



REPORT NO.

**198**

**PARLIAMENT OF INDIA**  
**RAJYA SABHA**

DEPARTMENT-RELATED PARLIAMENTARY STANDING  
COMMITTEE ON HOME AFFAIRS

**ONE HUNDRED NINETY EIGHTH REPORT**

**DISASTER IN CHENNAI CAUSED BY TORRENTIAL RAINFALL  
AND CONSEQUENT FLOODING**

(PRESENTED TO RAJYA SABHA ON 12<sup>TH</sup> AUGUST, 2016)

(LAID ON THE TABLE OF LOK SABHA ON 12<sup>TH</sup> AUGUST, 2016)



Rajya Sabha Secretariat, New Delhi  
August, 2016/Sravana, 1938 (Saka)

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## ACRONYMS

<b>IMCT</b>	Inter-Ministerial Central Team
<b>MHA</b>	Ministry of Home Affairs
<b>MoUD</b>	Ministry of Urban Development
<b>NDMA</b>	National Disaster Management Authority
<b>NDRF</b>	National Disaster Response Force
<b>OMCs</b>	Oil Marketing Companies OMCs
<b>OSOCC</b>	On-site operations coordination center
<b>SEOC</b>	State Emergency Operations Centre
<b>TANGEDCO</b>	Tamil Nadu Generation and Distribution Corporation Limited
<b>SDRF</b>	State Disaster Response Fund

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\* To be appended at printing stage

**DEPARTMENT-RELATED PARLIAMENTARY STANDING  
COMMITTEE ON HOME AFFAIRS  
(re-constituted w.e.f. 1<sup>st</sup> September, 2015)**

1. **Shri P. Bhattacharya** - **Chairman**  
**RAJYA SABHA**
2. # Shri Shiv Pratap Shukla
3. Shri K. Rahman Khan
4. @Dr. Subramanian Swamy
5. Dr. V. Maitreyan
6. Shri Derek O'Brien
7. \$ Shri Bhaskar Rao Nekkanti
8. Shri D. Raja
9. Shri Neeraj Shekhar
10. Shri Sitaram Yechury

**LOK SABHA**

11. Shri Prem Singh Chandumajra
12. Shri S. Selvakumara Chinayan
13. Shri Adhir Ranjan Chowdhury
14. Dr. (Smt.) Kakoli Ghosh Dastidar
15. Shri Ramen Deka
16. \*Shri Prataprao Jadhav
17. Shri Mallikarjun Kharge
18. Shrimati Kirron Kher
19. Shri Kaushal Kishore
20. Shri Ashwini Kumar
21. ^Shri Mohammed Faizal PP
22. Shri P. Nagarajan
23. Shri Kinjarapu Ram Mohan Naidu
24. Shri Baijayant "Jay" Panda
25. Shri Dilip Patel
26. Shri Lalubhai Babubhai Patel
27. Shri Natubhai Gomanbhai Patel
28. Shri Bheemaroo B. Patil
29. Shri Bishnupada Ray
30. Dr. Satya Pal Singh
31. Shri B. Sreeramulu

**SECRETARIAT**

Shri P.P.K. Ramacharyulu, Additional Secretary  
Shri Vimal Kumar, Director  
Dr. (Smt.) Subhashree Panigrahi, Joint Director  
Shri Bhupendra Bhaskar, Deputy Director  
Shri Anurag Ranjan, Assistant Director

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\* Shri Prataprao Jadhav, MP, Lok Sabha nominated w.e.f. 9<sup>th</sup> September, 2015 to fill the vacancy caused by shifting of Shri Chandrakant B. Khaire, MP, Lok Sabha to Committee on Finance w.e.f. 9<sup>th</sup> September, 2015

^Shri Mohammed Faizal PP, MP, Lok Sabha nominated w.e.f. 14<sup>th</sup> March, 2016 to fill the vacancy caused by shifting of Shri Harish Chandra Meena, MP, Lok Sabha to Committee on Transport, Tourism Culture w.e.f. 14<sup>th</sup> March, 2016

@ Dr. Subramanian Swamy, M.P. Rajya Sabha nominated w.e.f. 20<sup>th</sup> May, 2016 to fill the vacancy caused by the retirement of Shri Avinash Rai Khanna from Rajya Sabha on 9.4.2016.

\$Shri Bhaskar Rao Nekkanti, M.P., Rajya Sabha nominated w.e.f. 3.8.2016 to fill the vacancy caused by the retirement of Shri Baishnab Parida, from Rajya Sabha on 1.7.2016.

# Shri Shiv Pratap Shukla, M.P., Rajya Sabha nominated w.e.f. 25<sup>th</sup> July, 2016 to fill the vacancy caused by the appointment of Shri Vijay Goel, MP, Rajya Sabha as MOS (I/C) w.e.f. 5<sup>th</sup> July, 2016.

## PREFACE

I, the Chairman of the Department-related Parliamentary Standing Committee on Home Affairs, having been authorized by the Committee to submit the Report on its behalf, do hereby present this One Hundred and Ninety Eighth Report on 'Disaster in Chennai caused by torrential rainfall and consequent flooding in the Country'.

2. The chairman of the Committee in the meeting held on 8<sup>th</sup> December, 2015 drew the Committee's attention to the recent disaster in Chennai caused by the torrential rains and consequent flooding. The Chairman expressed his concern for people affected by this disaster. The Committee then decided to examine in detail the issue of 'Disaster in Chennai caused by torrential rainfall and consequent flooding' under the subject "Disaster Management". The Committee also decided to hear the Home Secretary and concerned disaster management officials on the quantum of damage that occurred in Chennai and measures taken for complete restoration and rehabilitation. The Committee in its sitting held on 18<sup>th</sup> January, 2016 heard the presentation of Home Secretary and representatives of the Government of Tamil Nadu on this subject. The Committee in its meeting held on 28<sup>th</sup> January, 2016 further heard the Home Secretary and representatives of the Government of Tamil Nadu to conclude the examination of subject.

3. The Committee considered the draft Report in its sitting held on 10<sup>th</sup> August, 2016 and adopted the same.

4. The Committee, while making its observations/recommendations, has relied mainly upon the following papers: -

- (i) Background Note on the subject 'Disaster in Chennai caused by torrential rainfall and consequent flooding' as furnished by Ministry of Home Affairs;
- (ii) Copy of presentation on the subject "Disaster in Chennai caused by Torrential Rainfall and consequent Flooding" made by representatives of the State Government of Tamil Nadu;
- (iii) "Memorandum on Damages caused by Floods" received from State Government of Tamil Nadu;
- (iv) Verbatim Records of the proceedings of the Committee's meetings alongwith the replies of the Ministry of Home Affairs in response to the queries raised by the Chairman and Members;
- (v) Annual Report of the Ministry of Home Affairs;

(ii)

5. For the purpose of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in the body of the Report.

NEW DELHI  
10<sup>th</sup> August, 2016

**P. Bhattacharya**  
Chairman  
Department-related Parliamentary  
Standing Committee on Home Affairs

## REPORT

1.0 The National Disaster Management Authority (NDMA) the apex body, which functions under the administrative jurisdiction of the Ministry of Home Affairs, is responsible for tackling all emergent situations arising out of natural disasters. The unprecedented torrential rain in Chennai and the havoc created by it opened a gamut of issues concerning the preparedness of the Country to fight out such eventualities so as to protect civic life, property, monuments & heritage sites and most importantly the vital institutions and installations located in the affected city. As per the mandate of the Committee it took up examination of relief and rehabilitation works in Chennai after the floods of 2015.

