	(i) Rs. 59,100/- per person, when the 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 hospitalisation	(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 goods.
	(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 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.
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 are 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 sheltered in relief camps.	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 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 essential 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 State 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 / Carcasses	As per actuals 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	
	a) 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)
	b) Removal of debris on agricultural land in hilly areas.	
	c) De-silting / Restoration / Repair of fish farms	
	d) 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	<p>Input subsidy (where crop loss is 33% and above)</p> <p>a) For agriculture crops, horticulture crops and annual plantation crops</p>	<p>Rs.7410/- per hectare for crops other than paddy in rainfed areas and restricted to sown areas.</p> <p>Rs.13,500/- per hectare for crops in assured irrigated areas, subject to minimum assistance not less than Rs.1000 and restricted to sown areas.</p>
	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	<p>Rs.7410/- per hectare for Eri, Mulberry, Tussar.</p> <p>Rs.6,000/- per hectare for Muga.</p>
	d) Paddy	Rs.13,500/- per hectare subject to minimum assistance not less than Rs.1000 and restricted to sown areas.
6	<p>ANIMAL HUSBANDRY</p> <p>i) Replacement of milch animals, draught animals or animals used for haulage</p>	<p><u>Milch Animals:-</u> Rs.30,000/- Buffalo / Cow / Yak / Mithun etc., Rs.3000/- Sheep / Goat / Pig</p> <p><u>Draught Animals:-</u> Rs.25,000/- Camel / Horse / Bullock etc. Rs.16,000/- Calf / Donkey / Pony / Mule.</p> <p><u>Poultry:-</u> Poultry @ Rs.100/- per bird</p> <p>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 Avian Influenza or any other diseases for which the Department of Animal Husbandry has a separate scheme for compensating the poultry owners.</p>
	ii) Provision of fodder / feed concentrate including water supply and medicines in cattle camps	<p>Large animals- Rs.70/- per day</p> <p>Small animals Rs.35/- per day</p> <p>Period for providing relief will be as per assessment of the State Executive Committee (SEC) and the Central Team (in case of</p>

		<p>NDRF). The default period for assistance will be upto 30 days which may be extended upto 60 days in the first instance and in 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 to the stipulation that expenditure on this account should not exceed 25% of SDRF allocation for the year.</p> <p>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 and subject to the certificate by the competent authority about the requirement of medicine and vaccine being calamity related.</p>
	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	
	<p>(i) Assistance to Fishermen for repair/ replacement of boats, nets- damaged or lost</p> <p>-Boat -Dugout-Canoe -Catamaran -Net</p> <p>(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)</p>	<p>i) Replacement of fully damaged/ lost wooden catamaran with a wooden catamaran, a full subsidy will be of Rs.32,000/- (inclusive of net)</p> <p>ii) For repair / rebuilding of partially damaged catamaran Rs.10,000/- unit</p> <p>iii) For replacement of fully damaged / lost wooden / FRP Vallam, the percentage of subsidy 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)</p> <p>iv) For partially damaged FRP Vallam at the rate of Rs.20,000/- per unit</p> <p>v) For replacement of fully damaged / lost mechanised boats the subsidy to be paid will be 35% of total cost, restricted to a maximum subsidy of Rs.5 lakhs per boat.</p> <p>vi) For repairs of partially damaged mechanised 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.</p> <p>vii) For replacement of Gill nets for catamaran Rs.10,000/- per unit. Repair of OBM / IBE Engines - Rs. 5000/- per engine.</p>

	ii) Input subsidy for fish seed farm	Rs.8,200/-perhectare (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 - Subject 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.5200/- per house
	c) Damaged / destroyed huts	Fully Damaged Hut - Rs.5,000/- per hut Partially Damaged Hut - Rs.4,100/- per hut and 10.k.g rice for each case of damaged huts.
	d) Cattle shed attached with house	Rs.2,100/- per shed

10	<p>INFRASTRUCTURE</p> <p>Repair / restoration (of immediate nature) of the damaged infrastructure</p> <ol style="list-style-type: none"> 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 Telecommunication 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. 	<p>Activities of immediate nature: Illustrative lists of activities which may be considered as works of an immediate nature are given as Annexure II.</p> <p>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.</p> <p>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 budget 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.</p> <p>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.1.5 lakh per damaged scheme. Assistance for restoration of damaged 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.</p> <p>Regarding repairs of damaged drinking water schemes, the eligible damaged drinking water structures will be eligible for assistance @Rs.1.5 lakh/damaged structure.</p> <p>Regarding repair of damaged primary and secondary schools, primary health centres, Anganwadi and community assets owned by the Panchayats, assistance will be given @ Rs.2 lakh / damaged structure.</p> <p>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</p>
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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 be 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)

R.VENKATESAN
SECRETARY TO GOVERNMENT

// True Copy //

S. Neeraj Kumar
22/10/18
Section Officer.
29/10/18

Revenue [DM.III(2)] Department**Annexure II****Illustrative list of activities identified as of an immediate nature**

1	Drinking water Supply	<ul style="list-style-type: none"> i. Repair of damaged platforms of Hand pumps/Ring wells/Spring-tapped 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 pumps including damaged intake-structures, approach gantries/jetties.
2	Roads:	<ul style="list-style-type: none"> i. Filling up of breaches and potholes, use of pipe for creating waterways, repair and stone pitching of embankments. ii. Repair of breached culverts. iii. Providing diversions to the damaged/washed out portions of bridges to restore immediate connectivity. iv. Temporary repair of approaches to bridges/embankments of bridges., repair of damaged railing bridges, repair of causeways to restore immediate connectivity, granular sub base, over damaged stretch of roads to restore traffic.
3	Irrigation:	<ul style="list-style-type: none"> i. Immediate repair of damaged canal structures and earthen/masonry works of tanks 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 Health Centres.
5	Community assets 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 11 kv

7. 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	Up to 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 Major irrigation scheme	Upto Rs.1.50 lakh/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	Procurement 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

* If OR and PR rates are not provided by the State

R.VENKATESAN
SECRETARY TO GOVERNMENT

// True Copy //

J. Narayan
25/10/15
Section Officer.
25/10/15

DECLARATION OF DROUGHT

List of Districts

Sl. No. (1)	Districts Name (2)
1	Ariyalur
2	Chennai
3	Coimbatore
4	Cuddalore
5	Dharmapuri
6	Dindigul
7	Erode
8	Kanchapuram
9	Kanniyakumari
10	Karur
11	Krishnagiri
12	Madurai
13	Nagapattinam
14	Namakkal
15	Nilgiris
16	Perambalur
17	Pudukottai
18	Ramanathapuram
19	Salem
20	Sivagangai
21	Thanjavur
22	Theni
23	Tirunelveli
24	Tiruppur
25	Tiruvallur
26	Tiruvannamalai
27	Tiruvarur
28	Thoothukudi
29	Tiruchirappalli
30	Vellore
31	Villupuram
32	Virudhunagar

Date: 10-01-2017,
Place: Chennai.

Dr. CHANDRAMOCHAN, B.,
Secretary to Government



ABSTRACT

Disaster Management – Grant of Financial Assistance to the Victims of Natural Calamities namely Cyclone, Flood, Drought, Earthquake, Fire, Tsunami and Hailstorm, Sea Erosion, Lightning, Thunder, Whirl Wind, Gale Wind & Pest attack in severe nature from the State Disaster Response Fund (SDRF) and the National Disaster Response Fund (NDRF) – Revised Norms of Government of India – Adopted – Orders issued.

REVENUE AND DISASTER MANAGEMENT DEPARTMENT **DISASTER MANAGEMENT WING, D.M.III (2) SECTION**

G.O. (Ms).No. 579

Dated : 09.12.2023

சோபகிருது வருடம், கார்த்திகை 23

திருவள்ளூர் ஆண்டு, 2054

Read:

1. G.O.(Ms).No.380, Revenue [DM.III(2)] Department, dated 27.10.2015.
2. G.O.(Ms).No. 246, Revenue & Disaster Management Department, dated: 03.08.2017.
3. G.O.(Ms).No. 212, Revenue & Disaster Management Department, dated: 03.07.2019.
4. From the Ministry of Home Affairs, (Disaster Management Division), Government of India letter F.No.33-03/2020-NDM-I, dated 11.07.2023.
5. From the Additional Chief Secretary / Commissioner of Revenue Administration & State Relief Commissioner, Lr. No. NC I(1)/706/2022, dated 05.12.2022, 08.08.2023 and 14.11.2023.

*

ORDER:

In the Government order first read above, the Government have issued orders adopting the revised norms of Government of India which envisage granting of enhanced relief to the victims of natural calamities under State Disaster Response Fund (SDRF) and the National Disaster Response Fund (NDRF) in the form of financial assistance for loss of lives, loss of limb or eyes, grievous injuries, loss of crops, loss of cattle, damages to the houses etc., to mitigate the suffering and loss caused.

2. Based on the norms of assistance under State Disaster Response Fund (SDRF) and the National Disaster Response Fund (NDRF) communicated by the Government of India, Ministry of Home Affairs, the Government of Tamil Nadu have issued several Government orders

adopting the norms of financial assistance of Government of India from State Disaster Response Fund (SDRF) on various occasions.

