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DISASTER PREPAREDNESS IN INDIA

MINISTRY OF HOME AFFAIRS

**PUBLIC ACCOUNTS
COMMITTEE
2015-2016**

TWENTY-FIFTH REPORT

SIXTEENTH LOK SABHA



**LOK SABHA SECRETARIAT
NEW DELHI**

TWENTY-FIFTH REPORT

PUBLIC ACCOUNTS COMMITTEE (2015-2016)

(SIXTEENTH LOK SABHA)

DISASTER PREPAREDNESS IN INDIA

MINISTRY OF HOME AFFAIRS

Presented to Lok Sabha on 10.12.2015

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LOK SABHA SECRETARIAT
NEW DELHI

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COMPOSITION OF THE PUBLIC ACCOUNTS COMMITTEE (2015-16)

Prof. K.V. Thomas — *Chairperson*

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Lok Sabha

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3. Shri Sudip Bandyopadhyay
4. Shri Ranjit Singh Brahmputra
5. Shri Nishikant Dubey
6. Shri Gajanan Kirtikar
7. Shri Bhartruhari Mahtab
8. Shri Ramesh Pokhriyal "Nishank"
9. Shri Neiphiu Rio
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12. Dr. Kirit Somaiya
13. Shri Anurag Singh Thakur
14. Shri Shivkumar Udasi
15. Dr. P. Venugopal

Rajya Sabha

16. Shri Naresh Agrawal
17. Shri Satyavrat Chaturvedi
18. Shri Anil Madhav Dave
19. Shri Vijay Goel
20. Shri Bhubaneswar Kalita
21. Shri Shantaram Naik
22. Shri Sukhendu Sekhar Roy

SECRETARIAT

1. Shri A.K. Singh — *Additional Secretary*
2. Shri A.K. Yadav — *Deputy Secretary*

COMPOSITION OF THE PUBLIC ACCOUNTS COMMITTEE (2014-15)

Prof. K.V. Thomas — *Chairperson*

MEMBERS

Lok Sabha

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3. Shri Sudip Bandyopadhyay
4. Shri Ranjit Singh Brahmpura
5. Shri Nishikant Dubey
6. Shri Gajanan Kirtikar
7. Shri Bhartruhari Mahtab
8. Shri Ramesh Pokhriyal "Nishank"
9. Shri Neiphiu Rio
10. Shri Rajiv Pratap Rudy
11. Shri Janardan Singh Sigrwal
12. Shri Jayant Sinha
13. Dr. Kirit Somaiya
14. Shri Anurag Thakur
- *15. *Vacant*

Rajya Sabha

16. Shri Satyavrat Chaturvedi
17. Shri Vijay Goel
18. Dr. Satyanarayan Jatiya
19. Shri Bhubaneswar Kalita
20. Shri Shantaram Naik
21. Shri Sukhendu Sekhar Roy
22. Shri Ramchandra Prasad Singh

* Vacant *vice* Dr. M. Thambidurai who has been chosen as Hon'ble Deputy Speaker, Lok Sabha and has since resigned from the membership of the Committee.

COMPOSITION OF THE PUBLIC ACCOUNTS COMMITTEE (2013-14)

Dr. Murli Manohar Joshi — *Chairperson*

MEMBERS

Lok Sabha

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3. Dr. Baliram
4. Shri Ramen Deka
5. Shri Sandeep Dikshit
6. Dr. M. Thambi Durai
7. Shri T.K.S. Elangovan
8. Shri Jayaprakash Hegde
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Rajya Sabha

16. Shri Prasanta Chatterjee
17. Shri Prakash Javadekar
- †18. Shri Ashwani Kumar
19. Shri Satish Chandra Misra
- #20. Dr. V. Maitreyan
21. Shri N.K. Singh
22. Smt. Ambika Soni

* Elected *w.e.f.* 14th August, 2013 *vice* Dr. Girija Vyas appointed as Minister of Housing, Urban Development & Poverty Alleviation *w.e.f.* 17th June, 2013.

† Elected *w.e.f.* 3rd September, 2013 *vice* Dr. V. Maitreyan ceased to be a Member upon his retirement as a Member of Rajya Sabha *w.e.f.* 24th July, 2013.

Elected *w.e.f.* 3rd September, 2013 *vice* Dr. E.M. Sudarsana Natchiappan appointed as Minister of State for Commerce and Industry *w.e.f.* 17th June, 2013.

INTRODUCTION

I, the Chairperson, Public Accounts Committee (2015-16) having been authorised by the Committee, do present this Twenty Fifth Report (Sixteenth Lok Sabha) on '**Disaster Preparedness in India**' based on C&AG Report No. 3 of 2013 (Performance Audit), Union Government related to the Ministry of Home Affairs.

2. The above-mentioned Report of the Comptroller and Auditor General of India was laid on the Table of the House on 23rd April, 2013.

3. The Public Accounts Committee (2013-14) took up the subject for detailed examination and report. The Committee took evidence of the representatives of the Ministry of Home Affairs on the subject at their sitting held on 1st July, 2013. As the examination of the subject could not be completed due to paucity of time, the Public Accounts Committee (2014-15) re-selected the subject to continue the examination and took evidence of the representatives of the Ministry of Home Affairs at their sitting held on 9th December, 2014. As the Report on the subject could not be finalised, the PAC (2015-16) reselected the subject to continue the examination and present a Report based on the earlier evidences taken by their predecessor Committees. Accordingly a Draft Report was prepared and placed before the Committee for their consideration. The Committee considered and adopted this Draft Report at their sitting held on 7th September, 2015. The Minutes of the Sittings are appended to the Report.

4. For facility of reference and convenience, the Observations and Recommendations of the Committee have been printed in thick type and form Part-II of the Report.

5. The Committee thank their predecessor Committees for taking oral evidence and obtaining information on the subject.

6. The Committee would like to express their thanks to the representatives of the Ministry of Home Affairs for tendering evidence before them and furnishing the requisite information to the Committee in connection with the examination of the subject.

7. The Committee place on record their appreciation of the assistance rendered to them in the matter by the Office of the Comptroller and Auditor General of India.

NEW DELHI;
09th December, 2015

18 Agrahayana, 1937 (Saka)

PROF. K.V. THOMAS,
Chairperson,
Public Accounts Committee.

REPORT

PART I

I. Introductory

1. A disaster is an event or series of events, which give rise to casualties and damage or loss of property, infrastructure, environment, essential services or means of livelihood on a scale that is beyond the normal coping capacity of the affected community. Disasters disrupt progress and destroy the developmental efforts, often pushing nations, in their quest for progress, back by several decades. Thus, efficient management of disasters, rather than mere response to their occurrence, has received increased attention both within India and abroad.

2. The Disaster Management Act, 2005 defined disaster as a "catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area". Thus, Disaster Management (DM) is a continuous and integrated process of:—

- Planning, organizing, coordinating and implementing measures which are necessary or expedient for prevention of any disaster;
- Mitigation or reduction of any disaster or its severity or consequences;
- Capacity building to deal with any disaster;
- Prompt response to any threatening disaster situation or disaster;
- Assessing the severity or magnitude of any disaster;
- Evacuation, rescue and relief; and
- Rehabilitation and reconstruction.

3. Disaster Preparedness includes organizational activities which ensure that the systems, procedure and resources required to confront a disaster are available in order to provide timely assistance to those affected, using existing mechanisms wherever possible *e.g.* training, creation of awareness, establishment of disaster plans, evacuation plans, pre-position of stocks, early warning mechanism, strengthening indigenous knowledge, etc. In recent years, the concept of Disaster Preparedness had emerged as an umbrella concept including risk assessment, disaster prevention and disaster mitigation. It also involves analysis of disaster response as it provides a useful testing of preparedness.

4. India is one of the most disaster prone countries in the world. This is largely due to its geo-climatic conditions combined with high population density and other socio-economic factors. India is vulnerable, in varying degrees, to a large number of natural as well as man-made disasters. The risk of excessive damage of lives and property in the event of disaster is high due to spread of population and tendency of people to go back to areas prone to such disasters. Increased vulnerability to disaster risks can be related to expanding population, urbanization and industrialization, development within high-risk zones, environmental degradation and climatic changes. Increase in terrorism around the globe has also contributed to higher risks.

5. According to the Audit Report, the world over Disaster Preparedness or Disaster Risk Reduction (DRR) is becoming the most prominent theme for Disaster Management. It is not possible to eliminate the possibility of disasters. However, with due care and proper preparation, the risk and damages from disasters can be reduced considerably. India is prone to various natural and manmade disasters. The country has faced several devastating disasters including earthquakes, tsunamis and river floods in recent years. Accordingly India was one of the pioneering countries to establish a three level disaster management institutional set up. Considerable time has elapsed since the enactment of the DM Act in 2005. Governments at the Central and State level have initiated various mitigation projects. There are also several internationally aided projects for disaster risk reduction being carried out in the country. Institutional set ups at the national, State and district levels have been formed. The nodal Ministries responsible for DRR work have been designated for various man-made and natural disasters. Therefore, it is the right time to assess the level of preparation in the country to manage disasters.

6. The C&AG of India had decided to carry out a performance audit of the disaster preparedness with a view to assessing the level of preparation in the country to manage disasters covering period from May 2012 to September 2012. The C&AG Report No. 5 of 2013 on the subject was laid in Parliament on 23.04.2013.