2.0 The flood which struck the city of Chennai in the year 2015 was resulted due to unprecedented heavy rainfall generated by the annual northeast monsoon that usually affects the weather conditions in the months of November–December every year. This flood affected the Coromandel Coast region of the South Indian states of Tamil Nadu, Andhra Pradesh and the Union Territory of Puducherry. As per the information provided by the State Government of Tamil Nadu, the Chennai City particularly, was worst affected. Approximately 470 people were killed, 12,000 herds of cattle were lost and lakhs of people were displaced in the State. Besides, around 4.92 lakh houses got destroyed/ damaged in addition to heavy loss of public property. The crop area that got damaged was also extensive measuring up to, 3.83 lakh hectares.

3.0 The State Government of Tamil Nadu *vide* their Memoranda informed the Committee that the State usually receives around 48% of the precipitation from the North East monsoons during the period October to December. The rainfall during this season takes place in multiple spells, following formation of systems of low pressure area over the Bay of Bengal, which often gets intensified leading to deep depression and cyclones accompanied by high speed winds. The Ministry of Home Affairs informed the Committee that the weather in various parts of the State of Tamil Nadu changed rapidly causing deep depression between 8<sup>th</sup> November and 10<sup>th</sup> November, 2015; that formed low pressure zones over South West Bay of Bengal between 28<sup>th</sup> November and 4<sup>th</sup> December 2015. On 1<sup>st</sup> December depression struck Chennai and the adjoining Districts with such great intensity that large parts of the Metropolis got marooned, causing untold suffering and destruction. The devastating flood also affected the adjoining Districts particularly, Cuddalore, Tiruvallur and Kancheepuram.

4.0 The consequence of this unprecedented level of downpour proved to be disastrous as major water bodies got filled up and flowed into major rivers, Adayar, Coovum and Kosathalaiar coupled with the heavy downpours in the city which could not drain into the Adayar River. This transformed the densely populated areas of Chennai City into islands of houses in vast expanse of water

that filled roads and streets for many feet. The State Government further apprised that heavy rains inundated areas all over Chennai and the situation was rendered worse with major water bodies reaching two feet below the full tank level and consequent discharge from them causing the major rivers, Adayar, Coovrum and Kosasthalaiar to overflow. With heavy rains in the catchment areas of Chemberambakkam reservoir, 29000 cusecs of water had to be released into Adayar river from the reservoir. The State Government also submitted that even before the release of water from the Chembarambakkam Tank again heavy rain of around 47 cm occurred that further worsened the situation. Thus, in view of the incessant rains in the city and catchment areas of Adayar river, rain water could not drain and thereby, caused inundation in the city. Roads were flooded and essential services, including trains and bus transport had to be suspended in most locations. Several areas remained heavily inundated for few days. Water entered buildings even to the first floors in some areas leading to residents stranded on building roof tops and in their homes without essential commodities and electricity, besides completely damaging all their household durable assets and motor vehicles.

5.0 Due to the unprecedented magnitude of the calamity and the huge damage it caused, on 18<sup>th</sup> January, 2016 the Committee took extensive oral evidences of the representatives of the Ministry of Home Affairs, Ministry of Finance, Ministry of Defence, Indian Meteorological Department, National Disaster Response Force, National Disaster Management Authority, Railway Board, Directorate General Health Services and the State Government of Tamil Nadu.

6.0 The Committee again held a meeting on 28<sup>th</sup> January, 2016 to hear the views of the all these Organisations and discussed the subject threadbare. The major issues taken up by the Committee, replies of the Government thereto and the recommendations of the Committee on each issue have been given in the subsequent paragraphs.

## **7.0 REASONS BEHIND THE FLOOD**

### **7.1 (a) Carrying Capacity of the Water Bodies**

7.1.1 The Ministry of Home Affairs obtained the comments detailing the reasons behind flood in Tamil Nadu from the Ministry of Water Resources and submitted to this Committee for its perusal. According to them the flooding in Chennai city and other adjoining regions was attributed to a combination of factors viz. high intensity rainfall, large releases from storages beyond channel carrying capacity of the channels, encroachments in lakes and river channels, drainage congestion etc. Heavy to very heavy rainfall due to the influence of depression under the North-Eastern monsoon system, initially during the period

15-21 November 2015 followed by second spell during 30<sup>th</sup> November to 2<sup>nd</sup> December was the primary reason. But the secondary reason cited by them was the complex drainage system of the city. Several small lakes and rivers in and around Chennai city contributes towards this complex drainage system. Three main rivers viz. Cooum, Adyar and Kosasthalayar flow through Chennai city and its suburbs and join the Bay of Bengal. These predominantly seasonal rivers are small in length, predominantly run dry through urban and peri-urban areas. The discharging capacity of these small rivers is of the order of few hundred cusecs. Further, encroachments along these rivers have reduced the carrying capacity of these rivers significantly. In and around Chennai, there are four major reservoirs/lakes viz. Poondi, Cholavaram, Red Hills (Puzhal) and Chembarambakkam which are used for drinking water supply to Chennai city, which, otherwise, faces acute water crisis during summers. Hence, these reservoirs are the life-line for the city. Chennai metropolitan Water supply and Sewerage Board operate these reservoirs.

7.1.2 The Committee was informed that due to heavy rainfall, the lakes and reservoirs in the Chennai and adjoining districts got filled up. As a result, the concerned authorities from Chennai Metropolitan Water Supply and Sewerage Board released water from these reservoirs discharging into Kosasthalayar, Adyar and other riverine systems. The rivers overflow their respective banks on either side at many places and have therefore inundated the low lying adjoining areas. The other lake surrounding Chennai city viz. Puzhal (Red hills) and Cholavaram also got filled up and water was released from these reservoirs. The Committee was also apprised by the Ministry that several lakes in the city have been encroached upon by buildings. Rivers' carrying capacity has been significantly reduced due to encroachments. Due to lack of timely de-silting of the storm water drains and lakes has further compounded the problems. In addition to that inadequate flood zone planning and large scale settlements in low lying were also major contributors to the havoc. With only certain degree of protection available against floods of significantly higher magnitudes widespread damages took place in the city.