3. In the letter fourth read above, the Government of India have revised norms of financial assistance from the State Disaster Response Fund (SDRF) and the National Disaster Response Fund (NDRF) and stated that the revised list of items and norms for assistance from SDRF and NDRF will be effective from the financial year 2023-2024.

4. In the letter fifth read above, the Additional Chief Secretary/Commissioner of Revenue Administration & State Relief Commissioner has sent the approved list of items and norms of Assistance from State Disaster Response Fund (SDRF) and the National Disaster Response Fund (NDRF) based on the report of Ministry of Home Affairs, Government of India and sought the approval of the Government for adopting the revised norms of Government of India for sanction of relief from the State Disaster Response Fund (SDRF) / National Disaster Response Fund (NDRF).

5. The Government after careful consideration, accept the recommendations of the Additional Chief Secretary/Commissioner of Revenue Administration & State Relief Commissioner and direct that the revised norms of Government of India or the existing State Government norms whichever are more beneficial be adopted. Accordingly, the revised consolidated scale of relief assistance under SDRF and NDRF effective from the Financial year 2023-2024 is annexed to this order.

(By order of the Governor)

**V. RAJARAMAN
SECRETARY TO GOVERNMENT**

To

The Additional Chief Secretary/
Commissioner of Revenue Administration &
State Relief Commissioner,
Chepauk, Chennai-600 005.
The Director, Disaster Management,
Tamil Nadu Disaster Risk Reduction Agency,
Chepauk, Chennai-600 005.
The Joint Secretary,(DM Division)
Ministry of Home Affairs, Government of India,
New Delhi 110001.
The Commissioner of Agriculture, Chennai-600 005.
The Commissioner of Horticulture, Chennai-600 005.
The Director of Animal Husbandry and Veterinary Services
Chennai-600 006.
The Commissioner of Fisheries, Chennai-600 006.
The Director of Public Health & Preventive Medicine
Kilpauk, Chennai-600 010.
The Director of Medical Education, Chennai-600 010.
The Director of Handloom, Chennai-600 008.
The Director of Treasuries and Accounts, Chennai-600 015.
The Accountant General (A & E), Chennai-600 018.
The Pay and Accounts Officer (East), Chennai-600 009.
The Resident Audit Officer, Secretariat, Chennai-600 009.

Copy to:

The Office of the Hon'ble Chief Minister, Chennai-9
 All Departments of Secretariat, Chennai-9
 All District Collectors
 All Heads of Departments/Boards/Corporations
 The Special Personal Assistant to Hon'ble Minister for
 Revenue & DM, Chennai-9.
 The Special Personal Assistant to Hon'ble Minister for
 Agriculture & Farmers' Welfare, Chennai-9.
 The Special Personal Assistant to Hon'ble Minister for
 Finance & H.R.M, Chennai-9.
 The Additional Chief Secretary,
 Water Resources Department, Chennai-600 009.
 The Additional Chief Secretary to Government,
 Highways and Minor Ports Department, Chennai-600 009.
 The Additional Chief Secretary to Government,
 Health and Family Welfare Department,
 Chennai-600 009.
 The Principal Secretary to Government,
 Home, Prohibition and Excise Department,
 Chennai-600 009.
 The Principal Secretary to Government,
 Finance Department, Chennai-600 009.
 The Principal Secretary,
 Public Works Department, Chennai-600 009.
 The Personal Assistant to Chief Secretary to Government,
 Secretariat, Chennai-600 009
 The Senior Principal Private Secretary to
 Secretary to Government, Revenue and
 Disaster Management Department, Chennai-600 009.
 The Finance (Revenue/ BG-I) Department,
 Chennai - 600 009.
 The Revenue and Disaster Management (O.P.II, DM-I,II & DM-IV)
 Department,
 Chennai-600 009.
 Stock File/Spare Copy.

// Forwarded by Order //


 09.12.2023
Section Officer

ANNEXURE-I**Enclosure to G.O.(Ms) No.579, Revenue & D.M. [D.M.-III(2)] Department, Dated 09.12.2023****Revised List of Items and Norms of Assistance from State Disaster Response Fund (SDRF) and National Disaster Response Fund(NDRF)
(From the financial year 2023-2024)**

S. No.	Items	Norms of Assistance
1.	Gratuitous 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 authority.
	b) Ex-Gratia payment for loss of a limb or eye(s).	Rs.74,000/- per person, when the disability is between 40% and 60%. Rs.2.50 lakh per person, when the disability is more than 60%. Subject to certification by a doctor from a hospital or dispensary of Government, regarding the extent and cause of disability.
	c) Grievous injury requiring hospitalization	Rs.16,000/- per person requiring hospitalization for more than a week. Rs.5,400/- per person requiring hospitalization for less than a week. Note: Injured persons getting treatment under the 'Ayushman Bharat' Yojna, will not be eligible for relief under this item.
	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.2,500/- per family, for the loss of clothing. Rs.2,500/- per family, for loss of utensils/ household goods.
	e) Gratuitous relief for families whose livelihood is seriously affected.	Gratuitous Relief (GR) for families, whose livelihood is seriously affected will be provided to two adults members of the affected family as per actual rate of MNREGA per day or average rate of all States / UTs per day, whichever is lower. For this purpose, notification issued by Ministry of Rural Development from time to time, is to be referred for calculating average rate. The relief amount should be disbursed through DBT / cash (In case of exigency of the situation only) or the State Government may provide this relief in kind. State Govt. will certify that identified beneficiaries are not housed in relief camps, during the period GR is provide the basis and process for arriving at such beneficiaries district-wise. Period for providing gratuitous relief will be as per

		assessment of the State Executive Committee (SEC) and the Central Team (in case of NDRF). The default period of assistance will be upto to 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 extend the time period beyond the prescribed limit. Provided that expenditure on this account in no case, should exceed 30% of SDRF allocation under this window (Response & Relief) for the year. However, in case of drought, in no case, should exceed 50% of SDRF allocation under this window (Response & Relief) for the year. Further, to ensure transparency, the list of persons to whom Gratuitous Relief is provided, should be uploaded on the website of the State Government. The State Government shall notify the basis and proof for the identification of beneficiaries in a transparent manner.
2.	Search & Rescue Operations	
	a) Cost of search and rescue measures/ evacuation of people affected/ likely to be affected	As per the actual cost incurred, assessed by SEC and recommended by the Central Team (in case of NDRF). By the time the Central Team visits the affected area, these activities may be already over. Therefore, the SEC and the Central Team can recommend actual / near-actual costs.
	b) Hiring of boats/essential equipments for carrying immediate relief and saving lives.	As per actual cost incurred, assessed by SEC and recommended by the Central Team (in case of NDRF). The quantum of assistance will be limited to the actual expenditure incurred on hiring boats and other essential equipment required for rescuing stranded people and thereby saving human lives during a notified natural calamity.
3.	Relief Measures	
	a) Provision for temporary accommodation, food, clothing, medical care, Gen-set etc. for people affected/ evacuated and sheltered in relief camps.	A package of 10 KG rice, one saree and one dhoti, one litre of kerosene and Rs.1,000/- to the families evacuated from their houses and moved to shelters. As per actual cost incurred, and assessed by SEC and recommendation by the Central Team (in case of NDRF), for a period upto 30 days. The SEC 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. Depending on the ground situation, the State Executive Committee can extend the time period beyond the prescribed limit. Provided that expenditure on this account, in no cases, should exceed 30% of SDRF allocation under this window (Response & Relief) for the year. Medical care to be provided from National Health Mission (NHM).
	b) Air dropping of essential supplies and rescue by Air Force	As per actual cost incurred, assessed by SEC and recommendation by 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 essential supplies and rescue operations only.

	c) Provision of emergency supply of drinking water.	As per actual cost, based on assessment of need by SEC and recommended by the Central Team (in case of NDRF. up to 30 days, which 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. Provide that expenditure on this account, in no case, should exceed 30% of SDRF allocation under this window (Response & Relief) for the year.
4.	Clearance of Affected Areas	
	a) Clearance of debris in public areas.	As per actual cost, for a period upto 30 days from the date of start of the work, based on assessment of need by SEC for the assistance to be provided under SDRF and as per the 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 SEC 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/ Carcasses	As per actual cost, based on assessment of need by SEC and recommendation of the Central Team (in case of NDRF).
5.	Agriculture	
(i)	(i) Assistance to Small and Marginal Farmers having Landholding Upto 2 Hectares	
A.	Assistance For Land and other Loss	
	a) De-silting 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.18,000/- per hectare for each item. Above is subject to a minimum assistance of not less than Rs.2,200/- per farmer. (subject to the condition that no other assistance/ subsidy has been availed of by/ is eligible to the beneficiary under any other Government Scheme)
	b) Removal of debris on agricultural land in hilly areas	
	c) De-silting/ Restoration/ Repair of fish farms	
	d) Loss of substantial portion of land caused by landslide, avalanche, change of course of rivers	Rs.47,000/- per hectare to only those small and marginal farmers whose ownership of the land is legitimate as per the revenue records. Above is subject to a minimum assistance of not less than Rs.5000/- per farmer.
B.	Input subsidy (where crop loss is 33% and above)	
	a) For agriculture crops, horticulture crops and annual plantation crops	Rs.8500/- per hectare for crops other than paddy in rainfed areas subject to a minimum assistance of not less than Rs.1,000/- per farmer and restricted to sown areas. Rs.17,000/- per ha. for crops in assured irrigated areas subject to a minimum assistance of not less than Rs.2,000/- per farmer and restricted to sown areas.