7. The Audit has found that despite considerable progress in setting up institutions and creating funding arrangements, there are critical gaps in the preparedness level for various disasters and concluded that the system, which came into effect post the DM Act, 2005 is yet to achieve its desired impact. The National Disasters Management Authority which was conceived as the apex planning and supervising body, was found ineffective in its functioning in most of the core areas. It neither had information and control over the progress of work at the State level nor was it successful in implementation of various projects. Coordination between NDMA and nodal Ministries for various disasters needed to be improved. Roles and responsibilities amongst the apex bodies at the national level also needed to be clearly specified.

8. Against the above backdrop, the Public Accounts Committee (2013-14) selected the subject for detailed examination and report. They took evidence of the representatives of the Ministry of Home Affairs and obtained background note and

post-evidence replies from the Ministry. The examination of the subject could not be completed due to lack of time. Meanwhile many disasters took place in the country. Therefore, the PAC (2014-15) reselected the subject and took further evidence of the representatives of the Ministry of Home Affairs. Based on the written and oral deposition by the Ministry, the Committee further examined the subject and discussed significant issues as enumerated in the succeeding paragraphs.

II. Legislative and Institutional Framework

9. Following the UN General Assembly declaration of the decade of 1990s as 'International Decade for Natural Disaster Reduction' a disaster management cell was established under the Ministry of Agriculture. In 1999 a High Powered Committee (HPC) was constituted to review the existing arrangement for preparedness and mitigation of natural disasters. In 2002, the disaster management division of Ministry of Agriculture was shifted to Ministry of Home Affairs. The HPC submitted its report in October, 2001. Following this report the Government enacted the Disaster Management Act on 23rd December, 2005. The Act laid down institutional, legal, financial and coordination mechanisms at the National, State and District levels which led to a paradigm shift in disaster management. Prior to DM Act, at State levels 'Gujarat State Act, 2003' and 'Odisha State Disaster Management Policy (2005)' were created by the respective State Governments.

10. The DM Act provided for setting up of a National Disaster Management Authority (NDMA) under the Prime Minister, State Disaster Management Authorities (SDMAs) under the Chief Ministers and District Disaster Management Authorities (DDMAs) under the Collectors/Districts Magistrate/Deputy Commissioners. The Act also provided for the constitution of different execution Committees at national and State levels. The National Institute of Disaster Management (NIDM) for capacity building and the National Disaster Response Force (NDRF) for response purpose were set up. In accordance with the DM Act, National Policy on Disaster Management was prepared by NDMA and approved by Cabinet in October, 2009.

11. According to present institutional arrangements, in addition to three tier institutional structure, the National Crisis Management Committee (NCMC) (under Cabinet Secretary as Chairman) and High Level Committee (HLC) headed by Finance Minister continue to function. Also, a Crisis Management Group headed by Home Secretary and comprising of senior officers from various Ministries and concerned Departments is constituted by Ministry of Home Affairs at the national level. National Disaster Management Authority (NDMA) is responsible for laying down policies and guidelines to be followed by all concerned for disaster risk reduction. It is also to lay down guidelines to be followed by the State Authorities in drawing up the State Plans. NDMA is a central nodal agency to deal with all type of disasters except certain specific emergencies *viz.* law and order situation, serial bomb blasts, highjacking, forest fires etc. which continue to be handled by NCMC of the earlier set-up.

National Executive Committee

12. The Audit observed in their report that National Executive Committee (NEC), the executive committee of the NDMA to assist in the discharge of its functions, was constituted in September 2006 and chaired by the Home Secretary with 14 Secretaries of Government of India and Chief of Integrated Defence Staff as its members. NEC was to coordinate the response in the event of any disaster situation or disaster. It was also responsible for preparing the Nation Plan for D.M. and to monitor guidelines issued by NDMA. As per NEC Rules 2006, NEC was to meet as often as necessary but at least once in three months. However, Audit found that NEC met on three occasions (08.01.2007, 18.05.2007 and 13.05.2008) since its inception in September, 2006, although the country faced many disasters subsequently. This affected the progress of implementation of the national policy, national plan, guidelines and evaluation of the preparedness at all Government levels. The Committee desired to know the reasons for not holding the sittings of the NEC. The Home Secretary, during evidence stated as under:—

"I would like to submit before this hon. Committee that based on my experience after holding a series of meetings of National Executive Committee, the position has improved substantially."

13. When asked to give reasons for NEC not meeting at regular intervals as provided for in the DM Act, the MHA in their reply to post evidence question furnished as under:—

"One factor that deterred the regular meetings of NEC was the lack of clarity as to who would provide the secretarial support to the NEC. There was some confusion on whether NDMA would provide the necessary secretarial support. In the meeting of the NEC held on 18.5.2007, it was decided that NDMA would provide the necessary secretariat support to the NEC. Another factor was the very process of inter-ministerial consultations, which were essential to prepare the draft National Disaster Management Plan. NEC did not formally meet between May, 2008 and December, 2012, but disaster management activities were under close watch by the meetings that were conducted under the chairmanship of the Home Secretary to review response and coordination measures in various natural disasters. They were *de facto* meetings of the NEC, but were not formally convened or minuted as the meetings of the NEC. Post Uttarakhand disaster, the NEC has met six times, *i.e.* on 1st, 2nd, 3rd, 8th and 10th July, 2013 and on 2nd September, 2013."

III. Planning of Disaster Preparedness

(i) Absence of National Plan for Disaster Management

14. NEC was to prepare the National Plan for disaster management of the country and this was to be approved by NDMA. The plan was to be then circulated to the Ministries and Departments which were to draw their own plans in accordance with it. However, Audit found that neither NEC nor MHA had developed the National

Plan even after a lapse of more than six years of the enactment of the DM Act. The national guidelines developed by NDMA were not adopted and applied by the nodal agencies and State Governments. As the Committee desired to know the reasons for such an inordinate delay in finalization of National Plan for DM, the MHA in a written reply stated that the national plan for disaster management necessary requires inter-Ministerial consultation that has taken time. MHA is trying to expedite this process.

15. In reply to another query of the Committee regarding national guidelines developed by NDMA which were not adopted and applied by the nodal agencies and State Governments, the MHA furnished as under:—

"As per Section 10 (2) (g) of the Disaster Management Plan, 2005, NEC has the responsibility to monitor the implementation of the guidelines laid down by the NDMA for integrating of measures for prevention of disaster and mitigation by Ministries or Departments in their development plans and projects. To translate the guidelines of NDMA into Schemes and projects is a process of governance in which each Ministry is required to play its role."

16. During evidence, the Home Secretary while replying to the queries raised and concern expressed by the Members of the Committee, regarding delay in preparation of national plan and its present status, submitted as under:—

"I would like to submit two-three things for your consideration. The hon. Member mentioned that it had 20 meetings since 2007. At present we are in 2014. So, the average is three meetings. But, the reality is a little different. The reality is that till 2012, the number of meetings that were held was abysmally low. In fact, the frequency of the meeting started only after I took over as Home Secretary. I think I have had more than 10 meetings since I have taken over. The National Executive Committee is a robust committee, which meets at every necessary opportunity. The Committee has finalized and recommended the National Disaster Management Plan and sent it to the National Disaster Management Authority for further action. The moment, that is approved, that will be the national plan that will be put in operation throughout the country."

(ii) State Plan for Disaster Management

17. Section 23 of the DM Act provides that there should be a disaster management plan for every State. The State plans were to be prepared by the State Executive Committees (SECs) in conformity with the guidelines to be issued on related matters by SMDAs. The State plans prepared by SECs were to be approved by the respective SMDAs. As per the Act, NDMA was also to lay down guidelines to be followed by the State Authorities in drawing up the State plans.

18. NDMA has issued guidelines for preparation of State Disaster Management Plan in July 2007. However, the Audit has commented that there were no provisions to make the National Guidelines binding on States in preparation of the State plans.

Till May, 2012 only 14* States had shared their draft or final State Disaster Management Plans (SDMPs) with NDMA. The Committee desired to know the reasons for guidelines not binding on States. The MHA in a written submission stated as under:—

"As per DM Act, 2005, Section 6(2)(d) and (e), the National Authority may without prejudice to generality of the provisions contained in sub-section (1), the National Authority May:

- lay down guidelines to be followed by the State Authorities in drawing up the State Plan;
- lay down guidelines to be followed by the different Ministries or Departments of the Government of India for the purpose of integrating the measures for prevention of disaster or the mitigation of its effects in their development plans and projects.

The above Section does not make the NDMA Guidelines binding on the stakeholders for adherence.

NDMA had been circulating various National Guidelines since April, 2007 but there was no information as to whether these were being adopted and used by Ministries, Departments and State Governments.

As per section 23 of the Disaster Management Act, 2005, the State Disaster Management Plan (SDMP) is to be prepared by the State Executive Committee (SEC) having regard to the guidelines laid down by the NDMA."

19. The NDMA decided (February, 2009) to introduce a new scheme to release grants-in-aid for preparation of Disaster Management Plans to all the States, UTs, Ministries and Departments. The proposal for release of grants-in-aid of ₹ 4.99 crore to 35 States/UTs and 16 Ministries and Departments were approved by Vice Chairman, NDMA in June, 2009. NDMA sanctioned grants-in-aid of ₹ 3.52 crore to all States and UTs in October, 2009. Funds were released in January and February, 2010. The beneficiary States, UTs, Ministries and Departments could not complete and publish their plans. They asked MHA to clarify if release of grants-in-aid to States be tied with compliance of NDMA guidelines. In this connection, the MHA in a written reply submitted as under:—

"The Ministry of Home Affairs releases financial assistance to the State Governments under National Response Fund. The assistance for capacity building as per 13th Finance Commission award are released to the State Governments. Assistance under National Cyclone Risk Mitigation Project, at present being implemented in the States of Andhra Pradesh and Odisha, is released through NDMA. However, it may not be a correct approach to deprive the people of the State due to delay on part of the State Governments. We are therefore now contemplating the issue of release of financial assistance with

*Till 2014, 20 States had done so.

the compliance of the State Governments to NDMA guidelines. However, in a small way, a beginning is being made to consider the progress of preparation of State Disaster Management Plan in the process of release of assistance under NDRF, as this item will be one of the points on which the Inter Ministerial Central Teams has been asked to examine and comment."