**7.1.3 The Committee takes note of the submission of the Ministry of Water Resources that the encroachment of lakes and river beds played a major role in causing massive flood in Chennai. The Committee feels that the State Government should check mafia involved in illegal construction for business and usurping water bodies for their real estate business. The flood channels and riverbed should be cleared as soon as possible by removing illegal/ unauthorized constructions.**

**7.1.4 The Committee also observes that the drainage system got choked in Chennai and the city was flooded badly in the aftermath of heavy torrential rainfall. The Committee notes that the Ministry while**

deposing before the Committee too had admitted on 28 January 2016 to the fact that, “there is a need to keep all our drains clean, there is need to make sure that all the storm water drains function and the outlets function...”

**7.1.5** In view of the above, the Committee recommends that regular maintenance of the drainage system should get topmost priority however daunting the task may be. The Chennai Metropolitan Development Authority and Chennai Municipal Corporation should pay attention to this issue seriously and act accordingly. The drainage system of the city should be flawless so as to prevent any kind of water logging.

## **7.2 (b) Illegal Construction and Encroachment**

7.2.1 The Committee further probed the matter pertaining to illegal constructions and encroachment taking place in and around the Chennai City. During the meeting of the Committee held on 28<sup>th</sup> January, 2016 some members of the Committee raised the issue of the lapses on the part of the local city administration which caused floods in Chennai. On being inquired by the Committee over illegal encroachments of water bodies, the State Government of Tamil Nadu submitted in writing that there were 117 encroachments over a length of 500 m in vayalaur Chennai in Thirukazhukundram Taluk of Kancheepuram District. 41 encroachments had been evicted by the Public Works (Water Resources Department) and action was being initiated to evict the remaining encroachments also. Besides, in the banks of the Adyar River, 4046 houses, identified as encroachments over a length of 839 m in the river bank, have been evicted and demolished. According to the State Government, Periodical instructions are issued to the District Collectors to evict all the encroachments including the ones on the water courses.

7.2.2 The Ministry of Home Affairs *vide* their written submission also intimated the Committee about the views of the Ministry of Urban Development that no assessment for reasons of floods in Chennai has been made by them and agencies of the State Government such as Chennai Metropolitan Development Authority and Chennai Municipal Corporation are responsible for Layout Plans/ Building Plans approval to take necessary steps for ascertaining the reasons that have caused floods in Chennai. Besides, the monitoring of the construction activities and encroachment in the city also vest with these agencies. According to the Ministry of Urban Development, it had issued an advisory to all States/ UTs on action plan for Flood Proofing of Cities/ Towns on 3<sup>rd</sup> September, 2013.

**7.2.3 About illegal encroachment and faulty town planning, the Committee observes that these are the major causes behind the havoc that was wreaked by floods in the year 2015 in the city of Chennai. The Committee appreciates the action taken by the State Government to remove the**

unauthorized constructions but still feels that this is inadequate and all illegal encroachment and construction should be removed. However, the Committee is of the view that the process of removing encroachment should be a balanced one as it has human and social consequences. There should be proper blue print and planning for rehabilitating and resettling those who are living on encroached settlements before removing encroachment.

**7.2.4** The Committee appreciates that the Ministry of Urban Development (MoUD) had issued an Action Plan to all States and Union territories for “Flood Proofing of Cities/ Towns” well in advance i.e., on 3<sup>rd</sup> September, 2013 itself. The MoUD should also play a pro active role in ensuring its implementation as well, in terms of urban planning and development especially of metro cities.

**7.2.5** The Committee is given to understand that unplanned urbanization and growth of cities are also the main contributing factors for floods in and around Chennai. The Committee, therefore, recommends that the Centre should come out with a proper long-term master plan for metro cities to prevent such disasters in future. The committee is also of the opinion that it is an eye opener and other metro cities must also learn from it.

## **8.0 ROLE AND RESPOSIBILITIES OF DIFFERENT CONCERNED AGENCIES**

**8.1** With regard to the preparation for mitigation of disaster, the Home Secretary informed the Committee that this is a State subject and the city administration is responsible for maintenance of the local lakes and water bodies. Moreover, the current disaster was unprecedented and the Relief Commissioner, Tamil Nadu, in his presentation explained that the rainfall that occurred in those 72 hours was more than the average of over 100 years. So, basically there can be no reparation for a disaster of such serious magnitude because the cost of preparing for the disaster would be disproportionately high. In this regard the Secretary, Ministry of Home Affairs deposed before the Committee as follows:

“So, basically, obviously all State Governments do take steps to prevent disasters... So, there are laid down procedures with State Governments as to how to prevent any unnatural event from happening.... But, even if everything had been functioning absolutely perfectly, this kind of rainfall would inevitably have led to flooding. There was no way of preventing that occurrence. It happened once in 100 years.”

**8.2** While probing into the response of various concerned agencies the Members raised several queries regarding the responsibilities shared between

the Centre and the States. The Home Secretary explained that the primary responsibility and the first response for disaster management rest with the States. The Central Government can, at best, assist or supplement the efforts of the State Government by providing some logistics, expert care or special equipment, etc., wherever it is felt to be necessary. It is the State Government which deploys the State and district machinery with all resources for immediate relief and rescue work. Accordingly, in this case also Center came to the assistance of the State Government of Tamil Nadu as per their requirement and request. The Army, the Indian Air Force, the Navy, the Coast Guard and the NDRF personnel were engaged on the request of the State Government. The Committee was informed that in terms of numbers, 14 Indian Air Force and 6 Coast Guard helicopters, 9 IAF planes, 5 Indian Navy ships, 3 Coast Guard ships, 12 Army columns, about 877 persons, 1,820 Navy and Coast Guard personnel and 48 teams, with 1,700 personnel of the National Disaster Response force, along with 194 boats and other necessary rescue equipment were deployed in Tamil Nadu at that time for providing relief and rescue assistance to the State Government, which carried the major burden. It did the major work in providing relief.

8.3 As regards the role of the National Crisis Management Committee, headed by the Cabinet Secretary, the committee was informed that it met daily from 2<sup>nd</sup> to 5<sup>th</sup> December and then again, on 7<sup>th</sup> December, to ensure that necessary relief and assistance was provided immediately for rescue operations and restoration of essential services. In addition to that, the National Executive committee which is located in the Home Ministry also met daily from the 2<sup>nd</sup> to the 5<sup>th</sup> of December and again, on the 7<sup>th</sup> and 11<sup>th</sup> December, to coordinate the various operational matters in connection with work that was being done by the various Ministries of the Government of India. These agencies including the Ministry of Home Affairs independently remained constantly in touch with the Administration in Tamil Nadu, speaking to the Chief Secretary and other concerned officers, including the Relief Commissioner. The Prime Minister visited the State on the 3<sup>rd</sup> December and reviewed the progress of the relief and rescue work with the Chief Minister.

8.4 The Committee was further informed that after the first spell of rainfall, which was between the 8<sup>th</sup> and 10<sup>th</sup> of November, the Tamil Nadu Government had given a Memorandum of Assistance to the Central Government. In response to that the MHA had mounted its team to go to Tamil Nadu between 25<sup>th</sup> and 29<sup>th</sup> November. But, before they could submit their report, there was a fresh spell of rainfall between 1<sup>st</sup> December and 4<sup>th</sup> December due to which part of the team got stranded in Chennai and returned later. Subsequently, after the second spell of rainfall, the Government of Tamil Nadu submitted a fresh

Memorandum in addition to the first Memorandum. The Central team had then visited the State between the 4<sup>th</sup> and 6<sup>th</sup> January again.