	b) Perennial crops/ Agro forestry (Plantation in own farmland)	Rs.22,500/- ha. for all types of perennial crops / Agro forestry (Plantation in own farmland), subject to a minimum assistance of not less than Rs.2,500/- per farmer and restricted to sown areas.
	c) Sericulture	Rs.7,410/- per ha. for Eri, Mulberry, Tussar Rs.7,500/- per ha. for Muga. Above is subject to a minimum assistance of not less than Rs.1,000/- per farmer and restricted to sown areas.
	d) Paddy	Rs.17,000/- per ha. subject to a minimum assistance of not less than Rs.2,000/- and restricted to sown areas.
(ii)	Input subsidy to farmers having more than 2 Ha. of landholding	Rs.8,500/- per ha. other than paddy in rainfed areas and restricted to sown areas. Rs.17,000/- per ha. for crops in assured irrigated areas and restricted to sown areas. Rs.17,000/- per ha. for Paddy crop and restricted to sown areas. Rs.22,500/- ha. for all types of perennial crops / Agro forestry (Plantation in own farmland) and restricted to sown areas. Assistance may be provided where crop loss is 33% and above, subject to a ceiling of 2 ha. per farmer.
6.	Animal Husbandry - Assistance to Small and Marginal Farmers and Landless Livestock Owners	
	i) Assistance for the loss of milch animals, draught animals or animals used for haulage.	Milch animals Rs.37,500/- Buffalo/cow/camel/yak/ Mithun etc. Rs.4,000/- Sheep/ Goat/ Pig Draught animals Rs.32,000/- Camel/ horse/ bullock, etc. Rs.20,000/- Calf/ Donkey/ Pony/ Mule/Heifers Poultry:- Poultry @ 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 Avian 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 concentrate including water supply and medicines in cattle camps.	Large animals- Rs.80/- per day. Small animals- Rs.45/- per day. Period for providing relief will be as per assessment of the State Executive Committee (SEC) and the Central Team (in

		<p>case of NDRF). The default period for assistance will be for the period of calamity upto 30 days, which may be extended upto 60 days in the first instance and in 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. Provide that expenditure on this account, in no case, should exceed 30% of SDRF allocation under this window (Response & Relief) for the year.</p> <p>Based on assessment of need by SEC and recommendation of the Central Team, (in case of NDRF) consistent with estimates of cattle as per Livestock Census and subject to the certificate by the competent authority about the requirement of medicine and vaccine being calamity related.</p>
	(iii) Transport of fodder to cattle outside cattle camp	As per actual cost of transport during notified calamity 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	
	<p>i) Assistance to Fisherman for repair / replacement of non-mechanized boats and damaged/lost nets (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).</p>	<p>i) Replacement of fully damaged/lost wooden catamaran – Rs.50,000/- per unit (inclusive of net)</p> <p>ii) Repair/rebuilding of partially damaged Catamaran Rs.15,000/- per unit</p> <p>iii) Replacement of fully damaged /lost wooden /FRP Vallam (35% to 50% assistance of the total cost subject to maximum subsidy of Rs. 1 lakh) calculated at a unit cost of Rs.2.00 lakh (inclusive of engine and net)</p> <p>iv) Partially damaged FRP Vallam Rs.30,000/- per unit</p> <p>v) Replacement of fully damaged /lost mechanised fishing boats (35% of the total cost, restricted to a maximum subsidy of Rs.7.5 lakh per boat)</p> <p>vi) Repairs of partially damaged mechanised fishing boats (60% of the assessed value of the damages restricted to a maximum subsidy of Rs.4 lakh per boat)</p> <p>vii) Rs.15,000/- for replacement of fully damaged net</p> <p>viii) Repair of OBM/IBE Engines – Rs.7500/- per engine.</p>
	ii) Input subsidy for fish seed farm to Small and Marginal Farmers	Rs.10,000/- 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 Ministry of Fisheries, Animal Husbandry & Dairying.)
8.	Handicrafts/Handloom Assistance to Artisans	
	i) For replacement of damaged main functional tools equipments	Rs.5,000/- per artisan for equipment. subject 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.5,000/- per artisan for raw material. subject to certification by the competent authority designated by the Government about damage and its replacement
9.	Locust Control	
	Hiring of vehicles, tractors, with spray equipments for spraying of plant protection chemicals for pest control, hiring of water tankers and purchase of plant protection chemicals for locust control.	As per the actual cost, based on the assessment of need by the SEC and recommended by the Central Team (in case of NDRF). The quantum of assistance will be limited to the actual expenditure incurred on hiring vehicles, tractors with spray equipments for spraying of plant protection chemicals for locust attack. However, expenditure on this account, in no cases, should exceed 30% of SDRF allocation under this window (Response & Relief) for the year.
10.	Housing	
	a) Fully damaged/destroyed houses and severely damaged houses	
	i) Pucca house	Rs. 1,20,000/- per house, in plain areas.
	ii) Kutcha House	Rs. 1,30,000/- per house, in hilly areas.
	b) Partially Damaged Houses (Other than huts) where the damage is at least 15%	
	i) Pucca house	Rs.6500/- per house
	ii) Kutcha House	Rs.4000/- per house
	c) Damaged / destroyed huts	Rs. 8,000/- per hut 10.Kg rice for each case of damaged huts (Hut means temporary, make shift unit, inferior to Kutcha house, made of thatch, mud, plastic sheets etc. traditionally recognized as hut by the State/ District authorities.)
	d) Cattle shed attached with house	Rs.3,000/- per shed.
11.	Infrastructure [Repair/restoration(of immediate nature) of damaged infrastructure]	
	(1) Roads & bridges, which may include the following activities: i) Filling up of breaches and potholes, use of pipe for creating waterways, repair and stone pitching of embankments. ii) Repair of breached culverts. iii) Providing diversions to damaged / washed out portions	Assessment of requirements: Based on assessment of need, as per States' notified schedule of rates for repairs by SEC and recommendation of the Central Team (in case of NDRF). 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 & PR is not available, then assistance will be provided as per rate prescribed in this item. However, in any case, the assistance will be provided at the rate whichever is lower. Prescribed rate are as under:- Repairs of State Highways, Major District Roads (MDR)

<p>of bridges to restore immediate connectivity.</p> <p>iv) Temporary repair of approaches to bridges / embankments of bridges, repair of damaged railing bridges, repair of causeways to restore immediate connectivity, granular sub base, over damaged stretch of roads to restore traffic.</p>	<p>In normal areas -- @ Rs.1.0 lakh / km;</p> <p>In hilly areas -- @ Rs.1.25 lakh / km;</p> <p>Repairs of Rural / village Roads with culverts</p> <p>In normal areas -- @ Rs.60,000/- km;</p> <p>In hilly areas -- @ Rs.75,000/-km;</p> <p>Repairs of RCC Culverts/ Bridges</p> <p>In normal areas -- @ Rs.60,000/- per culvert;</p> <p>In hilly areas -- @ Rs.75,000/- culvert;</p>
<p>(2) Drinking Water Supply Schemes, which may include the following activities:-</p> <p>i) Repair of damaged platforms of hand pumps / ring wells / spring-tapped chambers / public stand posts, cisterns.</p> <p>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)</p> <p>iii) Repair of damaged pumping machines, leaking overhead reservoirs and water pumps including damaged intake-outtake structure, approach gantries / jetties.</p>	<p>Damaged drinking water supply schemes will be eligible for assistance as per actual, subject to a ceiling of Rs.2.00 lakh per damaged scheme.</p> <p>Cleaning of Community drinking water wells as per actual, subject to a ceiling of Rs.10,000/- per Well.</p>
<p>(3) Minor Irrigation Schemes, which may include the following activities:</p> <p>i) Immediate repair of damaged canal structures and earthen / masonry works of tanks and small reservoirs with the use of cement, sand bags and stones.</p> <p>ii) Repairs of weak areas such as piping or rat holes in dam walls / embankments.</p> <p>iii) Removal of vegetative material / building material / debris from canal and drainage system.</p> <p>iv) Repair or embankments of minor irrigation projects.</p>	<p>In case of repairs of minor irrigation works, assistance will be given as per the schedule of rates (SOR) for repairs notified by the concerned State.</p> <p>In case SOR is not available, assistance for irrigation scheme / canal will be provided as per actuals, subject to the ceiling of Rs.2.00 lakh per damaged minor scheme.</p> <p>Note: However, in any case, the assistance will be provided at the rate whichever is lower.</p> <p>Assistance for restoration of damaged embankment of minor irrigation projects will be at par with the case of similar rural roads, subject to the stipulation that no duplication would be done with any ongoing schemes.</p>