20. In reply to a query of the Committee relating to reason for States not preparing their State Disaster Management Plan (SDMP) despite availability of funds and resources, the Ministry informed as under:—

"As per section 23(2) of the Disaster Management Act, 2005 the State Disaster Management Plan (SDMP) is to be prepared by the State Executive Committee (SEC) having regard to the guidelines laid down by the National Authority and after such consultation with local authorities, district authorities and the people's representatives as the SEC may deem fit. Further, as per section 18(2) of Disaster Management Act, 2005 the State Disaster Management Authorities are required to approve the SDMP in accordance with the guidelines laid down by the National Authority.

As per the available information, the State Governments of undivided Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Gujarat, Nagaland, Punjab, Mizoram, Sikkim, Odisha, Karnataka, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Maharashtra, Bihar and West Bengal, Union Territories of A & N Islands, Chandigarh and Lakshadweep have finalised their Disaster Management Plans. The remaining State Governments and Union Territories are in the process of finalising their SDMPs.

The guidelines of NDMA are not mandatory. The preparation of SDMP requires to take into consideration various factors like topography, socio-economic conditions, demography, hazard and vulnerability profile etc., which varies from district to district and State to State. This requires a good deal of study and analysis. No uniform solution can be adopted in view of the fact that India has immense geographical diversity and a variety of hazard vulnerabilities. The federal policy of our constitutional structure needs to be noted. The Ministry of Home Affairs as well as NDMA have been pursuing constantly with the remaining State and Union Territories. The broad guidelines were issued by NDMA on the preparation of SDMP. Funds have been sanctioned to support preparation of SDMPs as below:

States & UTs of Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Maharashtra, Mizoram, Manipur, Meghalaya, Nagaland, Odisha, Sikkim, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal, Andaman & Nicobar Islands, NCT of Delhi and Puducherry have been provided a sum of ₹10,62,500 each. States & UTs of Chhattisgarh, Goa, Madhya Pradesh, Punjab, Rajasthan, Tripura, Chandigarh, Dadar & Nagar Haveli, Daman & Diu and Lakshadweep have been provided a sum of ₹ 8,62,500 each."

(iii) National Disaster Management Guidelines

21. As per the DM Act, NDMA was to prepare guidelines on various aspects of disaster management to be followed by the different Ministries and Departments of the Government of India. NDMA formulated and issued 17 National Guidelines on various types of disaster and related issues (October, 2012). NDMA had been circulating various National Guidelines since April, 2007 but there was no information as to whether these were being adopted and used by Ministries, Departments and State Governments. The Committee desired to know whether the National Guidelines on various activities of Disaster continuum have been finalised by NDMA. The MHA in their written submission stated as under:—

"As the subject of Disaster Management is a new evolving subject with a multi-sectoral issue having cross cutting dimensions in which every person and institution has a role to play, improvement in disaster management techniques/strategies is a continuous process in governance.

NDMA has formulated 17 guidelines so far in accordance with the section 6(e) of the Disaster Management Act, 2005 for the purpose of integrating the measures for prevention of disaster or the mitigation of its effects in their development plans and projects. These guidelines are on the following disasters:—

1. Guidelines on Earthquakes
2. Guidelines on Management of Tsunamis
3. Guidelines on Cyclones
4. Guidelines on Flood
5. Guidelines on Management of Urban Flooding
6. Guidelines on Drought Management
7. Guidelines on Landslide
8. Guidelines on Nuclear and Radiological Emergencies
9. Guidelines on Chemical Disaster (Industrial)
10. Guidelines on Chemical (Terrorism) Disaster
11. Guidelines on Medical Preparedness and Mass Casualty Management
12. Guidelines on Biological Disaster
13. Guidelines on Psycho-Social Support
14. Guidelines on Formulation of State DM Plans
15. Guidelines on Incident Response System
16. Guidelines on National Disaster Management Information and Communication System.

17. Guidelines on Scaling, Type of Equipment and Training of Fire Services.
Besides above, NDMA has also published following reports:

Sl. No.	Detail
1.	Revamping of Civil Defence
2.	NIDM's Functioning
3.	Pandemic Preparedness Beyond Health.
4.	Strengthening of safety and security for transportation of POL tankers
5.	Threats to Municipal Water Supply and Water Reservoirs
6.	Management of Dead in the Aftermath of Disaster
7.	Training Regime for Disaster Response
8.	Hand Book for Training and Capacity Building of Civil Defence and Sister Organisations
	Part I
	Part II

The above-mentioned guidelines and reports are available on the website of NDMA, i.e., www.ndma.gov.in."

(iv) Demarcation of Roles and Responsibilities

22. As per section 75 of the DM Act, the Central Government was to make rules for carrying out the provisions of the Act. In order to formulate and notify various rules as envisaged in the DM Act, 2005, Prime Minister Office in February, 2006, issued directions to carry out an exercise to evolve a working arrangement for the NDMA. The recommendation of this exercise was to be placed before a Group of Ministries (GoM). Thereafter, MHA was required to incorporate the guidelines as finalised by GoM. In the absence of regular NEC meetings, MHA functioned as an executive arm of NDMA. On the other hand, MHA also acted as an administrative Ministry, in so far as the approval of the Government was concerned for various mitigation projects of NDMA. NDMA was in the process of framing business rules pertaining to its internal conduct. A Task Force had been constituted by MHA to review various issues relating to implementation of DM Act.

23. The Committee desired to know about the necessity for NDMA to engage itself with the response, relief and rehabilitation activities. The Ministry informed the Committee as under:—

"As per Disaster Management Act, 2005 the National Disaster Management Authority (NDMA) has the responsibility for laying down policies, plans and guidelines for disaster management for ensuring timely and effective response to disaster. Further, as per the DM Act, 2005 National Disaster Response Force (NDRF) has been raised for the purpose of specialized response to a threatening disaster situation or disaster. The general superintendence, directions and control of NDRF according to DM Act is

vested and exercised by NDMA the authority involve itself with response and relief activities."

IV. National Disaster Management Authority (NDMA)

24. The NDMA was constituted in May, 2005 as an apex body for laying down policies and guidelines on disaster management. Under the DM Act it was formally constituted in accordance with Section 3 (1) of the Act on 27th September, 2006 to deal with all types of disasters, natural or man-made.

25. NDMA was constituted with the Prime Minister as its Chairperson and nine other members. Each Member headed disaster specific division and one member was to be designated as Vice-Chairperson. Each Member was also given the responsibility of specified States and UTs for close interaction and coordination. NDMA Secretariat, headed by a Secretary provided Secretariat support and continuity.

(i) Delay in constitution of Advisory Committee of NDMA

26. DM Act provided for the NDMA constituting an Advisory Committee consisting of experts in the field of disaster management and having practical experience of disaster management at the National, State or District level to make recommendation on different aspects of disaster management. The Advisory Committee of NDMA was constituted in June, 2007, initially for 2 years period which extended for one more year which expired on 14th June, 2010. In June, 2010, NDMA initiated the proposal for constitution of the 2nd Advisory Committee following the suggestion of the PMO given during the constitution of the first Advisory Committee. However, it has not been constituted till 2014.

27. The Committee desired to know the reason for delay in constitution of the second Advisory Committee and about maintaining coordination amongst various stakeholders for nomination of Members for the advisory committee. The Ministry in their reply furnished as under:—

"The Advisory Committee of NDMA generally consists of eminent experts in various fields of disaster management. The Advisory Committee is formed after obtaining recommendations from various Ministries, other stakeholders and Members of NDMA, who themselves are eminent persons in their own fields. After receiving the recommendations, names of experts are shortlisted and the concurrence of the shortlisted experts are taken. It is a time-consuming matter requiring involvement of various stakeholders. The process of short listing of experts in NDMA is at the final stage of completion."

(ii) Implementation of projects by NDMA

28. The Working Group of Planning Commission (December 2006) recommended various projects to be taken up by NDMA during the Eleventh Five Year Plan for disaster management. The Audit found that the performance of NDMA in terms of project implementation had been abysmal. So far, no major project taken up by NDMA had seen completion. It was noticed that NDMA selected projects

without proper ground work and as a result either the projects were abandoned midway or were incomplete after a considerable period. In many cases, NDMA realised midway that some other agency was already executing project with similar objectives. NDMA experimented with varying strategies to undertake projects. All agencies appointed to execute the work, were appointed on nomination basis. The project designs and scope were revised midway. Timelines were mostly absent and wherever timelines were given, they were not adhered to.

29. The Committee desired to know the reason for NDMA involvement with direct implementation of projects for disaster management even though they were not to be mandated to do so in the DM Act. The Ministry informed as under:—

"As per Disaster Management Act, 2005 the National Disaster Management Authority (NDMA) has the responsibility for laying down policies, plans and guidelines for disaster management for ensuring timely and effective response to disaster. Further, as per the DM Act, 2005 National Disaster Response Force (NDRF) has been raised for the purpose of specialized response to a threatening disaster situation or disaster. The general superintendence, directions and control of NDRF according to DM Act is vested and exercised by NDMA the authority involve itself with response and relief activities. Section 6(2) (i) provides that NDMA may take such other measures for the prevention of disaster, or the mitigation, or preparedness and capacity building for dealing with the threatening disaster situation or disaster as it may consider necessary. Further, Section 62 of the Act empower Central Government to issue directions in writing to the Ministries or Departments of the Government of India, or the NEC or the State Government, State Authority, State Executive Committee, statutory bodies or any of its officers or employees, as the case may be, to facilitate or assist in the disaster management and such Ministry or Department or Government or Authority, Executive Committee, statutory body, officer or employee shall be bound to comply with such direction. Accordingly, NDMA has been mandated by Government of India to take up National Cyclone Risk Mitigation Project (NCRMP), National School Safety Project (NSSP), National Earthquake Risk Mitigation Project (NERMP)."