**8.5 The Committee strongly recommends that the Ministry of Home Affairs through its subordinate concerned agencies has to bolster its disaster preparedness. The Committee suggests that separate action should be taken to prepare calamity map of all important cities by developing standard vulnerability indices so as to minimize loss of life, loss of private and public property and vital installation. The Committee does not quite accept the argument that since the rainfall was unprecedented and was more than the hundred years average therefore the damage was also huge. In this context exact statement of the Home Secretary while deposing before the Committee is reproduced below:**

**“So, basically there can be no preparation for a disaster that occurs once in hundred years, because the cost of preparing for the disaster would be disproportionately high.”**

**8.6 In the opinion of the Committee, any natural disaster of bigger intensity has the propensity to cause extensive damage. Thus, instead of putting the blame on the forces of nature, we should use advanced technology to fight it out. Moreover, the administration of both Centre and State should work together and remain vigilant to tackle the situation. The Committee also observes that natural disaster of high magnitude will always adversely affect people in large number and the administration has to respond in a fastest possible manner. Accordingly, the NDMA and all concerned bodies of Central and State Governments should have established procedures so that vital time is not lost in wriggling out procedural delays.**

**8.7 The Committee also observes that the NDMA plays a very crucial role in mitigating problems of disaster victims. Therefore, its vacant posts should be filled up on priority. The Committee also recommends that after any disaster in future, the NDMA should meet urgently.**

**8.8 The Committee further observes that as per the submission of the Member Secretary, NDMA they have already issued guidelines on mitigating and managing floods and urban floods. In this context the Committee notes that since now urban floods are taking place more frequently in the Country, *i.e.*, Mumbai, Surat, Srinagar, and then Chennai all these in tandem indicate that the problem may further escalate in future. Therefore, the Committee recommends that the guidelines prepared by NDMA should be scrupulously followed and they should also review town planning of each city by giving due importance to clear flood**

channels, proper drainage, safe-passage to excess water in lakes, other water bodies, de-siltation of river bed, removal of illegal encroachment, etc.

**8.9** The Committee impresses on the fact that scientists all over the world are now highlighting on global warming and its consequences like, unusually high rain fall and sea cyclones. These would be rather more common phenomena and happen frequently in coastal states than a rare instance. Therefore, the Committee recommends the Ministry of Home Affairs and NDMA to keep their preparedness at optimum level.

**8.10** The Committee observes that there are multiple agencies involved in the disaster management process and feels that despite the best efforts all these take lot of time and consequently the administration fails to reach out to the victims. The Committee recommends that there should not be so many layers and NDMA has to revamp the process in co-ordination with the Centre and the State.

**8.11** The Committee is of the considered view that there should be an emphasis on pre-disaster preparedness in disaster management set up of the State as the same would minimize the loss of lives and property in the situation of any unforeseen eventuality. Had this mechanism of prevention and mitigation been in place in the State to the required extent, the loss of lives and property could have been minimized.

## **9.0 EXTENT OF DAMAGE DUE TO FLOODING**

**9.1** The floods which affected the State of Tamil Nadu caused incalculable damage to the people in terms of human losses as well as property losses. Many persons lost their lives, livelihood and their dwellings. Standing crops were completely submerged and damaged in most of the villages affected by the floods. In many areas agricultural losses were further compounded by loss of cattle and poultry and for poor households having livestock as their main source of income were devastated. As per the Memoranda submitted by State Government of Tamil Nadu to the Central Government, the nature and extent of damage caused is as follows:

(i) Agriculture and livestock damage:

Agriculture crops like paddy, millets, pulses, cotton, sugarcane and oilseeds and horticulture crops/plantations were destroyed due to floods. Floods also caused damaging of agricultural lands due to sand casting and heavy siltation. As on 15th December, 2015, the total loss of livestock in the State was 9992. In addition, 5223 poultry birds died due to heavy rains.

(ii) Damage and Disruption of Essential Services and Amenities:

Inundation and flooding of large parts of the Chennai city and suburbs of the adjoining two districts, as well as towns and villages of Cuddalore caused disruption of existing drinking water supply systems. Besides about 38.20 lakh households in flood affected districts did not have LPG connections or had lost their LPG cylinders in the floods, and thus suffered due to non availability of dry fuel wood due to incessant rains and floods. Floods also caused damage to health infrastructure. Incessant rains in the State caused damages to buildings in 112 PHCs, 124 HSCs and 11 medical colleges. Besides, it also caused damage of medical equipment and machineries worth Rs.95.35 lakh in these medical institutions. A total of 2066 ICDS centres suffered damage due to the floods in nine districts. Similarly, 334 Noon Meal Centres suffered damage in seven districts. There was extensive damage of electrical power infrastructure in Chennai on account of inundation of large areas in the city and consequent submergence of electrical distribution system in water, which rose more than 4 feet in many places. In all, 53 substations in the State were damaged, including 22 substations in Chennai district, 13 substations in Kancheepuram district and 6 substations in Tiruvellur district due to which supply of electricity to Chennai Metropolis suffered. The flood waters flowing through streets of affected areas of Chennai deposited a large amount of garbage and debris all over. Due to this, a massive exercise had to be undertaken for removal of deposited debris and garbage by mobilising sanitary workers and equipment/ machinery from Chennai Municipal Corporation and other local bodies as well as by hiring manpower and equipment/ machinery.

(iii) Damage of Lives and Livelihood:

Due to torrential rains and the consequent floods, fishing implements, which are the main source of livelihood to fishing community suffered considerable damage in the various flood affected districts of the State. 314 mechanized boats, 556 FRP Vallams and 420 catamarans were partially damaged. 6 mechanized boats, 15 FRP Vallams and 25 Catamarans had been damaged fully. 1430 engines and 5274 nets belonging to the fishermen had also been damaged.

There were extensive damages to looms, accessories and raw materials affecting as many as 3694 handloom weavers in the districts of Cuddalore, Kancheepuram, Tiruvannamalai, Erode and Viluppuram. 726 potters have also suffered badly during the floods in the four affected districts. They have lost their livelihood as they have suffered damage of potter wheels and other implements of pottery and loss of raw materials and finished goods comprising pots and earthen ware.