	<p>(4) Power (only limited to immediate restoration of electricity supply in the affected areas): Damaged Poles / conductors and transformers upto 11 kv.</p>	<p>Regarding repair of damaged power sector, assistance will be given for the damaged conductors, poles and transformers upto the level of 11 KV and LT lines with bare conductor, as per details hereunder:</p> <p>The rate of assistance will be: Rs.5000/- pole; Rs.0.50 lakh per km for repairing of damaged LT lines; Rs.1.00 lakh for replacement of one damaged distribution transformer.</p> <p>(Note: The above assistance will not be applicable for those items which can be reused)</p>
	<p>(5) Schools Repairs of damaged schools building</p>	As per actual, subject to a ceiling of Rs.2.00 lakh per school.
	<p>6) Primary / Community Health Centres Repair of Primary / Community Health Centres</p>	As per actual, subject to a ceiling of Rs.2.00 lakh per unit.
	<p>(7) Community Assets Owned by Panchayat Temporary repair of Mahila Mandal, Yuva Kendra, Panchayat Ghar, Community Hall, Anganwadi, etc.,</p>	As per actual subject to a ceiling of Rs.2.50 lakh per unit.
12.	Procurement of essential search, rescue and evacuation equipments including communication equipments, etc. for response to disaster.	Expenditure from the preparedness and capacity building window will be governed by the Guidelines issued separately by the Ministry of Home Affairs for the Preparedness & Capacity Building window of SDRF / NDRF. (Guidelines for Preparedness and Capacity Building enclosed as Annexure III)
13.	Capacity building.	
D. State Specific Disasters		
	<p>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 respective window of the SDRF.</p>	<p>Expenditure is to be incurred from SDRF only (and not from NDRF), as assessed by the State Executive Committee (SEC).</p> <p>The norm for various items will be the same as applicable to other notified natural disasters, as listed above.</p> <p>or</p> <p>In these cases, the scale of relief assistance against each item for 'local disaster' shall not exceed the norms of SDRF.</p> <p>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 SEC (provision of relief assistance to local disasters to be sanctioned as per norms and guidelines notified by GoTN).</p>

		<p>(Sea Erosion, Lightening, thunder, whirl wind, gale wind & Pest Attack in severe nature have been notified as State Specific disasters vide G.O.Ms.No.246, R&DM Dept, dated 03.08.2017 & G.O.Ms.No.212, R&DM Dept, dated 03.07.2019 and the norms of assistance have also been issued.</p> <p>As per the revised norms of assistance of Government of India 2023, the norms for various items will be the same for specific disasters as applicable to other notified natural disasters and the scale of relief assistance against each item for 'local disaster' shall not exceed the norms of SDRF. Hence, the norms of assistance for natural disasters may be adopted for specific disasters also as notified by GoI.)</p>
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ANNEXURE -II

Items Not Covered Under SDRF/NDRF

- a) Colleges and other educational institutions buildings
- b) Major / medium Irrigation Schemes
- c) Flood control and anti Erosion Protection work
- d) Hydro Power Project / HT Distribution systems/ Transformers and sub stations
- e) High Tension Lines (above 11 kv)
- f) State Govt. Buildings viz., departmental / office building, departmental/ residential quarters, religions structures, patwarkhana, Court premises, play ground, forest bungalow property and animal / bird sanctuary etc.,
- g) Long term / permanent restoration work
- h) Procurement of equipments / machineries under NDRF
- i) National Highways
- j) Sectors such as Telecommunication and Power (except immediate restoration of power supply), which generate their own revenues, and also undertake immediate repair / restoration works form their own funds / resources, are excluded.

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ANNEXURE – III

Guidelines on Constitution and Administration of Preparedness and Capacity Building Funding Window under National Disaster Response Fund (NDRF) and State Disaster Response Fund (SDRF)

Introduction: -

1. The Fifteenth Finance Commission (XV-FC) while recommending Disaster Management Grants has inter-alia allocated 10% of the State Disaster Risk Management Fund (SDRMF) and the National Disaster Risk Management Fund (NDRMF) for Preparedness & Capacity Building (P&CB) Sub-window to support the critical institutional, functional and technological components of the disaster management system. XV-FC has further recommended that a separate set of guidelines be developed for Preparedness & Capacity Building (P&CB) funding window.

2. Therefore, in pursuance to the recommendations of XV-FC, following guidelines are hereunder issued under Sections 46(2), 48(1)(a) and Section 62 of the Disaster Management Act, 2005 for the operationalisation of the P&CB grants under the State Disaster Response Fund (SDRF) and the National Disaster Response Fund (NDRF). These guidelines will be operative for the award period starting from the financial year 2021-22 to 2025-26.

Preparedness and Capacity Building Measures:

3. The Disaster Management (DM) Act, 2005 empowers the National, State and District Disaster Management Authorities to take measures for the prevention of District Disaster Management Authorities to take measures for the prevention of disasters, or the mitigation, or preparedness and capacity building for dealing with the threatening disaster situation or disasters.

4. As per Section 2 (m) of the Disaster Management (DM) Act, 2005, preparedness is the "state of readiness to deal with a threatening disaster situation or disaster and the effects thereof."

5. Further, as per Section 2 (b) of the DM Act, 2005, Capacity Building includes-

- Identification of existing resources and resources to be acquired or created;
- Acquiring or creating resources identified under above sub-clause;
- Organization and training of personnel and coordination of such training for effective management of disasters.

Resource Allocation and Earmarking of funds from NDRF / SDRF

6. Under NDRF:- As recommended by the XV-FC, the aggregate size of the P&CB funding window for the award period commencing from 2021-22 to 2025-26 would be Rs. 6,846 crore. Out of this amount, Rs. 5000 crore is earmarked for 'Expansion and Modernization of Fire Services'. Year-wise allocation from P&CB funding window is as under:

Yearwise Allocation	2021-22	2022-23	2023-24	2024-25	2025-26	Total for the award period 2021-22 to 2025-26 (Rs in crore)
Amount (Rs in crore)	1,239	1,301	1,366	1,434	11506	6,846

7. Under SDRF:- The aggregate size of the P&CB funding window commencing from 2021-2022 to 2025-2026 would be Rs.16,014 crore as recommended by the XV Finance Commission.

Year wise allocation from P&CB funding window is as under :

Year wise Allocation	2021-22	2022-23	2023-24	2024-25	2025-26	Total for the award period 2021-22 to 2025-26 (Rs in crore)
Amount (Rs in crore)	2,898	3,043	3,196	3,355	3,523	16,015 (10% of yearwise allocation of both Union and State Share of SDRMF taken together)

8. NDRF would receive 80 per cent of the total NDRMF. Within the NDRF, there would be three sub-allocations (i) Response and Relief (40 per cent), (ii) Recovery and Reconstruction (30 per cent) and (iii) Preparedness and Capacity Building (10 per cent). While the funding windows of NDRF and NDMF are not inter-changeable, there could be flexibility for re-allocation within the three sub-windows of NDRF for that financial year subject to the condition that earmarked allocation shall not exceed 10 per cent of the amount earmarked for the sub-window.

9. The SDRF would receive 80 per cent of total SDRMF. Within the SDRF there would be three sub-allocations (i) Response and Relief (40 per cent), (ii) Recovery and Reconstruction (30 per cent) and Preparedness and Capacity Building (10 per cent). While the funding windows of SDRF and SDMF are not inter-changeable, there could be flexibility for re-allocation within the three sub-windows of SDRF for that financial year

10. The funds for earmarked allocations for 'Expansion and Modernization of Fire Services' will be provided to the State Governments in the next five years (2021-2026). There shall be no spill-over for the liabilities committed for any of the projects sanctioned against earmarked allocation beyond the award period (2021-2026) of the XV-FC.

Scope of Preparedness and Capacity Building Funding Window under NDRF / SDRF :-

11.1 As recommended by XV-FC:-

- At Central level, this funding window is made available within the NDRF which will largely be used to support national agencies. However, State Government may also seek assistance, if the State Government concerned, has insufficient fund available under P&CB window of SDRF,
- At State level, P&CB funding window is meant to support preparedness and capacity building of State Disaster Management Authorities (SDMAs), State Institutes of Disaster Management (SIDM), training and capacity-building activities, and emergency response facilities. State Governments would not use these resources for personnel support.

11.2 In the light of the recommendations made by XV-FC and the provisions contained in the DM Act, 2005, the P&CB funding window shall support and provide funds to the following type of projects from NDRF / SDRF:-

(i) NDRF:-

Category - A

Projects / Proposals of the following types to be implemented by the Central Ministries / National Agencies / Institutes / Entities:

- (a) Projects aimed at preparedness for hazards which are to be implemented in an area, which cuts across more than one State,
- (b) Projects aimed at setting up / strengthening national level "Early Warning Systems" or promote disaster awareness through intervention of updated technologies or otherwise including strengthening of "Emergency Operations Centres" and preparedness and response mechanisms across the States,
- (c) Projects aimed at preparedness and capacity building including hazard specific if front-line disaster mitigation / response forces, frontline workers and Government functionaries at various levels in the disaster management.