30. In reply to a query of the Committee regarding leaving some of the projects midway, the MHA informed that the mitigation projects for which concept notes were prepared by NDMA during the 11th Five Year Plan like National Earthquake Risk Mitigation Project, National Landslide Risk Mitigation Scheme and National Flood Risk Mitigation Scheme, could not be sanctioned till now except NERMP, which as been sanctioned on 5th April, 2013 and is under implementation.

31. The Committee asked whether NDMA has taken up the work of systematic assessment of major national projects and the status of such projects. The Ministry informed as under:—

"NCRMP is being monitored at the national level by Project Steering Committee headed by Secretary, NDMA with participating States of Odisha

and Andhra Pradesh along with NIDM as its members. Home Ministry is also a member of this Committee through Secretary (BM) or its representative. In addition to this, there is a Project Oversight Committee headed by the Home Secretary for interdepartmental coordination. NDMA has so far taken only National Earthquake Risk Mitigation Project which has been sanctioned on 5th April, 2013 which is under implementation."

32. The Committee desired to know about monitoring the performance and functioning of the NDMA and its projects by the MHA. The MHA in their reply stated that it monitors the functioning of the NDMA by various returns such as utilization of budgetary provision, pendency of court cases and audit paras. Beside, physical and financial progress of the schemes of NDMA is being monitored at Secretary level.

33. In reply to a query of the Committee regarding no review by NDMA for ongoing National projects and schemes to include disaster management element in them, the MHA informed as under:—

"In order to ensure that any new scheme will meet the concerns of disaster mitigation, Government of India in the Ministry of Finance has issued detailed guidelines *vide* letter No. 37(4)/PF-II/2003 dated 19.06.2009. As per these guidelines, the following questions are required to be replied in the Expenditure Finance Committee Memo for Plan schemes, whenever a new Scheme is considered by the Government of India:—

- (i) What is the location of the project area? Reasons for selecting the site. Have possible alternative sites been considered? Is the type of activity envisaged in the area compatible with the provisions of relevant NDMA Guidelines?
- (ii) Identify the possible risks and analyze the likelihood and impact from earthquakes, floods, cyclones and landslides due to the location of the project sites as well as through secondary evidence.
- (iii) What are the land use directives, regulations applicable? List preventive measures enshrined in regulations which are to be complied with and confirm compliance.
- (iv) Based on the prioritization of risks, the mitigation measures being contemplated, both structural and non-structural. Confirmation that the implementation of the selected mitigation measures will not create new risks.
- (v) Confirmation that the design and engineering of the structure has taken into consideration the National Building Code 2005, the appropriate BIS Codes and the NDMA guidelines. Other sources such as Indian Road Congress Manual, Ministry of Road Transport, Highways and Shipping manual, Railway Board manual, Central Public Health Engineering Organisation (Min. of Urban Development) manual, Central Electricity

Authority manual and Central Water Commission manual etc. may also be consulted where applicable.

- (vi) Has the cost of disaster treatment/mitigation measures been included in the overall project cost?
- (vii) Also indicate that the whole process of risk assessment has been done based on available information and secondary evidence and the mitigation measure(s) are in conformity with the statutory and other regulatory requirements and are the most viable ones in the present circumstances.

In addition to the above, it has been stipulated that while preparing Detailed Project Report for the new schemes, the DPR format is to be revised to include Disaster Management concerns. NDMA took the initiative for above-mentioned changes. Further, MHA has approached Department of Expenditure to consider issuing instruction in respect of the following kinds of projects, copies of EFC/SFC/CNE notes may invariably sent to NDMA or to MHA for comments:—

- (i) New projects involving creation/modification of structural/engineering assets, particularly projects relating to infrastructure, hospitals and schools; and
- (ii) Revision on account of modification of structural/engineering assets costing more than ₹ 50 crore."

(iii) Manpower Management in NDMA

34. As per the Cabinet Note on "Organizational Structure of NDMA" it was to have 124 posts. However, there were 33 to 60 per cent vacancies at the end of each financial year covered by Audit. The Committee desired to know the actual strength and the vacancies that existed in the NDMA. The MHA informed that out of total sanctioned strength of 155 (including VC, Members, Consultants & Secretariat staff), 147 are filled, either through regular staff or outsourced/contractual staff. Only 8 posts are vacant. In addition, Union Home Minister, Finance Minister, Agriculture Minister, Dy. Chairman, Planning Commission have been associated as permanent invitees to the meetings of NDMA, as per decision taken in NDMA meeting dated 25.10.2007. This meeting also resolved that Cabinet Secretary and Union Home Secretary will also be invited to attend the meetings of NDMA.

35. NDMA appointed 13 consultant in different areas of specialization, who were attached with the concerned Members' Secretariat. The Committee desired to know about the necessity of engaging consultant in day to day work of NDMA and if consultants were assigned specific tasks, the mechanism to monitor their performance. The MHA in their written submission stated as under:—

"The Consultants for 23 disciplines (field) have not been engaged in day-to-day work of NDMA. The Junior Consultants/Consultants/Senior Consultants are engaged on contract basis for a specific period as per task/work specified in the Term of Reference (ToR) of the domain field. The engagement of the

Consultants is done on the basis of advertisement in the Employment News and uploading the advertisement on NDMA website from time to time as per Revised Procedures & Guidelines for engagement of Consultants in NDMA. The performance of the Consultants is monitored by the respective Members of NDMA with whom the Consultants are attached."

V. Resource and Funding Arrangements

36. MHA is the nodal Ministry responsible for providing financial assistance in the wake of natural calamities. Based on the recommendations of the Thirteenth Finance Commission the scheme of State Disaster Response Fund and National Disaster Response Fund were made operative for a period of five years (from 1 April, 2010 to 31 March, 2015). The guidelines for administration of the fund were issued by MHA in September, 2010. The guidelines prescribed that these funds were to be used only for meeting expenditure for providing immediate relief to the victims of cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloud burst and pest attack. The expenditure on disaster preparedness, restoration, reconstruction and mitigation were not to be met from National Disaster Response Fund but from the plan funds of States. DM Act also provide for constitution of National Disaster Mitigation Fund (NDMF) for funding the projects geared exclusively for disaster mitigation. The fund was to be placed at the disposal of NDMA.

(i) State Disaster Response Fund (SDRF)

37. The State Disaster Response Fund was constituted under section 48(1) (a) of the Disaster Management Act, 2005. All States had constituted State Disaster Response Fund (SDRF) except Jammu and Kashmir. States were not sending the details of utilisation and balances regularly. Details of State Disaster Response Fund as of March, 2012 were not received in MHA from 10 States. States had not invested unspent balances in their State Disaster Response Funds/CRFs resulting in potential loss of interest of ₹ 477.99 crore. States incurred an expenditure of ₹ 345.03 crore on inadmissible components in violation of the guidelines of the State Disaster Response Fund during 2007-08 to 2011-12.

38. The Committee desired to know the status of constitution of State Disaster Response fund in J&K and the details of various steps taken by the Ministry to streamline the issue of delay in remittance of funds from SDRF to districts and delay in submission of utilisation certificates by States etc. The MHA in their reply furnished as under:—

"The State Government of J&K has constituted SDRF in October, 2012. It is stated that allocation in the SDRF of the State is for the entire States, and it is for the State Government concern to allocate as well as remittance of the fund from SDRF to the affected district in the wake of natural calamities in accordance with the magnitude of the situation through their administrative machinery. The Scheme of SDRF provides that the State Executive Committee is responsible to ensure that money drawn from the SDRF is actually utilized

for the purposes, for which the SDRF has been setup, and only on eligible items and as per norms content in the guidelines issued by the Ministry of Home Affairs."

39. The Audit has observed that the monitoring mechanism of SDRF administration of MHA is not robust. The Ministry has responded as reproduced below:—

"The Scheme of SDRF provides that the State Executive Committee is responsible to ensure that money drawn from the SDRF is actually utilized for the purposes, for which the SDRF has been setup, and only on eligible items and as per norms content in the guidelines issued by the Ministry of Home Affairs. The accounts of the Funds and the investments shall be maintained by the Accountant General in charge of accounts of the State in the normal course. The Comptroller and Auditor General of India would cause audit of SDRF to be conducted every year in terms of the purposes of SDRF Guidelines. However, the guidelines of SDRF enjoin upon MHA regarding monitoring given as follows:—

'The Ministry of Home Affairs is the nodal Ministry for overseeing the operation of SDRF, and shall monitor compliance with the prescribed processes, MHA may issue directions/instructions under the provisions of DM Act.'