(iv) Damage to Private Property:

The total number of 3,59,171 huts were damaged in the State since 23<sup>rd</sup> November, 2015 out of which 2,23,610 huts were fully destroyed and 1,35,561 huts were partly damaged. In addition, 65 pucca houses were severely damaged and 13,601 were partly damaged in the State. Tamil Nadu Slum Clearance Board constructs and maintains tenements to accommodate slum dwellers in Chennai. There were nearly 1,01,000 tenements in Chennai City alone. Most of the tenement schemes unfortunately are in low lying areas as they were constructed in situ, in the locations where the slums existed earlier. The floods in November and December, 2015 and the incessant rains in this period caused rapid deterioration of the roofs slum housing schemes were inundated with level of water ranging upto 8 feet, completely rendering the lower floors of the tenement buildings uninhabitable. The number of submerged houses has been assessed to be 26,90,660 in Chennai, Cuddalore, Thiruvallur, Kancheepuram and other affected districts. This resulted in almost complete erosion of lifetime savings of most affected families, a large proportion of which are lower and middle income families. Besides, they also lost clothing, children's textbooks and uniforms, utensils, grains and other food articles stored in their households and other household articles.

(v) Damage to Public Property:

Chennai metropolis including the suburban areas of Kancheepuram and Thiruvallur districts were ravaged by floods, with flood waters flowing through roads like river streams and water logging of roads for many days. This had resulted in substantial erosion of the riding surface of the roads and streets in Chennai metropolis requiring renewal of surface of almost the entire length of roads and streets. Street lights in urban as well as rural areas were also damaged due to inundation.

Besides, heavy incessant rains and floods caused extensive damage to the road infrastructure in the affected area. Schools and colleges in flooded areas were badly affected as waters entered class rooms and campuses and remained stagnant for many days. This resulted in decay of doors, windows and furniture, spoiling of electrical wiring and installations as well as pump-sets and pipelines of drinking water system in the schools. Apprising the Committee about consequences of floods on social and physical infrastructure in its sitting held on 18<sup>th</sup> January, 2016, the relief commissioner of the State Government of Tamil Nadu submitted that extensive disruption was caused to essential services. Roads were flooded and essential services, including trains and bus transport had to be suspended in many locations during floods. Chennai Airport was closed and not operational for 5 days from December, 1st to 5th, 2015. Electricity supply had to be switched off in the inundated parts of the City to

prevent risk of electrocution. Telecom services were severely disrupted. Banking services were affected badly, with ATMs becoming non-functional due to inundation.

**9.2 The Committee is appalled by the extensive damage caused to social and physical infrastructure such as roads, drinking water, sewerage, drainage systems, health centres, schools and colleges in flood-affected areas of the state. Considering the severity and extent of the damage caused by torrential rains and consequent floods to the State of Tamil Nadu, the Committee is of the opinion that the Centre should bolster its support and does not quite agree with the view that the primary responsibility and the first response for disaster management rests with the State.**

**9.3 The Committee understands that damage to social and physical infrastructure and financial loss to individuals and micro and small industries due to unprecedented torrential downpour in Chennai and other parts of Tamil Nadu if calculated properly, may run into thousands of crores. The Committee, therefore, urges upon the Central Government to look sympathetically into the needs of the State Government in terms of reconstruction and rehabilitation and immediately announce a special relief and rehabilitation package which is in consonance with the demands of the State.**

## **10.0 RELIEF & REHABILITATION EFFORTS AND MEASURES**

### **10.1 Role of State Government**

10.1.1 The State Government of Tamil Nadu informed the Committee that they took prompt action on a war footing at every stage to mitigate the suffering and damage caused by the floods. According to the State Government, the entire administrative machinery was pressed into action and service, gearing them for facing the situation that had arisen out of the calamity. The Committee was informed that in the rescue operations, according to the inputs from the Tamil Nadu Government, as many as 19.35 lakh persons were rescued, evacuated and moved to safer places and accommodated in as many as 7,069 relief camps. Of these, about 50,000 persons were evacuated and rescued by the Central forces. Just the proportion of 50,000 to twenty lakhs indicate that the role played by the agencies of the Central Government plays a secondary role while assisting to the State Government.

10.1.2 The State Government further informed the Committee that they sanctioned Rs. 500 crore from the SDRF to meet immediate expenses relating to rescue and relief operations and immediate temporary restoration works.

Besides, the Government further sanctioned Rs. 1300 crores towards relief and restoration works.

10.1.3 The State Government also apprised the Committee that the Ministers and senior officers of the State Government were deputed to the districts to monitor the relief and rehabilitation works in the flood affected areas. Besides, the State Emergency Operations Centre in the office of the Commissioner for Revenue Administration, Disaster Management and Mitigation Department were activated and functioned round the clock with the presence of senior officers including the Revenue Secretary and Commissioner for Revenue Administration. Other senior officials and Secretaries to Government were also drafted in. The State Government also furnished details of other steps of relief and rehabilitation measures which were taken to minimize damage caused by floods which are given below:-

(i) Rescue and Evacuation Efforts:

6 teams of the State disaster Response Force, 6 teams of the Coastal Security Group, 1400 personnel of the fire and rescue department, 30000 personnel of the Tamil Nadu Police and 45,000 staff drawn from the Revenue, Municipal Administration, Rural Development, Public Works, Highways, Health, Animal Husbandry, Municipal Corporation of Chennai and other local bodies and from TANGEDCO were deployed. In all, more than 80,000 personnel from the State Government's side were involved in round the clock rescue and relief operations.

1200 Army personnel, 600 personnel from Navy, Coast Guard and Air Force and 1920 NDRF personnel were engaged in rescue and relief operations. Six helicopters of Air Force and two helicopters each of Navy and Coast Guard participated in rescue operations in marooned areas and airdropping of food material and drinking water.

In all, 17,42,470 persons were rescued, evacuated or moved to safer places throughout the State and put up in 7004 relief camps. Floor mats and bed sheets were provided to these persons in the relief camps.

(ii) Distribution of Essential Items:

Food, milk and safe drinking water were provided to all affected persons. As on 15<sup>th</sup> December 2015, total 1,24,38,281 food packages had been distributed to persons in relief centers as well as others affected by the floods. 690 metric tonnes of milk powder were also distributed to the families with young children in the relief camps. Despite extensive flooding and damages to the Ambattur, Madhavaram and Sholinganallur dairy units, milk supply was continued throughout the period and it reached near normalcy by the morning of

5th December, 2015 when 10.2 lakh liters as against the normal supply of 11 lakh liters was ensured.

To provide supply of vegetables and to control the rise of vegetable prices, 90 fixed shops and 13 mobile shops were opened by the Co-operative societies through which vegetables were sold at below the rate of market prices to the public in Chennai.

(iii) Health & Sanitation Measures:

31,320 Medical Camps were conducted and about 32.46 lakhs were treated in these camps (figures as on 15<sup>th</sup> December, 2015). Nearly 5 lakh sanitary napkins were distributed to women in the flood affected areas including in relief centers. Diapers were provided to the children in the relief camps. Disease surveillance was done by 30 dedicated teams to monitor any spurt in the flood affected localities for communicable diseases. Adequate quantity of medicine to last 3 1/4 months had been stocked in all the Government Hospitals, Urban and Rural Primary Health Centers and drug warehouses.