Category B

Under this category, projects / proposal of the following type shall be considered for funding from P&CB funding window of NDRF:-

- (a) Projects of the State Government(s) related to hazard preparedness, disaster awareness, early warning systems, emergency operations centres, training and capacity building. However, the projects for funding from P&CB funding window of NDRF will be considered only if the State Government concerned has exhausted the funds available under P&CB window of SDRF or the proposed project cost is more than the available balance in the P&CB window of SDRF,
- (b) Projects for 'Expansion and Modernization of Fire Services' including setting up of new fire stations / upgradation of existing fire stations and procurement of fire-fighting and rescue vehicles and equipment.

(ii) SDRF:

- (a) Projects aimed at preparedness for a specific-hazard which is to be implemented within a State,
- (b) Projects aimed at promoting disaster awareness in the disaster-prone areas of the State through intervention of updated technologies or otherwise preparedness and response mechanisms within the State,
- (c) Projects aimed for preparedness and capacity building including hazard-specific training of front-line disaster mitigation / response forces / local body members / selected volunteers.

11.3 There shall be no State share in the Projects / Proposals covered under Category A above. For all Projects / Proposals under Category B above for which assistance is sought by any State Government from P&CB funding window, as recommended in XV-FC, the concerned State Government shall contribute 10% in case of projects upto Rs. 250 Crore, 20 per cent in case of projects above Rs. 250 Crore and upto Rs. 500 Crore and 25 per cent in case of projects exceeding Rs. 500 Crore. However, for the projects / proposals under the earmarked allocation of 'Expansion and Modernization of Fire Services' through the P & CB Funding Window, State Governments shall contribute 10 per cent of the total cost of such projects / proposals.

12. Exclusions for utilization of P&CB funding window. of NDRF / SDRF

- (i) Resources under P&CB funding window cannot be used towards establishment expenditure such as salaries, office expenditure, etc. to be incurred by the Disaster Management Authorities or other entities except for payment of remuneration to technical staff included in the project costs. Such payments will be as per the General Financial Rules, 2017 and the extant Government of India guidelines,
- (ii) Resources under P&CB funding window shall not be used for outsourcing the routine and regular activities of the national agencies / State Governments to any consultancy firm including any international agency,
- (iii) P&CB funding window shall not be used to support construction-based projects and procurement of large / heavy equipment, except setting up of new fire stations / upgradation of existing fire stations and procurement of fire-fighting and rescue vehicles and equipment as envisaged under Category (B) (b) of para 6.2 (i) above. Further, this funding window shall also not be used for maintenance and upkeep of any structure or engineering measure aimed at mitigation,
- (iv) P&CB funding window shall not be used as a source of funding for existing government programmes / ongoing schemes etc. which are under implementation,
- (v) P&CB funding window must have a predominant focus on multi-hazard preparedness and capacity development and should not be used for general environmental improvement, plantations, afforestation or landscape beautification without a clear, logical and direct linkage to hazards.

(vi) All preparedness and capacity building activities would need to be undertaken and completed within the time-frame as specified in the approved proposal. Cost and time-frame for such proposals should ideally not be revised barring, some exceptional circumstances.

13. Technical Guidelines

Projects to be undertaken from NDRF / SDRF must have verifiable and measurable outcomes. NDMA will advise implementing authorities in the projects launched / being implemented under the preparedness and capacity building window including prescribing specific format for seeking information / project proposals etc. In addition, for the guidance of Implementing Partners / State Governments etc. for the wide range of activities within the broad framework of preparedness and capacity building, NDMA will also issue technical guidelines separately, with the concurrence of MHA. Further, detailed procedures for project execution will continue to be issued by NDMA from time to time in consultation with MHA.

14. Implementing Partners

Following agencies / entities may act as Implementing Partners for Preparedness and Capacity Building funding window:

For NDRF:

- i) National Disaster Management Authority (NDMA) and National Institute of Disaster Management (NIDM).
- ii) First Responder Organizations within the Central Government such as National Disaster Response Force.
- iii) Ministries / Departments / National Agencies within the Central Government for preparedness & capacity building activities and execution of projects in the States.
- iv) Central Research and Academic institutions in Disaster Management through the National Agencies including NDMA, NIDM and NDRF.
- v) Government supported Organizations e.g. Bharat Scouts & Guides, National Cadet Corps (NCC), National Social Service (NSS) and National Yuva Kendra Sangathan (NYKS) through National Agencies including NDMA, NIDM and NDRF.

For SDRF:

- i) State Disaster Management Authorities (SDMAs).
- ii) District Disaster Management Authorities (DDMAs).
- iii) First Responder Organizations within the State Governments such as State Disaster Response Force, Fire Services and Civil Defence.
- iv) Ministries/ Departments /Institutions within the State Government for preparedness & capacity building activities.
- v) State Research and Academic institutions in Disaster Management through State Agencies like SDMA and SIDM.

vi) State Government supported Organizations e.g. Bharat Scouts & Guides, NCC NSS & NYKS through State Agencies like SDMA and SIDM.

vii) Urban Local Governments/ Zilla Parishad / Gram Panchayats.

Administrative Mechanism for processing of funding proposals Under NDRF:-

15. NDMA will constitute an Appraisal Committee headed by a member of NDMA with representatives from the line-Departments, State Government concerned and subject matter experts (if required) for appraisal of proposals received from national agencies/entities, Central Ministries and State Governments.

16. Projects/proposals submitted by the State Government for funding under PACB funding window of NDRF should be approved by the State Executive Committee (SEC).

17. State Government(s), Central Ministries, and National Agencies/Entities shall submit the projects for which central assistance from the P&CB funding window of NDRF is sought to Ministry of Home Affairs. MHA will forward the same to the Appraisal Committee constituted under the Chairmanship of Member, NDMA for appraisal/evaluation of the proposed project.

18. The Appraisal Committee will make its recommendations to the MHA for placing the same before the Sub-Committee of the National Executive Committee (SC- NEC) for consideration. SC-NEC will have the power to approve proposals up to Rs. 100 Crore.

19. Proposals above Rs. 100 Crores will be placed before High Level Committee (HLC) along with the recommendations of SC-NEC. The HLC will approve the proposals for undertaking Preparedness and Capacity Building activities.

Under SDRF:-

20. SDMA will constitute a committee to be headed by a member of SDMA with members from line Departments of the State Government and State agencies/entities for appraisal/evaluation of the proposals / projects under P&CB funding window of SDRF/NDRF.

21. The Departments of the State Government and the agencies/institutes who wish to take up projects from P&CB funding window of SDRF will submit the projects to the State Government Department dealing with Disaster Management which in turn will refer the project to the committee headed by a member of SDMA as mentioned above.

22. The recommendations of the committee shall be placed before the SEC for consideration and the procedure in place for incurring expenditure from SDRF shall continue to apply mutatis-mutandis for P&CB funding window of SDRF/NDRF including all modalities.

23. SEC constituted by the State Government under the provisions of the DM Act, 2005, shall decide on all matters connected with the administration of P&CB funding window of SDRF.

Release of funds

24. Upon the approval of SC-NEC / HLC, Department of Expenditure, Ministry of Finance will release assistance from P&CB funding window of NDRF to the concerned State Governments based on the recommendations of the MHA.

25. For the projects covered under Category 'A', of NDRF; upon the approval of SC- NEC / HLC, and based on the recommendations of MHA, Department of Expenditure, Ministry of Finance will issue a Letter of Authorization (LOA) to the MHA or National Agencies (NDMA/NIDM/NDRF), as the case may be, so as to enable them to provide funds to the implementing agencies of approved projects.

26. Upon sanctioned by SEC, funds will be released to the States from PaCB Funding window under SDRF. Procedure as in vogue in the State for the release of funds under SDRF shall apply for preparedness and capacity building funding window.

Supervision of Projects

27. NDMA / SDMA need to identify specific disasters and evaluate preparedness for the same, prepare plans for the deficiencies observed either in preparedness or capacity building/ training so that disasters can be responded effectively. Such plans need to specify measures required to be taken to strengthen the capability / capacity of first responders to hazard specific disasters.

28. NDMA shall supervise and monitor the implementation of the preparedness and capacity building projects and in this process can seek progress / performance reports from the Implementing Partners. NDMA shall submit progress report to MHA and Department of Expenditure. In case of any shortfall in the progress of the preparedness and capacity building project, NDMA may take special measures, if required, for smooth and timely implementation of the project.

29. SDMA shall assist and provide technical advice to the State Government / Line Ministries / Departments from conceptualization to completion of the preparedness and capacity building proposals under SDRF.

30. SDMA shall supervise and monitor the Preparedness and capacity building projects/works and submit completion certificate as well as actual benefits achieved from it including population benefitted/ nature of risks reduced/impact analysis etc. to State Government and NDMA.

Disbursements

31. After the project is approved, the funds would be disbursed in the installments as specified in the proposal. The disbursement of funds would be linked to the deliverables and Utilization Certificates. The unspent balance in the preparedness and capacity building funding window under SDRF account as at the end of a financial year 2021-22 shall be the opening balance of said account of the successive financial year. The Central Government will communicate the modalities for handling any balances available at the end of 2025-26 in P&CB funding window under SDRF of the State.

Procurement

32. All the procurements made by government agencies for implementing the proposal would be in accordance with the General Financial Rules (GFR) and from GeM portal, as applicable. The implementing agencies would ensure that the project is implemented in a fair and transparent manner. In the entire implementation process, the DMAs need to ensure that there is no conflict of interest. Appropriate GFR will be followed by States and Government supported Organizations.