What MHA under the guidelines provided in Para 11(v) can enforce is that the instalment of central share SDRF which would accrue to the States can be withheld, if it does not fulfil the conditions of submitting the information relating to crediting of earlier release fund, the expenditure, and the balance available in SDRF. It is being done. This is to further point out that SDRF is a non-lapsable fund and if the State fulfils the above conditions the first and second instalment of SDRF would automatically accrue to these accounts whether they make the expenditure of the available fund in SDRF including the balance of the previous years or not. It has been observed that collection of expenditure details from their District Authority is time taking process, which results in late submission of the Utilization Certificate to GoI for further release of central contribution of SDRF. State Govt. have sufficient fund available to meet their requirement and also aware of this fact that it is non-lapsable fund. However, efforts will be made to ensure that the State Govt. submit their requisite certificate to GoI in the month of April and October every year indicating that the amount received earlier has been credited to the SDRF along with the State's share of contribution, accompanied by a statement giving the up-to-date expenditure and the balance amount available in the SDRF."

40. When asked to inform about the action taken by MHA against the States responsible for incurring expenditure on inadmissible components in violation of the laid down provisions, the Ministry *inter-alia* informed that State

Executive Committee are responsible to ensure utilisation of funds as per guidelines. However, all the State Governments during annual conference of Relief Commissioners of States/UTs in May, 2013 have been advised to be vigilant in utilizing the disaster response fund judiciously for the purpose it is meant and as per guidelines.

(ii) National Disaster Response Fund (NDRF)

41. National Disaster Response Fund (NDRF) was constituted under Section 46 of DM Act in the Public Account of India under 'Reserve fund not bearing interest' (September, 2010). NDRF was not made available to NEC and was operated by MHA in contravention of the DM Act. In reply to a query of the Committee in this regard the MHA replied as under:—

"The Government of India has now taken a corrective measure and has constituted two sub-committees of National Executive Committee (NEC) for scrutiny of report of the Inter-Ministerial Central Team (IMCT) on behalf of the NEC on 17th September, 2013. As such sub-committees of NEC are involved in the process of assessing and taking an appropriate decision in respect of assistance to the calamity affected State, as per the NDRF guidelines, since it is an integral part of governance system. Since the budgetary provision for the NDRF is being made in the Demand for Grant of the Ministry of Finance, it releases additional finance assistance to the affected States on the basis of recommendation of sub-committee of NEC and approval of the High Level Committee (HLC) as per the established procedure."

42. As per the guidelines, the report of the Inter-Ministerial Central Team (IMCT) was to be examined by NEC to assess the extent of assistance and expenditure required. Audit, however, found that the earlier arrangement continued and the role of NEC was still performed by the Inter-Ministerial Group (IMG). The Committee desired to know the reasons for NEC not being involved in assessing the extent of assistance and expenditure required under NDRF. The Ministry in their reply *inter-alia* stated that on receipt of Memorandum from State regarding damage and requirement, an Inter-Ministerial Central Team (IMCT) headed by the Joint Secretary is constituted and deputed for on-the-spot assessment of damages and requirement of funds. The report of IMCT is considered by the sub-Committee of NEC headed by Home Secretary for floods etc. or by Agricultural Secretary for drought, cold wave etc. Based on the report of IMCT and recommendation of Sub-Committee of NEC the High level Committee comprising of Agriculture Minister, Finance Minister, Home Minister and Deputy Chairman Planning Commission approves the assistance from NDRF. Thus, as per the MHA, it is not correct to say that NEC was not involved.

43. An amount of ₹ 654.04 crore in case of Gujarat, Assam and Goa, identified as excess against the 'on account' release made from NCCF (now NDRF), was lying with these States (September 2012). Out of ₹ 9208.30 crore approved for release by High Level Committee (HLC) during September 2010 to March 2012 funds amounting to ₹ 3090.43 crore were provided to States for repair and restoration in various sectors. This accounted for 34 per cent 'inadmissible' items of total approval. The

Committee desired to know the efforts made to restore unspent funds lying with States to NDRF. The MHA informed as under:—

"HLC in its meeting held in May, 2010 had decided that excess amount was to be adjusted against the requests of the States for assistance from National Disaster Response Fund (NDRF), in the wake of calamities of severe nature, in future, as assessed, after following the laid down procedure. Audit noted that for future calamities of these states no funds could be released as there were excess in SDRF accounts. Moreover, these unspent balances also could not be adjusted or reverted back to the central fund binding the above decision of HLC."

44. An amount of ₹ 1245.78 crore was released/adjusted during 2010-11 to the States of Gujarat, Maharashtra and Odisha for the damages due to unseasonal rains. Damages due to unseasonal rains were not categorised as calamity to be covered under guidelines of National Funds and thus the release was not in compliance with the guidelines. However, Ministry of Home Affairs in their submission stated that being a nodal Ministry to damage to crops due to natural calamities, IMCT was constituted by Ministry of Agriculture, Department of Agriculture and Cooperation. The Report of IMCT were considered by IMG. However, these amounts were released in pursuance of the announcements of Hon'ble Prime Minister keeping in view of the disaster in these States.

(iii) National Disaster Mitigation Fund (NDMF)

45. The modalities for constitution of NDMF were discussed by MHA with MoF, Planning Commission and NDMA from time to time. The Thirteenth Finance Commission had also recommended (December, 2009) that mitigation and reconstruction activities should be kept out of the schemes funded through Finance Commission grants and met out of overall development plan funds of the Centre and States. Even after a lapse of more than six years of the enactment of the DM Act, NDMF had not been constituted. When Committee asked the MHA about reasons for the delay in constitution of NDMF, the Ministry informed as under:—

"The Planning Commission has supported the National Disaster Mitigation Fund. However, the Department of Expenditure is of the view that mitigation should be part of the Plan process, as there are already schemes targeted towards mitigation. This Ministry has constituted a Task Force to look into various aspects of 'Implementation of Disaster Management Act, 2005'. The Task Force has analysed the implications of setting up the NDMF and recommended that early steps should be taken to fulfil the statutory responsibility. Based on the information given above, the Ministry of Finance, Department of Expenditure has been requested by the Ministry of Home Affairs to constitute the National Disaster Mitigation Fund. Steps are being taken to prepare a Cabinet note seeking the creation of the NDMF."

46. The Committee further desired to know about the financial mechanism to fund the mitigation related work in the absence of NDMF. The MHA in their reply furnished as under:—

"The concerned Department/Ministry of the the Government are required to provide for a budgetary allocation for the measures for prevention and

mitigation of disasters. The Ministry of Finance, Department of Expenditure has also revised the format for evaluation of new plan and non-plan expenditure by the Expenditure Finance Committee/Committee on Non-Plan Expenditure in order to address the concerns relating to disasters, particularly the prevention and mitigation aspects clearly laying down that the cost involved in prevention and mitigation of disaster (natural or manmade) would need to be included fully in the projects cost. Thus, the cost of mitigation is an embedded component in the new projects/schemes of the Government of India.

In addition, the following Mitigation Specific Schemes were approved by the Government:—

Sl. No.	Scheme	Amount
1.	National Cyclone Risk Mitigation Project	₹ 1497.00 crore
2.	National Earthquake Risk Mitigation Project	₹ 24.87 crore
3.	National School Safety Programme	₹ 48.47 crore
4.	Strengthening of Fire and Emergency Services in the Country	₹ 200.00 crore

Thus, the financial mechanism to fund the mitigation related work in place."

(iv) National Disaster Response Reserve (NDRR)

47. National Disaster Response Force was to provide relief to the affected people at short notice. Thirteenth Finance Commission, in its report, in December 2009 had observed that relief material to be provided by the Force in such situations was often required to be procured at high prices and by compromising on quality. The Finance Commission, therefore, recommended a initial grant of ₹ 250 crore in the form of revolving fund named National Disaster Response Reserve (NDRR) to the Force to maintain an inventory of items required for immediate relief NDMA submitted the proposal in September, 2010 and MHA instructed (November, 2010) that NDMA should prepare the list of inventory of equipment and material in consultation with the Force. Audit has noted that the guidelines for procurement and recovery of charges for items of NDRR could not be finalised even after a lapse of more than one and half years. In reply to a query of the Committee regarding constitution of NDRR to maintain an inventory of items for immediate relief, the Ministry of Home Affairs informed the Committee as under:—

"The proposal for constitution of NDRR has been approved *in principle* by the Ministry of Finance. An accounting procedure has been worked out. The queries raised by the Internal Finance Division of Ministry of Home Affairs

are being complied by the National Disaster Response Force. The National Disaster Response Reserve is going to be created soon."

48. The Ministry informed about the performance of reserve duties of NDRF particularly in the absence of the NDRR, as under:—

"The advantage of the NDRR would be that it would enable the NDRF to procure necessary equipment and also enable NDRF to support the State Governments as per their need. In case of the specified equipment, after handing it over to the State Government, the procedure would enable NDRR to recoup the funds from the State Governments so that without further budget provisions, NDRF can go ahead with fresh procurement to replenish their stock. In the absence of the NDRR, NDRF is managing the inventory based on budgetary support."

VI. Communication System for Disaster Preparedness

49. With advancements in information technology and communication, disaster forecasting and quick response have become possible. Timely deployment and use of telecommunication resources play a crucial role in saving life, mitigating disaster and relief operations. Department of Space (DoS) in March, 2003 started the Disaster Management Support (DMS) Programme to harness the benefits of the space-based technology for applications in disaster management in the country. Under this programme, a Decision Support Centre was set up at the National Remote Sensing Centre that monitored flood events and tracked cyclones originating in Indian Ocean region. It also monitored prevalence and severity of agricultural drought in 13 States during Kharif crops season every year, active forest fires on a daily basis and all major earthquake and landslides in India and adjoining region.