Often after the floods generally different diseases spread due to lack of basic civic amenities, drinking water and hygiene and cleanliness in public places. But the Committee was informed by the relief Commissioner of the State Government of Tamil Nadu that there was no medical disaster. The details were given to the Committee that 32,000 medical camps were established by the State Government. Almost each and every lane of Chennai was sanitized, timely medical relief was provided, and double chlorination was given. Each family was given half kilogram of bleaching powder. There were training camps for them. There has not been any epidemic. In fact, diseases declined because of so much of medical efforts being undertaken. Even from other States, doctors had come.

(iv) Efforts to Eliminate Water Logging & Restore Normalcy of Essential Services:

The problem of inundation was addressed on a war footing. 470 heavy duty pumps of capacities ranging from 10 hp to 200 hp were deployed at various locations to pump out the water. Pumps of the Corporation of Chennai, Chennai Metrorail Limited Neyveli Lignite Corporation and from various other private sources both from within and outside the State were deployed. Heavy duty pump sets were also airlifted from New Delhi. In addition, 71 super sucker machines, 49 Fire and Rescue Department vehicles, 82 JCBs/Poiclains, 111 jet-rodding machines and 200 desalting machines were deployed to pump out the water or to cut open channels to dewater flooded areas.

Complete inundation had resulted in disruption of supply of drinking water. Generators were deployed in various locations to enable supply of water, besides mobilizing water tanker lorries for supply of potable water in urban and rural areas. In Chennai, regular drinking water supply was maintained at 830 million liters per day. This included 4000 trips of tanker lorries every day besides piped water supply. In addition, packaged drinking water supply was resorted to in the flood affected areas and relief centers and more than 10 lakh litres of packaged drinking water were distributed. To assure safety of potable water in the present circumstances, double the usual dosage of chlorination was done at the source and chlorine levels were being monitored at source, supply and retail points by specially deployed public health teams.

As a precautionary measure, electricity supply to several parts of Chennai city and other flooded parts of the state had to be switched off to prevent death and injury by electrocution that could arise due to heavy flooding and inundation of electrical systems. In addition, there was also damage to substations, transformers and conductors. All of this was rectified on a war footing. In Chennai city, electricity was restored by the night of 6<sup>th</sup> December, 2015 in 95% of the areas, except in areas which still had some residual inundation. 100% electricity distribution was restored by 14<sup>th</sup> December, 2015.

Flooding in the Chennai Petroleum Company Limited Refinery at Manali and depots of Oil Marketing Companies had caused temporary disruption of supply of motor fuels at retail outlets. The State Government worked closely with the OMCs to ensure that 85% petrol and diesel pumping stations were functioning with sufficient stock in Chennai by the evening of 6<sup>th</sup> December 2015. The situation returned to near normal within 2 days. LPG supply was also ensured. With the cooperation of the Department of Telecommunication, telephone connectivity was restored to the extent of 75 per cent on 5<sup>th</sup> December 2015 and subsequently restored completely.

(v) Financial Measures:

The Government of Tamil Nadu initially sanctioned Rs. 500 crores towards various relief operations on 17<sup>th</sup> November 2015 from the State Disaster Response Fund. On 15<sup>th</sup> December 2015, the State Government sanctioned a further sum of Rs. 1000 crores for payment of ex-gratia relief to affected households and Rs. 300 crores for immediate restoration of roads.

In addition, a massive exercise was undertaken for enumerating and identifying affected families, whose houses got flooded thereby displacing them and damaging all their household items. 4159 personnel were mobilized for the purpose in Chennai. The State Government provided an ex-gratia relief of Rs. 5000 to hut dwellers whose huts were partly or fully damaged. As per the

SDRF norms, the State Government sanctioned an ex-gratia relief of Rs. 5000, besides providing 10 kg. rice, a saree and a dhoti, to affected families who lost their clothing, utensils and other household articles due to inundation of their huts or houses for more than two days.

(vi) Administrative Measures:

People of the affected areas lost their valuable belongings in the great floods, which include important record such as patta, educational certificates, Aadhar Card, voter ID cards, bank pass books, RC books, driving licences etc. The State Government took a special initiative to expeditiously provide duplicate copies of these important documents. Special camps were organized at Taluk level for two weeks beginning 14<sup>th</sup> December, 2015 for issue of certificates to persons who have lost them in the floods. Arrangements were made to receive applications for replacement of such documents at Common Service Centres. 37,707 students who have lost their text books, note books etc., have been issued text books, note books and one set of school uniforms.

Further, the State made the following demands from the Prime Minister on 9<sup>th</sup> December, 2015:

- to direct insurance companies to settle claims of damage to homes and loss of personal effects, domestic durable assets and personal vehicles on a campaign mode;
- to direct banks to provide a limited moratorium on repayment and rescheduling of loans for homes, vehicles and other personal effects of flood affected families;
- to direct banks to extend soft loans for purchase of vehicles, educational loans and personal loans upto Rs. 5 lakhs to finance essential domestic durable assets; and
- to extend excise duty exemption till 31<sup>st</sup> March, 2016 for white goods and kitchen equipment to be sold in the flood affected districts.

## **10.2 Role of the Central Government**

10.2.1 Regarding the role played by NDMA/ NDRF in providing immediate relief to the flood victims; the Ministry apprised the Committee that the National Disaster Response Force (NDRF) played a vital role in rescue and relief operation immediately after deployment of its teams during Chennai rescue operation. According to the Ministry, to supplement the efforts of the

State Government, NDRF deployed 48 Teams (1700 personnel) along with 194 boats and other necessary rescue equipment.

10.2.2 According to the Ministry, the NDMA is instrumental in formation/ preparation of policies, guidelines, plans. During this disaster, as per information from the Ministry of Home Affairs, NDMA operated toll free Disaster Helpline (number 1078) at NDMA and a team of Officers was deployed to monitor the situation and receive request for the instant relief. The Committee has been apprised that details of all such inputs received at NDMA Control Room were conveyed to the State Emergency Operations Centre (SEOC) and on-site operations coordination center (OSOCC) of NDRF for necessary action. Besides, NDMA also coordinated relief efforts with other Ministries and a list of do's and Don'ts for flood affected areas and suggestions for the Post Floods management were shared with the Government of Tamil Nadu by the NDMA. The Ministry further mentioned there was no technical or procedural lapse on the part of NDRF in plunging into action to save the lives and properties.

**10.2.3 The Committee emphasises that disaster management requires coordinated and holistic approach from all Ministries, Departments of Central as well as State level. The Committee notes that the Central Government extended support to the Government of Tamil Nadu by providing timely support to supplement the efforts of the State Government for tackling the situation effectively in the wake of flood situation in Chennai during 2015. But at the same time, the Committee observes that the NDMA meetings should take place immediately to monitor the situation depending upon the gravity of the disaster, since they only play the most crucial role in coordinating multiple agencies belonging to the Centre and the State who are involved in mitigating the disaster. The Committee however, appreciates the work done by the state Government as well as Chennai Corporation, in terms of relief and rehabilitation works.**

## **11.0 FINANCIAL ASSISTANCE**

11.1 The Ministry has informed the Committee that the Government of India has released Rs. 2560.715 crore from SDRF/ NDRF and Special Assistance to Tamil Nadu for management of relief necessitated by natural disasters during 2015.