Project Database

33. A disaster database should be developed to help assess the impact of expenditures on different aspects of disaster management. All the project-related processes would be digitized. NDMA will maintain a national portal of all the preparedness and capacity-building projects that have been implemented through the NDRF / SDRF. This portal will contain a specific component for capacity building plans. NDMA will also monitor the database by holding periodic review.

Release, Accounting and other procedures

34. The detailed funding pattern, release of funds, investment of funds, accounting & auditing procedures, progress monitoring, savings and cost of maintenance / implementation etc. in respect of the projects initiated under P&CB Funding Window would be same, as envisaged in the primary guidelines issued by MHA on NDRF / SDRF for such purposes. The composition of HLC and SC-NEC will also be same as envisaged in the primary guidelines issued by MHA for NDRF / SDRF.

Interpretation and Amendment

35. In case of any difficulty in interpretation of any of these guidelines, the matter shall be referred to the Disaster Management Division, MHA whose decision in consultation with Department of Expenditure shall be final. Any amendment in this guideline will be issued by MHA in consultation with Department of Expenditure, Ministry of Finance.

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ANNEXURE – IV**GENERAL**

- (i) Ex-Gratia payment of Rs.50,000/- per deceased person, to next of kin of the deceased person, including those involved in the relief operations or associated in the preparedness activities, subject to the cause of death being certified as COVID – 19, as per the guidelines jointly issued by the Ministry of Health and Family Welfare and the Indian Council of Medical Research on 3rd September, 2021, will be given as per guidelines on minimum relief issued by the National Disaster Management Authority (NDMA) dated 11.09.2021. This ex-gratia assistance will be applicable from the date of first COVID-19 case reported in the country and will continue till de-notification of COVID-19 as a disaster or till further orders, whichever is earlier, to next of kin of the deceased due to COVID-19.
- (ii) The State Government are to take utmost care and ensure that all individual beneficiary – oriented assistance is necessarily / mandatorily disbursed through Direct Benefit Transfer in the bank account of the beneficiary.
- (iii) The scale of relief assistance against each item for all notified disaster including 'local disaster' should not exceed the norms of SDRF / NDRF. Any amount spent by the State for such disasters over and above the ceiling, would be borne out of the resources of the State Government and not from SDRF.

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ANNEXURE 5

Dos and Don'ts of Possible Hazards FLOOD

Pre disaster

Individual Preparedness:	If you have to evacuate:	Governmental Preparedness:
<ul style="list-style-type: none"> ➤ Know the route of the nearest safe shelter. ➤ First Aid kit should be ready with extra medicines for snake bite and diarrhoea. ➤ Tie up all valuables at the top of the roof. ➤ Radio with extra batteries, torch, and ropes are to be kept ready. ➤ Store dry fruits, Kerosine, biscuits baby food, at least for 7 days. ➤ Water proof bags, Polythene bags to store clothes and valuables. ➤ Be ready with umbrella and bamboo sticks (to protect yourself from snakes) ➤ Identify a high-land or mound 	<ul style="list-style-type: none"> ➤ Pack clothes, essential medicines, valuable personal papers in water proof bags. ➤ Inform the Disaster Management Team member about the place of your shelter. ➤ Inform the Disaster Management Team to the place that you are shifting to. ➤ Raise furniture and appliances to 	<ul style="list-style-type: none"> ➤ Update all resource inventory. ➤ Control room should be functional for 24 hours. ➤ Identify all the sheltering places where people could be evacuated. ➤ Activate all the first aid and the rescue and evacuation team. ➤ See to it that there is no leakage in the flow of the river. ➤ Ascertain the

- for the cattle and sufficient fodder for them.
- As soon as you receive warning tune to the local news channel in the radio/Television for the latest update for guidance.
- Don't spread rumours. Get authentic data and then announce it.
- Check your emergency kit.

- a higher place.
- Switch off all electric appliances.
- Put sand bags in the toilet and cover all sewage backflow.
- Lock your house and take the route suggested.
- Don't step into water of unknown depth and current.

- availability of dry fruits and food, drinking water and medicines.
- Ascertain the fodder availability for cattle.
- Mobilise boats and vehicles that will help in evacuation and rescue operation and in the distribution of relief materials.
- Proper storage of foodgrains in the vulnerable pockets.
- Identify the relief materials and distribution centres.
- Inspect, strengthen and repair all the approach roads and culverts.

		<ul style="list-style-type: none"> ➤ Provide trouble - free mobile phones in the vulnerable areas. ➤ Provide adequate hand pump sets where the wells are likely to be inundated. ➤ Liaise with army, navy, coastguards and railways. ➤ Prepare maps of alternate route to plan where resources are available.
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During Disaster:

Individual	Government
<ul style="list-style-type: none"> ➤ Drink boiled water or chlorinated water. ➤ Keep your food covered, eat food that is hot. Don't take 	<ul style="list-style-type: none"> ➤ Carry out rescue and evacuation. ➤ Operation of control room and provide warning update. ➤ Provide relief materials.

<ul style="list-style-type: none"> ➤ heavy meals. ➤ Take plain tea(Without milk), rice water, coconut water during diarrhea. ➤ Beware of snakes for snake bites are common during flood. ➤ Do not allow children to stay with empty stomach. ➤ Stay away from deep water. <p>Don't go into uncertain depths , even water above knee level.</p>	<ul style="list-style-type: none"> ➤ Mobilising resources such as boats, dry food, temporary shelter. ➤ Ensuring theavailability of medicines, drinking water, tankers etc. ➤ Coordination at various levels and agencies. ➤ Mobile health units to be made available. ➤ Damage assessment of human life, livestock, crop and livelihood.
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Post Disaster:

Individual	Government
<ul style="list-style-type: none"> ➤ Listen to the latest flood bulletin before morning from a sheltering place. ➤ Use recommended routes to return back. ➤ Dry all electrical equipments before use. ➤ Avoid touching any fallen electric lines.Beware of snakes as snake bites are common. ➤ Clean the house with disinfectants and the surrounding by using bleaching powder 	<ul style="list-style-type: none"> ➤ Rescue people. ➤ Restore roads and power supply. ➤ Provide safe drinking water. ➤ Check the outbreak of any epidemics. ➤ Mobile health teams to be mobilized. ➤ Avail the help of NGOs. ➤ Carry out damage assessment. ➤ Ensure adequate timely and speedy credit is made available to the farmers for purchasing agricultural inputs and cattle.

Earthquake Disaster:

Before Earthquake

Individual	Have a disaster emergency Kit ready:	Develop an Emergency Communication Plan:
<ul style="list-style-type: none"> ➤ Repair deep plaster cracks in ceiling 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 securely to walls. ➤ Place large or heavy objects in the lower shelves. ➤ Store breakable 	<ol style="list-style-type: none"> 1. Battery operated torch. 2. Extra batteries. 3. Battery operated Radio set. 4. First Aid kit and Manual. 5. Emergency food items(dried items of food) 6. Water packed and sealed. 7. Matches in Boxes in a water proof container. 8. Knife. 9. Chlorine Tablets or powdered water purifying agents. 10.Can opener. 11.Essential Medicines. 12. Cash and credit 	<ul style="list-style-type: none"> ➤ In case family members are separated from one another during an earthquake (a real possibilities during the day when adult members 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 disaster, it’s often easier to call long distance. Make sure everyone in the family knows the name,

<p>items such as boiled food, glass and china clay vessels, in lower space and closed cabinets with latches.</p> <ul style="list-style-type: none"> ➤ Hang heavy items such as pictures and mirrors away from beds, in shelters and places where people sit. ➤ Brace overhead light and fan fixtures. ➤ Repair defective electrical wiring and leaky gas connections. <p>These are potential fire risks.</p>	<p>cards.</p> <p>13. Thick ropes and cords.</p> <p>14. Sturdy shoes.</p>	<p>address and phone number of the contact person.</p>
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DURING EARTHQUAKE:

If indoors:	If Outdoors:	If in a moving vehicle/ under debris
<ul style="list-style-type: none"> ➤ Drop to the ground, take 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 earth quake strikes. Hold on and protect your head with a pillow, if you are under a heavy light fixture that could fall. In that case, move to the 	<ul style="list-style-type: none"> ➤ Stay there. ➤ Move away from buildings, trees, streetlights and utility wires. ➤ Once in the open, stay there until the shaking stops. The greatest danger exists, directly outside building, at exits and alongside exterior walls. Most earthquake related casualties result from collapsing walls, flying glass and falling objects. 	<ul style="list-style-type: none"> ➤ Do not light a match. ➤ Do not move about or kick up dust. ➤ Cover your mouth with a handkerchief or clothing . ➤ 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 that rescuers can locate you. Use a whistle if one is available and shout only as a last resort. Shouting can cause you to inhale dangerous

<ul style="list-style-type: none"> ➤ nearest safe place. ➤ Use a door way for shelter only if it is in close proximity to you and if you know it is a strongly supported load bearing door way. ➤ 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 system or fire alarms may turn on. ➤ Do not use the elevators. 		<p>amount of dust.</p>
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After an Earthquake:

- Keep calm. Switch on the radio/TV and obey any instructions you hear on it.
- Keep away from beaches and low banks of rivers. Huge waves may sweep in.
- Expect aftershocks. Be prepared.
- Turn of the water, gas and electricity.