(i) National Database for Emergency Management (NDEM)

50. Department of Space had undertaken a project to develop National Database for Emergency Management. Project was to be completed by 2011 but it has not become operational till July, 2012. The database implementation was delayed as response from nodal departments was not encouraging. However, the Ministry of Home Affairs informed that 32 central Ministries/Departments and 29 States and Union Territories have already identified the details of nodal officers. The data format has been provided to various stakeholders. The data is placed on NRSC and NDEM website which can be accessed through VPN Hub.

51. The Audit found that image of the database was to be maintained in MHA under a team of experts located there. This could not be done as MHA was yet to finalize the mirror site (July 2012). However, the Ministry informed the Committee that the site for the mirror image has already been identified at Shastri Park, New Delhi during Steering Committee meeting on 27th May, 2013.

(ii) Airborne Laser Terrain Mapping and Digital Camera (ALTM-DC) System

52. Indian Space Research Organisation (ISRO) formulated a programme for creation of a digital, thematic and cartographic database for hazard zonation and

risk assessment. Under this programme ISRO and National Remote Sensing Agency (NRSA) planned to cover one lakh sq. km. every year for the development of close contour information of ground using the Airborne Laser Terrain Mapper (ALTM) system, thereby envisaging coverage of all the priority flood prone areas (five lakh sq. km.) in a period of five years.

53. The Ministry accepted that ALTM survey during 2004 to 2006 could not be taken up due to non-availability of clearance from Defence Ministry, which has now been made available.

(iii) Disaster Management Synthetic Aperture Radar (DMSAR)

54. Disaster Management Synthetic Aperture Radar (DMSAR) operating in C-Band was used to acquire aerial radar data during natural disasters when no satellite data coverage was available. It was used for purposes like flood mapping, damage assessment, etc. The system was to be developed by Space Applications Centre, Ahmedabad and operated by National Remote Sensing Agency (NRSA), Hyderabad, The Committee desired to know if any survey was conducted using DMSAR equipment after October, 2008. The MHA in their reply furnished as under:—

"No Sir. The Flight Model (FM) of the DMSAR was realised by Space Application Centre, Ahmedabad and delivered to NRSC in December 2012. Test flights using this Model are planned in this month (September, 2013). The Development Model (DVM) developed and used for test flights in 2008 was only to verify the technological development and the performance in terms of data collection. This model was not intended to use in operational mode. The data collected using DVM was analysed and modifications were suggested by the users. The FM is developed incorporating those suggestions."

55. Support through DMSAR under ISRO's Disaster Management Support programme by acquiring aerial radar data during natural disaster could not be materialised even after incurring an expenditure of ₹28.99 crore and a lapse of six years from the scheduled date of completion. National Remote Sensing Centre suggested a triggering mechanism for DMSAR data acquisition in November 2009. Demonstrations and training were to be provided by ISRO to State Governments to build capacity for aerial data acquisitions. The Committee were informed that proposed triggering mechanism for DMSAR data acquisition had not been adopted. The flight Model DMSAR system testing is going on at NRSC, Hyderabad. After completion of system testing and operationalisation the triggering mechanism will be finalised based on the real scenario of data collection and data processing.

(iv) Satellite based Communication Network for Disaster Management

56. For providing emergency communication, at the behest of MHA, ISRO was to set up a satellite based Virtual Private Network (VPN) facilitating secure data access through a dedicated electronic network connecting all the key players of disaster management. As regards the status of the operationalisation of VPN

network, one primary node at IMD Delhi was not fully operational, two of the five monitoring nodes and two of the 20 State nodes were not operational, DMS Communication Network which was a to become functional by December, 2005 was not fully operational even after six years of receipt of the communication equipment and incurring expenditure of ₹ 6.77 crore. However, the Committee were informed that primary node at IMD, Delhi is reported to be functional.

57. In reply to a query of the Committee regarding operationalization of all the monitoring and State nodes, the Ministry of Home Affairs replied as under:—

"With the support of Ministry of Home Affairs (MHA), ISRO had embarked upon establishing the satellite VSAT-based satellite communication network, by interconnecting the National Emergency Operations Centre (NEOC) at MHA, the Prime Minister's Office (PMO), and the State Emergency Operations Centres (SEOCs) for Ministry of Home Affairs. The network, in the first phase, include a hub at Samanvaya Sadan, New Delhi, 10 Primary nodes, 5 observation nodes and 20 State Emergency Operation Centres, out of which 32 are functioning. Two nodes at Simla and Mumbai have got irreparably damaged and the node at Prime Minister's office is being oriented to the new satellite GSAT-12. One of the nodes at Disaster Monitoring Centre, Sachivalaya, Dehradun was functional during the disaster period. Further, ISRO has deputed a dedicated team to Uttarakhand and installed 5 additional nodes in the disaster affected areas. During the disasters, system was used successfully for video conferencing between MHA and Dehradun as well as from Dehradun to the remote inaccessible areas. In addition, 12 MSS-Type-D satellite phones provided to the Uttarakhand State Government were also used extensively."

58. The Committee asked for details of various equipment procured and installed by both IMD/ISRO for dissemination of data to stakeholders during the last years and expenditure incurred thereon. The Ministry informed as under:—

- "(i) Towards organising National Database on Emergency Management (NDEM) and disseminating the services, computer infrastructure has been procured and an expenditure of ₹ 2.10 crore has been incurred in the last five years.
- (ii) ISRO is in the process of establishing 500 numbers of DTH based Disaster Warning Dissemination System (DWDS) in the coastal areas in association with IMD and Doordarshan. DWDS will help in disseminating disaster information directly to the television sets in the affected regions through Set-top boxes of Doordarshan. 200 DWDS systems have been delivered to the sites for installation. An amount of ₹ 1.11 crore have been spent as advanced to Bharat Electronics Limited, Bangalore."

59. In reply to another query of the Committee regarding installation/utilisation of equipment, the Ministry of Home Affairs informed as under:—

"S-band Doppler Weather Radars (DWR) were developed indigenously by ISRO and productionised through BEL, Bangalore. Four DWRs were procured

for establishment in North-Eastern region and Himalayan region in association with IMD and Snow Avalanche Study Establishment (SASE), Manali. Suitable locations for establishment of these Radars could not be located other than Cherrapunji, due to defence installation interference and non-availability of plain land. The DWR at Cherrapunji is in the final stages of installation. Specific Plans are being drawn for deploying the other DWRs in association with IMD."

(v) Doppler Weather Radars

60. For the surveillance and monitoring of severe weather system such as cyclones, ISRO planned to develop and establish Doppler Weather Radars (DWRs). These radars were to be set up jointly by India Meteorological Department (IMD) and DOS with the available indigenous technology on data and cost sharing basis. These radars were to be supplied, installed and commissioned by M/s Bharat Electronics Limited, Bangalore. An amount of ₹35.64 crore spent by DOS under DMS programme for setting up of the five radars was blocked without yielding any fruitful results due to lack of effective co-ordination with IMD. The Committee desired to know the status of radars to be set-up jointly by IMD and DOS and reasons for not taking up the delivery of four S-Band DWRs prepared by BEL. The Ministry in their submission stated as under:—

"ISRO/DOS has established one S-Band Doppler Weather Radar in Sriharikota. One S-Band DWR is being established at Cherrapunji, Meghalaya and one C-Band Doppler Weather Radar at Thiruvananthapuram. Discussion are on with Ministry of Earth Sciences for establishing two DWRs in the coastal areas; and with Snow and Avalanche Studies Establishment (SASE), Manali for establishing two DWRs in the Himalayan region. The Doppler Weather Radars can pick-up signatures of development of convective system within its range (generally 350 kms) up to 2-3 hours in advance. Efficacy of Doppler Weather Radars in forecasting cloud burst like events is yet to be analyzed by ISRO/DOS. As advised by Committee of Secretaries (COS), ISRO initiated efforts to establish four indigenously developed S-Band DWRs in North-East region in association with India Meteorological Department (IMD) and in the Himalayan region in association with Snow and Avalanche Studies Establishment (SASE), Manali. After extensive search for suitable sites, only one site at IMD campus, Cherrapunji could be identified. Even though the completion was expected in 2011, the project got delayed due to (i) delay in realising high technology elements and (ii) delay in getting suitable sites with clearance from defence agencies. Currently, the final integration of S-Band DWR at Cherrapunji is progressing and is expected to be operational by September, 2013. Establishment of C-Band DWR at TERLS Thiruvananthapuram is also in the final stages and is expected to be functional by December, 2013. Also, discussions are on with IMD for installation of the S-Band DWRs realised for SASE, Manali in the coastal areas. Efforts are on with SASE for identifying further locations for installation of C-Band DWRs which are smaller in size for establishment in the Himalayan regions."

61. The Committee enquired about setting up of the Radars at Goa, Kochi, Karaikal and Paradeep and the mechanism adopted for transmission of findings/warnings from these Radars to the public concerned. The Ministry denied about setting up Radars and informed as under:—

"Four Doppler Weather Radars (DWRs) originally meant for Goa, Karaikal, Paradeep and Mumbai could not be installed due to objection of the Ministry of Defence (MoD) in April 2010. Keeping the operational exigency and criticality of having DWR at Mumbai on priority then, commissioning of indigenous DWR that was meant for Kochi had been taken up at Mumbai. Three Radars meant for Goa, Karaikal and Paradeep are lying at respective locations in uninstalled condition. Based on the clearance given now by the MoD on 15th April, 2013 with the fulfilment of certain preconditions for proceeding with the installation of DWRs at civilian locations of Goa, Paradeep and Karaikal, the security audit will have to be carried out by independent agencies suggested by MoD at the respective sites. The security audit protocol is under finalization by the duly constituted Committee and very soon the said commissioning of DWRs would be completed. In the next batch of DWR procurements, DWR for Kochi will be provisioned. Doppler Weather Radar (DWR) network is primarily employed to improve the severe weather surveillance capability and for operating now-casting (very short range up to 6h in advance) service (operated for about 117 locations across India). Further, data generated from all observing systems *viz.* surface and upper air observations, satellite observations, aircraft observations, DWRs etc. are used by various forecast models to generate most representative initial state 3-D structure of the atmosphere and high resolution (9km grid scale) 3-day forecasts of severe weather in advance and now-cast application tools that generate now-casts up to 6h in advance. Fully organized protocol exists between the IMD and the various designated disaster management authorities at Central level (MHA and several others) and State levels for dissemination of weather forecast warning alerts and such existing dissemination protocol is always duly complied with by ESSO-IMD."