11.2 Detailing this assistance, the Ministry in their written replies has given following information:

- (i) In the instant case, the Government of India had released the 1<sup>st</sup> installment of Central Share of SDRF amounting to Rs. 254.625 crore for the year 2015-16, to the State on 27<sup>th</sup> May 2015.
- (ii) Further, in order to support the affected people of the State, the Government of India had released assistance of Rs. 388.42 crore (Rs. 133.795 cr. + Rs. 254.625 crore), in advance, from SDRF and Rs. 552.00 crore from Special Assistance of central plan schemes to Tamil Nadu on 23<sup>rd</sup> November 2015.
- (iii) Besides, an amount of Rs. 1000 crore (Rs. 866.31 cr. +133.69 cr.) released, 'on account' basis from NDRF to the State Government on 3<sup>rd</sup> December 2015 and 16<sup>th</sup> December 2015 respectively, for immediate relief operations.
- (iv) Besides, an amount of Rs. 365.67 crore was released from NDRF to the State Government on 29<sup>th</sup> April 2016.
- (v) As such, GOI has released Rs. 2560.715 crore from SDRF/ NDRF and Special Assistance to Tamil Nadu for management of relief necessitated by natural disasters during 2015.

11.3 The Ministry informed that in response to the demand of Tamil Nadu State Government for Rs 25912.46 crore for relief, rehabilitation, rebuilding and restoration till the end of December, only Rs 2195 crore was provided, which was one-fourth of the amount required for temporary relief projected by the State Government.

11.4 Explaining the mismatch between projected requirements of the State Government and allocation made by the Central Government, the Ministry submitted that the State Government projected requirement for items outside the purview of SDRF and NDRF norms. Accordingly, no assistance was considered for those items. Assistance from NDRF is considered on assessment based in conformity with the norms and not demand/ projection of the State. For the components of permanent reconstruction, restoration and mitigation measures in respect of damaged infrastructure given in the memorandum, the State Government was advised to seek support from concerned line Ministries/ State Plan.

11.5 The State had also projected relief & scale of assistance for damages to the different categories of mitigation measures at a much higher rate than what is permissible as per the SDRF/ NDRF norms. According to the Ministry of Home Affairs the difference in demand of the State and actual approval from the Government of India in terms of assistance from SDRF/ NDRF comes because it is provided only for immediate relief as per the

established norms to the victims of notified disasters and not for compensation of loss as suffered/ claimed by the State.

11.6 When the Ministry was asked about assistance for rehabilitation and restoration from the Centre to the State Government after the disaster, the Ministry replied that the primary responsibility for disaster management rests with the States. Besides, to meet the expenditure on relief of immediate nature, a State Disaster Response Fund (SDRF) has been created for each State. According to the Ministry, the Central share of SDRF is released to the States in June and December, subject to fulfilling conditions of the scheme. The SDRF is a resource readily available to the States to meet the expenses of relief, rehabilitation & restoration works activities of immediate nature, for a range of specified disasters. The State Governments are required to meet the expenditure for providing immediate relief to the victims of notified natural disasters, including flood, from readily available fund under the SDRF in accordance with the approved items & norms of assistance.

**11.7 The Committee notes that there is significant gap between the demand for financial assistance made by the State and the actual help extended to them by the centre. In this context, the Committee takes note of the representative of the Ministry of Finance while deposing before the Committee which are as follows:**

**“The State Government normally gives the Memorandum that includes damages, infrastructure and long-term mitigation also. The assistance normally from the Government under the NDRF is for the short-term repair and relief only. We only supplement the short-term measures because it is a supplementary approach. Normally, there is a gap between the demand of the State Government and the actual assistance. There is an Inter-Ministerial Committee which gives its comments on the report and then this Executive Committee and the high level Committee see to it that it is as per the set norms. The norms have been set by the Government as to which are the items that are admissible for relief from the NDRF. So, normally, this difference takes place. But, in this case, for Tamil Nadu, still that document has not been examined.”**

11.8 However, the Committee recommends that in view of the extraordinary circumstances and the huge damage caused to the State and particularly to the Chennai city, necessary assistance may be provided without further delay. The Committee feels that huge damage has occurred to the road infrastructure and restoration thereof is a gigantic task. Accordingly, the Committee recommends that adequate grant should be given to the State for this purpose.

**11.9** Besides, the Central Urban Development Ministry should also provide a special package for rehabilitation and restoration work in the urban local bodies including Chennai Municipal Corporation of the state which have been severely affected due to torrential rains and consequent floods. Since, these local bodies are dependent on their own small source of tax revenue, they require substantial amount for restoration and rehabilitation works. The committee while considering the magnitude of the devastation caused also recommends the Central Government to consider granting a sufficient sum for construction of houses for the people who lost their dwellings in the flood devastation.

## **RECOMMENDATION/OBSERVATIONS OF THE COMMITTEE - AT A GLANCE**

### **REASONS BEHIND THE FLOOD**

**The Committee takes note of the submission of the Ministry of Water Resources that the encroachment of lakes and river beds played a major role in causing massive flood in Chennai. The Committee feels that the State Government should check mafia involved in illegal construction for business and usurping water bodies for their real estate business. The flood channels and riverbed should be cleared as soon as possible by removing illegal/ unauthorized constructions.**

**(Para 7.1.3)**

**The Committee also observes that the drainage system got choked in Chennai and the city was flooded badly in the aftermath of heavy torrential rainfall. The Committee notes that the Ministry while deposing before the Committee too had admitted on 28 January 2016 to the fact that, “there is a need to keep all our drains clean, there is need to make sure that all the storm water drains function and the outlets function...”**

**(Para 7.1.4)**

**In view of the above, the Committee recommends that regular maintenance of the drainage system should get topmost priority however daunting the task may be. The Chennai Metropolitan Development Authority and Chennai Municipal Corporation should pay attention to this issue seriously and act accordingly. The drainage system of the city should be flawless so as to prevent any kind of water logging.**

**(Para 7.1.5)**

**About illegal encroachment and faulty town planning, the Committee observes that these are the major causes behind the havoc that was wreaked by floods in the year 2015 in the city of Chennai. The Committee appreciates the action taken by the State Government to remove the unauthorized constructions but still feels that this is inadequate and all illegal encroachment and construction should be removed. However, the Committee is of the view that the process of removing encroachment should be a balanced one as it has human and social consequences. There should be proper blue print and planning for rehabilitating and resettling those who are living on encroached settlements before removing encroachment.**

(Para 7.2.3)

**The Committee appreciates that the Ministry of Urban Development (MoUD) had issued an Action Plan to all States and Union territories for “Flood Proofing of Cities/ Towns” well in advance i.e., on 3<sup>rd</sup> September, 2013 itself. The MoUD should also play a pro active role in ensuring its implementation as well, in terms of urban planning and development especially of metro cities.**