- Do not smoke and do not light matches or use a cigarette light. Do not turn on switches. There may be gas leaks or short circuits.
- Use a Torch light.
- If there is fire try to put it out. If you cannot put out any fire call the fire brigades.
- If people are seriously injured, do not move them unless they are in danger.
- Immediately clean up any inflammable products that might have spilled(alcohol, paints etc)
- If you know that people have been buried, tell the rescue teams.
Don't rush and worsen the situation of injured person or your own situation.
- Avoid places where there are loose electric wires and do not touch any metal objects in contact with electric lines.
- Don't drink water from open container without having examined it and filter it through a sieve, a filter or any ordinary clean cloth.
- If your home is badly damaged you will have to leave it. Collect water containers, food and ordinary and Special medicines(for persons with heart complaints, diabetes etc).
- Do not re-enter badly damaged buildings and do not go near damaged structures.

Tsunami

What to do

When a tsunami warning is issued	If you feel a strong coastal Earthquake
<ul style="list-style-type: none"> ➤ Use a radio or stay tuned to a local radio or television station for updated emergency information. ➤ Locate household members and review evacuation plans, make 	<p>If you feel an earthquake that lasts 20 seconds or longer when you are in a coastal area, you should:-</p> <ul style="list-style-type: none"> ➤ You should first protect yourself from the earthquake.

<p>sure every one knows there are potential threats and the best way is to move to safer ground.</p> <ul style="list-style-type: none"> ➤ If any members of your household have special evacuation needs, (Small children, elderly people, or people with disabilities) consider evacuating early. ➤ If time permits, secure unanchored objects around your home or business place. Tsunami waves can sweep away loose objects. Securing these items or moving them inside will reduce potential loss or damage. ➤ Be ready to evacuate. Being prepared will help you to move faster if a tsunami warning is issued. ➤ Consider a precautionary evacuation of your livestock. Waiting until the last minute could be fatal for them and dangerous for you. So move livestock to higher ground without further delay. 	<ul style="list-style-type: none"> ➤ When the shaking stops, gather members of your household and move quickly to higher ground away from the coast. A tsunami may be come within minutes. ➤ Avoid downed power lines and stay away from buildings and bridges from where heavy objects might fall during aftershock.
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How to prepare for a tsunami

If you are in an area at risk from tsunami you should	If you are on a boat or ship
<ul style="list-style-type: none"> ➤ Find out if your home, School, workplace or other frequently visited locations are in tsunami hazard areas. ➤ Know the height of your street above sea level and the distance of your street, from the coast or other high-risk waters. Find out the height above sea level and the distance from the coast of outbuildings that house animals as well as pastures or corals. ➤ Plan evacuation routes from your home, school, work place or any other place you could be where tsunami presents a risk. ➤ If possible pick areas 100 feet(30 meters) above sea level or go as far as two miles.(3 kilometers) inland away from the coastline. If you cannot get this height, go as far as you can. Every foot inland or upward may make a difference. You should be able to reach your safe location on foot within 15 minutes. After a disaster roads may become impassable or blocked. Be prepared to evacuate by foot if necessary. Foot- paths normally lead uphill and inland while many roads are parallel to coastlines. ➤ If your children’s school is an identified 	<ul style="list-style-type: none"> ➤ Find out if your home, School, workplace or other frequently visited locations are in tsunami hazard areas. ➤ Know the height of your street above sea level and the distance of your street, from the coast or other high-risk waters. Find out the height above sea level and the distance from the coast of outbuildings that house animals as well as pastures or corals. ➤ Plan evacuation routes from your home, school, work place or any other place you could be where tsunami presents a risk. ➤ If possible pick areas 100 feet(30 meters) above sea level or go as far as two miles.(3 kilometers) inland away from the coastline. If you cannot get this height, go as far as you can. Every foot inland or upward may make a difference. You should be able to reach your safe location on foot within 15 minutes. After a disaster roads may become impassable or blocked. Be prepared to evacuate by foot if necessary. Foot- paths normally lead uphill and inland while many roads are parallel to coastlines. ➤ If your children’s school is an identified inundation zone, find out what the school

<p>inundation zone, find out what the school evacuation plan is find out if the plan requires you to pick your children up from school or from another location.</p> <ul style="list-style-type: none"> ➤ Telephone lines during a tsunami watch or warning may be overloaded and routes may be jammed. ➤ Use radio or stay tuned to local radio or television station to keep informed of local watches and warnings. ➤ Discuss tsunami with your family. Everyone should know what to do in a tsunami situation. Discussing tsunami ahead of time will help reduce fear and save precious time in an emergency. Review flood safety and preparedness measures with your family. ➤ If your are visiting an area at risks from tsunami, check with the hotel or motel. Camp ground operators, for tsunami evacuation information and find out what the warning system is for tsunami. It is important to know designated escape routes before a warning is issued. 	<p>evacuation plan is find out if the plan requires you to pick your children up from school or from another location.</p> <ul style="list-style-type: none"> ➤ Telephone lines during a tsunami watch or warning may be overloaded and routes may be jammed. ➤ Use radio or stay tuned to local radio or television station to keep informed of local watches and warnings. ➤ Discuss tsunami with your family. Everyone should know what to do in a tsunami situation. Discussing tsunami ahead of time will help reduce fear and save precious time in an emergency. Review flood safety and preparedness measures with your family. ➤ If your are visiting an area at risks from tsunami, check with the hotel or motel. Camp ground operators, for tsunami evacuation information and find out what the warning system is for tsunami. It is important to know designated escape routes before a warning is issued.

Cyclone Disaster:

Before a cyclone:	Upon a cyclone warning:	When a cyclone strikes:	After the cyclone:
<ul style="list-style-type: none"> ➤ Listen to Radio or TV weather reports and in case of a cyclone warning ensure that everybody is alerted. This is usually done through a loud speaker or by going house to house. ➤ Identify safe shelters in your area. These should be cyclone resistant pucca houses. Find the nearest route to reach them. ➤ Keep your 	<ul style="list-style-type: none"> ➤ Listen to your local Radio, TV or Community warning system for further information. ➤ Close all windows and doors of the house. ➤ Stay indoors. ➤ Get the emergency kit ready and in case of warning of a severe cyclone 	<ul style="list-style-type: none"> ➤ Stay indoors, stand below the strongest part of the house if you have not moved to cyclone shelter. ➤ Protect yourself with blankets and anchor yourself to a strong fixture or get under a strong table. ➤ Remain indoors until advised that the cyclone crossed your area and you could move around. 	<ul style="list-style-type: none"> ➤ Do not go out till officially advised. If evacuated wait till advised to go back. ➤ Use the recommended route to return to your house. Do not rush. ➤ Check for gas leaks before using the stove. ➤ Dry electrical appliances before use. ➤ Be careful about fallen power lines, damaged roads and houses and fallen trees. ➤ Rescue the victims and help in the relief work.

<p>emergency kit ready.</p> <ul style="list-style-type: none"> ➤ Doors, windows, the roof and walls should be strengthened before the cyclone season, through retrofitting and repairing. ➤ Store adequate food grains and water in safe places. ➤ Conduct Mock drills for yourself and the community that a warning has been given. 	<p>move with your family to a strong pucca house.</p> <ul style="list-style-type: none"> ➤ Do not venture into the sea. 		
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Land slide Disaster

Before the landslide	During landslide	After the landslides
<p>Develop a Family Disaster Plan:</p> <ul style="list-style-type: none"> ➤ Landslide specific planning. Learn about landslide risk in your area. Contact local officials, or departments of natural resources and University Departments of Geology. Landslides occur where they had before, and in identifiable hazard locations. Ask for information on landslides in your area, specific information or area vulnerable to landslides and request a professional referral for a very detailed site 	<ul style="list-style-type: none"> ➤ Stay alert and awake. Many debris – flow – fatalities occur when people are sleeping. Listen to early warning of intense rainfall. Be aware of intense, short bursts, of rain may be particularly dangerous, especially after longer periods of heavy rainfall and damp weather. ➤ If you are in areas susceptible to landslides and debris flows, consider leaving if it is safe to do so. Remember that driving an intense storm can be hazardous. If you remain at home, move to a second storey if possible. Staying out of the 	<ul style="list-style-type: none"> ➤ Stay away from the slide area. There may be danger of additional slides. ➤ Check for injured and trapped person near the slide, without entering the direct slide area. Direct rescuers to their locations. ➤ Help a neighbour who may require special assistance. Infants, elderly people and people with disabilities may require additional assistance. People who care for them or who have large families may need additional assistance in emergency situations. ➤ Listen to local Radio