62. The Committee desired to know whether lack of Doppler Radars in the higher reaches and as yet imperfect scientific models tell-tale signs of an extreme weather event prevented the IMD from forecasting Uttarakhand's recent calamitous cloudburst. The Ministry in their reply furnished as under:—

"The weather forecasts are issued at three levels, national level from Delhi, North-West Region from Delhi and Local level, in this case from Dehradun. The National Weather Bulletin based on Numerical Weather Prediction Model-T574 (around 22 km grid) is issued four times a day, morning, mid-day, evening and night. It gives weather forecast for next three days, and outlook for subsequent four days. Apart from this, for severe weather, forecast is also provided under heading "Weather Warning for next Three Days". Regional Weather Forecast Centre provide forecast (based on WRF model, 9 km,

ensemble prediction system and unified model) for the NW region for next 48 hours as well as outlook for next 48 hours as an input for forecasting by meteorological centres in the region. The local level forecasts are provided twice a day based on above-mentioned model forecasts as well as synoptic situation (pressure, winds, satellite and radar data). The national level forecasts are provided to MHA and NDMA control room, NDRF as well as to print and electronic media and is available on IMD website. The local forecasts are provided to all State and District level functionaries. With the help of the available observing and forecast systems, the recent disaster of Uttarakhand was well predicted by IMD. ESSO-IMD has only issued severe weather warnings with isolated heavy to very heavy rains (12-24 cm) for the entire Uttarakhand region, starting from June 15, 2013 for three days including the advice to postpone the Char Dham Yatra (Kedarnath, Badrinath, Gangotri and Yamunotri) accordingly to designated State level authorities. Based on the inputs received from ESSO-IMD's State Meteorological Centre-Dehradun, the State Government issued advisories to all the concerned districts. Announcements were made by Police personnel stationed at Kedarnath, Rambada and Gaurikund alerting the general public. The district administration stopped the further movement of pilgrims from Rishikesh to higher reaches. However, it is true that as a general issue, the problem of beam blockage of radars over high tall hill terrain region by which data is at times absent is there. However, it is a global problem over high terrain regions. Other general difficulties include communication for real-time dissemination of volumes of data, power supply and support infrastructure over a remote terrain region etc."

63. In reply to a query of the Committee regarding direction of NDMA to IMD to make time-bound plan for monitoring and forecasting for all Char Dham pilgrimage, the Ministry of Home Affairs informed as under:—

"Besides the efforts of the ESSO-IMD, there is constant interaction between NDMA, ESSO-IMD and many suggestions/directions emerge thereon. ESSO-IMD is issuing forecast for Char Dham Pilgrimage through the Meteorological Centre in Dehradun since 2010. ESSO-IMD is planning to upgrade weather monitoring and forecasting system for Himalayan Region including Uttarakhand under a proposed Integrated Himalayan Meteorological Project in 12th Five Year Plan."

(vi) Other Communication Networks

64. The Audit has observed that during a disaster, the existing terrestrial communication networks are prone to failure. To address this risk, NDMA decided to set up the National Disaster Communication Network (NDCN). This ambitious communication project of NDMA to provide networking for integration of various disaster management tools in the country was still at the preparation stage even after a lapse of more than four years. NDMA in March, 2008 proposed to establish the National Disaster Management Informatics System (NDMIS) for utilizing the

GIS platform tool in disaster management. NDMIS was to host the core database and disaster specific database for carrying out vulnerability analysis and risk assessment.

65. The Committee enquired about the status of ambitious project of NDMA. The Committee were informed through a written submission as under:—

"The NDMA submitted a stand alone project on Communication Network, which was examined in the Ministry. A Technical Committee was constituted under the Chairmanship of Department of Space to suggest a comprehensive framework on disaster communication encompassing hardware and software applications by integration of the existing communication facilities and networks which should be an overarching framework with single point inclusion for all the disaster managers in the country. The said Committee has since submitted its report. The NDMA has been asked to prepare a Detailed Project Report including execution of a pilot project in 3 States to ascertain the functioning of communication system. Based on the findings of the pilot project, the project on National Disaster Management Communication Centre would be prepared for further necessary follow up."

VII. Response System in Disasters

(i) National Disaster Response Force (NDRF) & State Disaster Response Force (SDRF)

66. National Disaster Response Force was formed in 2006 as a specialist force with the capabilities to deal with all types of natural and man-made disasters. The headquarters was located at New Delhi and it had 10 battalions spread over the country by 2012. Each battalion of the NDRF was to have a strength of 1149 posts. There was a deficiency of 3071 personnel (27%) (May, 2012), of which specialized posts constituted 43% (1318). NDRF was constituted for disaster response with a single chain of command. But, the inter-battalion transfers of personnel were executed by concerned Directors General of Central Armed Police Force (CAPF) only and not DG, NDRF. In reply to a query of the Committee regarding steps taken by DG, NDRF and Ministry of Home Affairs in filling up the vacant posts, the MHA informed as under:—

"NDRF is a deputationist Force with the personnel drawn on deputation from CAPFs. A monthly report on manpower deficiency position in each NDRF battalion is being forwarded to all CAPFs by NDRF Hqrs regularly with request to fill up the vacant posts. MHA is also taking up with the concerned CAPF to fill up the vacancies in the NDRF battalions. To fill up the specialist/technical posts in NDRF battalions through deputation *vide* publicity was given in Weekly Employment News as well as circulated to various CAPFs, Central Government Department at two occasions with very limited response. A proposal to modify the RRs is under consideration in MHA for facilitating recruitment of technical manpower in NDRF."

67. In reply to a query regarding powers of the DG (NDRF) to transfer for optimum utilisation of its personnel. The MHA informed as under:—

“DG, NDRF has not been delegated the powers of transferring the NDRF personnel of one CAPF to another CAPF Bn of NDRF as this will create functional problems. However, as regards the inter Battalion transfer of personnel within Bns of the same CAPF, a decision was taken during the meeting of DG of CAPFs held at NDMA on Jan. 03, 2013 that the same will be executed by the respective DG on the basis of recommendation of DG, NDRF keeping operational requirement in view. It is true that NDRF does not have a specialised training institute. Training is being imparted at the NDRF battalion locations and other specialised Govt. and private institutions.”

68. There were constraints in providing specialised training to NDRF personnel. For advance courses training, NDRF personnel were sent to other Government and private institutions. NDMA decided (2006) to establish a 'National Institute of Disaster Response (NIDR)' to cater to the training needs of NDRF and also other stakeholders such as SDRF, CAPFs, Civil Defence personnel etc. The proposed Institute had not been set up so far. The Committee desired to know about the steps taken providing adequate training slots to NDRF personnel in Government and private institutions. The MHA in their reply furnished as under:—

“Training is a continuous process and NDRF personnel are being trained by International Experts in specialized areas of expertise. NDRF personnel are being trained at different Government Institutes such as Border Security Force Institute of Disaster Response (BIDR), Tekanpur; CRPF-Central Training College (CTC)-II, Coimbatore; CISF-National Industrial Security Academy (NISA), Hyderabad; ITBP-Basic Training Centre (BTC), Bhanu; Bhabha Atomic Research Centre (BARC), Mumbai; Defence Research & Development Establishment (DRDE), Gwalior; Institute of Nuclear Medicine & Allied Sciences (INMS), New Delhi etc. Besides, they get also trained at private institutes such as Sea Explorers Institute, Kolkata; Rashtriya Life Saving Society, Kolkata; NIM, Uttarkashi; The Atal Bihari Vajpayee Institute of Mountaineering (ABVIM), Manali; Himalayan Mountaineering Institute (HMI), Darjeeling; Swami Vivekanand Institute of Mountaineering (SVIM), Mount Abu; Himalayan Adventure Institute (HAI), Mussoorie etc.

Further, selected NDRF personnel are sent abroad for special courses. As on 18th Decemeber, 2013, 119 personnel of NDRF have undergone various courses/training in different foreign countries. Under the India Swiss Collaboration, training of Master Trainers at NISA Hyderabad and Basic Training Centre, Bhanu, Chandigarh is imparted. There is 186 personnel of NDRF were trained by SWISS experts in Urban Search and Rescue and 67 dogs have been trained in canine training. Swiss Development Corporation (SDC) has also imparted training to 118 NDRF personnel at 03rd Bn, NDRF, Mundali.

Programme for Enhancement of Emergency Response (PEER) is a regional training programme initiated by the USAID to strengthen and institutionalize capacity in emergency and disaster response in participating member countries. PEER has supported capacity building initiatives of Government of India by conducting various disasters response training courses. As per PEER report (February 28, 2011) 178 Medical First Responders (MFR) and 120 Collapsed Structure Search and Rescue (CSSR) graduates; 124 Training for Instructors (TFI), 104 MFR instructors, 94 CSSR instructors and 59 Master instructors have been trained under these training programmes.”