(Para 7.2.4)

**The Committee is given to understand that unplanned urbanization and growth of cities are also the main contributing factors for floods in and around Chennai. The Committee, therefore, recommends that the Centre should come out with a proper long-term master plan for metro cities to prevent such disasters in future. The committee is also of the opinion that it is an eye opener and other metro cities must also learn from it.**

(Para 7.2.5)

## **ROLE AND RESPOSIBILITIES OF DIFFERENT CONCERNED AGENCIES**

**The Committee strongly recommends that the Ministry of Home Affairs through its subordinate concerned agencies has to bolster its disaster preparedness. The Committee suggests that separate action should be taken to prepare calamity map of all important cities by developing standard vulnerability indices so as to minimize loss of life, loss of private and public property and vital installation. The Committee does not quite accept the argument that since the rainfall was unprecedented and was more than the hundred years average therefore the damage was also huge. In this context exact statement of the Home Secretary while deposing before the Committee is reproduced below:**

**“So, basically there can be no preparation for a disaster that occurs once in hundred years, because the cost of preparing for the disaster would be disproportionately high.”**

(Para 8.5)

**In the opinion of the Committee, any natural disaster of bigger intensity has the propensity to cause extensive damage. Thus, instead of putting the blame on the forces of nature, we should use advanced technology to fight it out. Moreover, the administration of both Centre and State should work together and remain vigilant to tackle the situation. The Committee also observes that natural disaster of high magnitude will always adversely affect people in large number and the administration has to respond in a fastest possible manner. Accordingly, the NDMA and all concerned bodies of Central and State Governments should have established procedures so that vital time is not lost in wriggling out procedural delays.**

**(Para 8.6)**

**The Committee also observes that the NDMA plays a very crucial role in mitigating problems of disaster victims. Therefore, its vacant posts should be filled up on priority. The Committee also recommends that after any disaster in future, the NDMA should meet urgently.**

**(Para 8.7)**

**The Committee further observes that as per the submission of the Member Secretary, NDMA they have already issued guidelines on mitigating and managing floods and urban floods. In this context the Committee notes that since now urban floods are taking place more frequently in the Country, *i.e.*, Mumbai, Surat, Srinagar, and then Chennai all these in tandem indicate that the problem may further escalate in future. Therefore, the Committee recommends that the guidelines prepared by NDMA should be scrupulously followed and they should also review town planning of each city by giving due importance to clear flood channels, proper drainage, safe-passage to excess water in lakes, other water bodies, de-siltation of river bed, removal of illegal encroachment, etc.**

**(Para 8.8)**

**The Committee impresses on the fact that scientists all over the world are now highlighting on global warming and its consequences like, unusually high rain fall and sea cyclones. These would be rather more common phenomena and happen frequently in coastal states than a rare instance. Therefore, the Committee recommends the Ministry of Home Affairs and NDMA to keep their preparedness at optimum level.**

**(Para 8.9)**

**The Committee observes that there are multiple agencies involved in the disaster management process and feels that despite the best efforts all these take lot of time and consequently the administration fails to reach out to the victims. The Committee recommends that there should not be so many layers and NDMA has to revamp the process in co-ordination with the Centre and the State.**

**(Para 8.10)**

**The Committee is of the considered view that there should be an emphasis on pre-disaster preparedness in disaster management set up of the State as the same would minimize the loss of lives and property in the situation of any unforeseen eventuality. Had this mechanism of prevention and mitigation been in place in the State to the required extent, the loss of lives and property could have been minimized.**

**(Para 8.11)**

## **9.0 EXTENT OF DAMAGE DUE TO FLOODING**

**The Committee is appalled by the extensive damage caused to social and physical infrastructure such as roads, drinking water, sewerage, drainage systems, health centres, schools and colleges in flood-affected areas of the state. Considering the severity and extent of the damage caused by torrential rains and consequent floods to the State of Tamil Nadu, the Committee is of the opinion that the Centre should bolster its support and does not quite agree with the view that the primary responsibility and the first response for disaster management rests with the State.**

**(Para 9.2)**

**The Committee understands that damage to social and physical infrastructure and financial loss to individuals and micro and small industries due to unprecedented torrential downpour in Chennai and other parts of Tamil Nadu if calculated properly, may run into thousands of crores. The Committee, therefore, urges upon the Central Government to look sympathetically into the needs of the State Government in terms of reconstruction and rehabilitation and immediately announce a special relief and rehabilitation package which is in consonance with the demands of the State.**

**(Para 9.3)**

## **RELIEF & REHABILITATION EFFORTS AND MEASURES**

**The Committee emphasises that disaster management requires coordinated and holistic approach from all Ministries, Departments of Central as well as State level. The Committee notes that the Central Government extended support to the Government of Tamil Nadu by providing timely support to supplement the efforts of the State Government for tackling the situation effectively in the wake of flood situation in Chennai during 2015. But at the same time, the Committee observes that the NDMA meetings should take place immediately to monitor the situation depending upon the gravity of the disaster, since they only play the most crucial role in coordinating multiple agencies belonging to the Centre and the State who are involved in mitigating the disaster. The Committee however, appreciates the work done by the state Government as well as Chennai Corporation, in terms of relief and rehabilitation works.**

**(Para 10.2.3)**

### **11.0 FINANCIAL ASSISTANCE**

**The Committee notes that there is significant gap between the demand for financial assistance made by the State and the actual help extended to them by the centre. In this context, the Committee takes note of the representative of the Ministry of Finance while depositing before the Committee which are as follows:**

**“The State Government normally gives the Memorandum that includes damages, infrastructure and long-term mitigation also. The assistance normally from the Government under the NDRF is for the short-**

**term repair and relief only. We only supplement the short-term measures because it is a supplementary approach. Normally, there is a gap between the demand of the State Government and the actual assistance. There is an Inter-Ministerial Committee which gives its comments on the report and then this Executive Committee and the high level Committee see to it that it is as per the set norms. The norms have been set by the Government as to which are the items that are admissible for relief from the NDRF. So, normally, this difference takes place. But, in this case, for Tamil Nadu, still that document has not been examined.”**

**(Para 11.7)**

**However, the Committee recommends that in view of the extraordinary circumstances and the huge damage caused to the State and particularly to the Chennai city, necessary assistance may be provided without further delay. The Committee feels that huge damage has occurred to the road infrastructure and restoration thereof is a gigantic task. Accordingly, the Committee recommends that adequate grant should be given to the State for this purpose.**

**(Para 11.8)**

**Besides, the Central Urban Development Ministry should also provide a special package for rehabilitation and restoration work in the urban local bodies including Chennai Municipal Corporation of the state which have been severely affected due to torrential rains and consequent floods. Since, these local bodies are dependent on their own small source of tax revenue, they require substantial amount for restoration and rehabilitation works. The committee while considering the magnitude of the devastation caused also recommends the Central Government to consider granting a sufficient sum for construction of houses for the people who lost their dwellings in the flood devastation.**

**(Para 11.9)**

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