<p>analysis of your property and corrective measures you can take if necessary.</p> <p>If you are at risk from landslides:</p> <ul style="list-style-type: none"> ➤ Develop an evacuation plan. You should know where to go if you have to leave. Trying to make plans at the last minutes can be upsetting and create confusion. ➤ Discuss landslides and debris flow with your family. Everyone should know what to do in case all family members are not together. Discussing disaster ahead of time, helps reduce fear and let everyone know how to 	<p>path of a landslide or debris flow saves lives.</p> <ul style="list-style-type: none"> ➤ Listen to any unusual sounds that might indicate moving debris, such as trees cracking or boulders knocking together. A tickle of flowing or falling mud or debris may precede larger landslides. Moving debris can flow quickly and sometimes without warning. ➤ If you are near a stream or channel, be alert for any sudden increase or decrease in water flow and for a change from clear to muddy water. Such changes may indicate landslide activity upstream, so be prepared to move quickly. Don't delay. 	<p>or Television stations for the latest emergency information.</p> <ul style="list-style-type: none"> ➤ Watch for flooding, which may occur after a landslide or debris flow. Floods sometimes follow landslides and debris flow because they may both be started by the same event. ➤ Look for and report broken utility lines to appropriate authorities. Reporting potential hazards will get the utilities turned off as quickly as possible, preventing further hazards and injury. ➤ Check the building foundation, Chimney and surrounding land for damages. Damage to foundations,
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<p>respond during a landslide or debris flow.</p>	<p>Save yourself not your belongings.</p> <ul style="list-style-type: none"> ➤ Especially alert when driving. <p>Embankments along roadsides are particularly susceptible to landslides. Watch the road for collapsed pavements, mud fallen rocks and other indications of possible debris flow.</p>	<p>chimney or surrounding land may help you assess the safety of the area.</p> <ul style="list-style-type: none"> ➤ Repair damaged ground as soon as possible since erosion caused by loss of ground cover can lead to flash flooding. ➤ Seek the advice of a geotechnical expert for evacuating landslide hazards or designing corrective techniques to reduce landslide risk. A professional will be able to advise you of the best ways to prevent or reduce landslide risk without creating further hazard.
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Fire Disorder

What to do before a FIRE:

The following are things you can do to protect in the event of FIRE.

Smoke Alarms:

- Install smoke alarms. Properly working smoke alarms decrease your chances of dying in a fire by half.
- Place smoke alarms on every level of your residence. Place them outside bedrooms on the ceiling or high on the wall (4 to 12 inches from ceiling) at the top of open stairways or at the bottom of enclosed stairs and near the kitchen but not in the kitchen.
- Test and clear smoke alarms once a month and replace batteries at least once a year.
- Replace smoke alarms once every 10 years.

Escaping from the fire:

- Review escape routes with your family. Practise escaping from each room.
- Make sure security gratings on windows have a fire safety opening feature so that they can be easily opened from the inside.
- Make sure that the windows are not nailed or painted shut.
- Consider escape ladders if your residence has more than one and ensure that burglar bars and other antitheft mechanism that block outside window entry are easily opened from inside.
- Teach family members to stay low to the floor (where the air is safer in a fire) when escaping from a fire.

- Clean out storage areas. Do not let trash, such as old newspaper and magazines accumulate.

Flammable Items:

- Never use gasoline, benzene, naphtha or similar flammable liquids indoors.
- Store flammable liquids in approved containers in well ventilated storage areas.
- Never smoke and near keep flammable liquids.
- Discard all rags or materials that have been soaked in flammable liquids after you have used them. Safely discard them outdoors in a metal container.
- Insulate chimneys and place spark arresters on top. The chimney should be at least three feet higher than the roof. Remove branches hangings above and around the chimney.

Heating Sources:

- Be careful when using alternative heating sources.
- Check with your local fire department on the legality of using kerosene heaters in your community. Be sure to fill kerosene heaters outside, and be sure they have cooled.
- Place heaters at least three feet away from flammable materials. Make sure the floor and nearby walls are properly insulated.
- Use only the type of fuel designated for your unit and follow manufacture's instruction.
- Store ashes in a metal container outside and away from your residence.
- Keep open flames away from walls, furniture, drapery and flammable items.
- Keep a screen in front of the fire place.

- Have heating units inspected and cleaned annually by a certified specialist.

Matches and smoking:

- Keep matches and lighters up high away from children and if possible in a locked cabinet.
- Never smoke in the bed or when drowsy or medicated. Provide smokers with deep, sturdy ashtrays. Douse cigarette and cigar butts with water before disposal.

Electrical Wiring:

- Have the electrical wiring in your residence checked by an electrician.
- Inspect extension cords for frayed or exposed wires or loose plugs.
- Make sure outlets have cover plates and no exposed wiring.
- Make sure wiring does not run under rugs, over nails, or across high traffic areas.
- Do not overload extension cords or outlets. If you need to plug in two or three appliances, get a UL-approved unit with built-in circuit breakers to prevent sparks and short circuits.
- Make sure insulation does not touch bare electrical wiring.
- Sleep with your door closed.
- Install ABC type fire extinguishers in your residence and teach family members how to use them.
- Consider installing an automatic fire sprinkler system in your residence.
- Ask your local fire department to inspect your residence for fire safety and prevention.

What to do during a fire:

- If your clothes catch fire, you should stop drop and roll until the fire is extinguished. Running only makes the fire burn faster.
- To escape a fire you open them. If you are escaping through a closed door, use the back of your hand to feel the top of the door, the door knob, and the crack between the door and frame before you open it. Never use the palm of your hand or fingers to test for heat burning those areas could impair your ability to escape a fire.(ie ladders and crawling).

What to do after a fire:

The guidelines for different circumstances in the period following a fire are given below.

- If you are with burn victims or you are a burn victim, call 101, Cool and cover burns to reduce chance of further injury or infection.
- If you detect heat or smoke when entering a damaged building evacuate immediately.
- If you are tenant, contact the land lord.
- If you have a safe or strong box, don't try to open it. It can hold intense heat for several hours. If the door is opened before the box has cooled, the contents could burst into flames.

ACWC	AreaCycloneWarningCentre
ADM	AdditionalDistrictMagistrate(DistrictRevenueOfficer)
AWC	AnganwadiHealthCentre
BDO	BlockDevelopmentOfficer
BP	BlockPanchayat
BSNL	BharatSancharNigamLimited
CBDRM	CommunityBasedDisasterReductionManagement
CEO	ChiefExecutiveOfficer
CHs	CoastalHabitations
CHC	CommunityHealthCentre
DAE	DepartmentofAtomicEnergy
DC	DistrictCollector
DDMA	DistrictDisasterManagementAuthority
DDMT	DistrictDisasterManagementTeam
DEOC	DistrictEmergency Operation Centre
DFO	DistrictFireOfficer
DMAct	DisasterManagementAct2005
DMO	DistrictMedicalOfficer
DRDA	DistrictRuralDevelopmentAgency
DSO	DistrictSupplyOfficer
EOC	EmergencyOperationCentre
FARS	FireandRescueServicesDepartment
GDP	GrossDomesticProduct
HF	HighFrequency(sets)
IAMWARM	IrrigatedAgricultureModernisationandWaterBodiesRestorat ionandManagement
TNIAM	TamilNaduIrrigatedAgricultureModernisationProject
IDRN	IndiaDisasterResourceNetwork
IGCAR	Indira Gandhi Centrefor Atomic Research
IMA	IndianMedicalAssociation
IMD	IndianMetrologicalDepartment
INCOIS	Indian National Centre for OceanInformation Services
JDHS	JointDirectorHealthServices
MAPS	MadrasAtomicPowerStation
MGNREGS	MahathmaGandhiNationalRuralEmploymentGuranteescheme
MITanks	MinorIrrigationTanks
NABARD	NationalBankforAgriculturalandRuralDevelopment

NCC	NationalCadetCorps
NDMA	NationalDisasterManagementAuthority
NDRF	NationalDisasterResponseForce
NEC	NationalExecutiveCommittee
NEM	NortheastMonsoon
NGO	Non GovernmentOrganisation
NH	NationalHighways
NIDM	NationalInstituteofDisasterManagement
NRM	NationalResourceManagement
NSS	NationalServiceScheme
ORS	Oral Rehydration Solution
PHC	PrimaryHealthCentre
PRO	PublicRelationsOfficer
PWD	PublicWorksDepartment
RDO	RevenueDivisionalOfficer
RTO	RegionalTransportOfficer
SDMA	StateDisasterManagementAuthority
SDRF	StateDisasterResponseForce
SEOC	StateEmergencyOperationCentre
SIDM	StateInstituteofDisasterManagement
SIPCOT	SmallIndustriesPromotionCorporationofTamilnadu
SIRD	StateInstituteofRuralDevelopmentandPanchayatraj
SP	SuperintendentofPolice
TACTV	TamilnaduArasuCableTelevisionCorporation
TANGEDCO	TamilNaduGeneration andDistribution Corporation
TAWDEVA	TamilNaduWatershedDevelopmentAgency
TNEB	TamilNaduElectricityBoard
TNPCB	TamilnaduPollutionControlBoard
TNSDMA	TamilnaduStateDisasterManagementAuthority
TNSTC	TamilNaduStateTransportCorporation
TWAD	TamilnaduWaterSupplyandDrainageBoard
UMPP	UltraMegaPowerProject
UNDRR	UnitedNationsofficeforDisasterRiskReduction
VHF	VeryHighFrequency(sets)
VP	VillagePanchayat
WRO/WRD	WaterResourcesDepartment
WUA	WaterUsersAssociation