69. The Committee then enquired about the delay in setup of NIDR, despite availability of land. The Ministry informed as under:—

“A detailed proposal for consideration of Expenditure Finance Committee (EFC) for setting up of a National Institute of Disaster Response (NIDR) at cost of about ₹ 116 crore is under consideration of MHA in consultation with Finance Ministry. After the approval of the proposal further follow-up will be taken.”

70. Three out of 10 battalions were sharing accommodation with other CAPFs and even temporary infrastructure for office, residential and storage accommodation could not be established for them. Despite a proposal of ₹ 3171.58 crore being under consideration of MHA since December, 2011, the standard infrastructure was yet to be created for the NDRF battalions (December, 2012). NDRF headquarter was accommodated by constructing temporary huts at the roof-top of Civil Defence Secretariat Building. When asked about the sharing of accommodation by NDRF and CAPFs, the MHA replied as under:—

“For providing office space to HQ, DG NDRF at present two separate proposal of NDRF are under process. Approval of NDRF for providing office space in Paryavaran Bhawan, CGO Complex is under consideration in Ministry of Urban Development. The second proposal of NDRF for providing office space in August Kranti Bhawan, New Delhi is also under examination in consultation with Integrated Finance Division, MHA.”

71. The audit had observed that States were also required to create similar capabilities. However, only seven States/UTs were able to form State Disaster Response Force.

(ii) Regional Response Centre (R.C.C.)

72. MHA in 2004 sanctioned setting up of eight Regional Response Centres (RRCs) and seven Nodal Centres (in high altitude and hilly areas.) Three RRCs at Guwahati, Mundali and Arakkonam were manned and operated by NDRF as they were co-located with NDRF battalions. The remaining were manned and operated by Central Armed Police Forces (CAPFs). CAPFs were authorised to purchase 40 items of identified necessary equipment (@ ₹ 75.24 lakh per centre) to be kept in the RRCs to save time in carrying them to affected areas and make it easy to respond in case of emergency. However, CAPFs did not make their respective RRCs

functional, despite the sanctions issued by MHA. The equipment which were procured and kept at respective locations were lying unused for want of proper guidelines. CAPFs attributed (September, 2010) the non-formation of RRCs and idling of equipment to shortage of accommodation and manpower, non-receipt of requirements from State Governments and lack of deployment of trained personnel of NDRF. The Committee desired to know whether guidelines for use of equipment procured and kept at RRCs were formulated and circulated to RRCs. The MHA replied as under:—

“The concept of RRCs dates back to 2003 *i.e.* prior to the DM Act, 2005. Following constitution of NDMA/NDRF, a decision has since been taken to merge the equipment of all the RRCs with the Companies of nearest NDRF Battalion and to be located at vulnerable locations/metro cities where these Companies are being located.”

(iii) Civil Defence and Fire Service

73. In 2009, MHA formulated schemes relating to civil defence and fire services and Director General Civil Defence (DGCD) was designated as the implementing agency. MHA proposed a scheme for revamping Civil Defence by strengthening it, so that it could play a significant role in disaster management and assist the police in internal security and law and order situations, while retaining its primary role. MHA approved a proposal for up-gradation of the National Civil Defence College, Nagpur in October, 2004. The Committee were informed that the outcome of the scheme for revamping of Civil Defence are as follows:—

- (i) Strengthening of CD set up in 100 multi-hazard districts.
- (ii) Renovation of existing 17 State level training institutes.
- (iii) Construction of 9 new State level training institutes.

74. The MHA also informed that the study on the fire and hazard analysis has been completed in March 2013. The upgradation of National Civil Defence College has since been completed on 31st March, 2013 and the requisite equipment have been procured for the college.

75. In order of fill the alarming gaps in fire fighting and rescue capabilities, a scheme called 'Strengthening of Fire and Emergency services in the Country' was sanctioned by MHA in October, 2009. The National Fire Service College (NFSC) was established at Nagpur in 1956 to conduct training for the officers. In reply to a query of the Committee regarding delay in upgradation of National Fire Service College, the MHA informed as under:—

“The scheme to upgrade National Fire Service College with an outlay of ₹ 205 crore was launched in June, 2010. Due to large scale encroachments on the land for construction of the infrastructure for new buildings, the upgradation scheme could not be completed by March, 2013. The encroachments have since been removed and the construction of College building is in full swing.”

(iv) Medical Preparedness

76. Medical Preparedness for disasters aims to create an institutional mechanism and systems that would result in the coordinated working of emergency responders, hospital managers and local and regional officials. The report of the Working Group on Disease Burden for the Twelfth Five Year Plan had also recommended (July, 2011) establishment of Command and Control Centre. In this connection, the MHA submitted as under:—

“At present, in the Ministry of Health and Family Welfare, the disaster response is coordinated by Emergency Medical Relief Division, with Director, Emergency Medical Relief as the Controlling Officer. The Division has at its disposal an Emergency Control Room for co-ordination, communication, and information management. For example this facility was activated on 24x7 basis for the Influenza Pandemic recent flash floods in Uttarakhand and the cyclone Phailin that hit Odisha and Andhra Pradesh Coast in October, 2013. However, an advanced communication and information management hub (Strategic Health Operation Centre) with latest Information Technology has been envisaged under the Programme "Health Sector Disaster Preparedness and Response" in the 12th Five Year Plan.”

77. NDMA guidelines while recognizing the lack of medical facilities for Chemical, Biological Radiological and Nuclear disasters, emphasized the need for specialized facilities for protection, detection, decontamination, antidote administration along with usual care required for other injuries in case of Chemical, Biological Radiological and Nuclear (CBRN) emergencies. The guidelines also mentioned that medical facilities for CBRN disasters were lacking in the country. In reply to a query of the Committee regarding setting up of CBRN medical centre in Delhi, the MHA stated that CBRN Medical Management Centre is envisaged at Safdarjung Hospital. Land has been identified and the broad requirements have been worked out. Consultant Agency has been identified to prepare detailed project report.

78. A High Powered Committee (HPC), set up in August, 1999 on global best practices for disaster management, in its report submitted to MHA, recommended setting up of five to six mobile hospital units. The Committee of Secretaries approved MHA's proposal for building specialized capabilities for rapid intervention in case of disaster in February, 2005 which also included setting up of three mobile hospitals. The Committee desired to know the reasons for delay in setting up of mobile hospitals by MHA and MOHFW. The MHA informed as under:—

“Ministry of Health and Family Welfare attempted to procure Mobile Hospital three times in the past. The first tender floated in January, 2002 was cancelled as bidders did not follow the bid conditions. The second tender floated in June, 2002 was cancelled in 2003 due to non-compliance of bidding process. The third tender floated in 2004 was cancelled in 2008 as bidder failed to qualify commercial bid conditions. In a review done in 2013, it was decided that it would be appropriate if such container based mobile hospital is purchased

and maintained by agencies with requisite expertise and specialization in disaster response/management, such as NDMA or MHA. Hence a decision has been taken by MOHFW that NDMA/MHA may procure the mobile hospital. MOHFW would provide the manpower, if necessary. Ministry of Home Affairs has requested MOHFW to provide specification of the mobile hospitals and also make available the status of mobile hospitals attached to Dr. R.M.L. Hospital.”

79. The Ministry further informed that the repair work of CBRN vehicles (Hazmat Vehicle and Integrated CBRN Monitoring system) have been completed and the vehicles are being used by the NDRF on Parliament Security duty. The locations of these vehicles have already been finalized for Pune, Ghaziabad, Chennai and Kolkata.

80. Training of physicians to serve effectively in emergency rooms is a pre-requisite for management of trauma cases brought to hospital emergency departments. However, there was no structured and accredited course for trauma life support in the country till 2009. In reply to the queries of the Committee in this regard, the MHA informed that Jay Prakash Narayan Apex Trauma Centre, AIIMS, New Delhi, are running the following structured internationally recognized trauma life support courses for Doctors, Nurses and Paramedics in India:—

1. ATLS (Advanced Trauma Life Support) course for Doctors.
2. ATCN (Advanced Trauma Care for Nurses) Course for Nurses.
3. PHTLS (Pre-Hospital Trauma Life Support) Course for Paramedics.
4. RTTDC (Rural Trauma Team Development Course) Course for Rural Centres Doctors, Nurses and Paramedics.

81. Apart from Delhi, these courses are also provided at different locations in the country. As regards status of trained doctors for emergency care the MHA informed as under:—

“Till 2009, there was no MCI recognized degree course for training of doctors in emergency care. There were some non MCI recognized courses in MD Emergency Medicine being imparted by some private/deemed universities. After being recognized as a distinct academic speciality in 2010, MD (Emergency Medicine) has been initiated in some institutions including AIIMS (2 seats MD) (Emergency Medicine) in 2012. Further the JPN Apex Trauma Centre, AIIMS, New Delhi has already submitted curriculum for long term residency programme, MS (Trauma and Emergency Surgery) and M.Ch (Trauma and Critical Care) for approval.”

VIII. Capacity Building

82. Effective disaster management requires trained manpower to deal with complex situations effectively and rapidly to reduce the impact of disaster on human life and property. It is necessary to continuously undertake measures to build

capacity amongst those who are handling disaster prevention, mitigation, preparedness, response, reconstruction and also create awareness amongst the people. In terms of the National Policy, 2009, the approach to capacity-building includes awareness generation, education, training, research and development.

(i) National Institute of Disaster Management (NIDM)

83. The Audit found some deficiencies in the functioning of the NIDM. During 2004-05, MHA launched the National Programme for Capacity Building of Engineers in Earthquake Risk Management (NPCBEERM) and the National Programme for Capacity Building of Architects in Earthquake Risk Management (NPCBAERM). The Committee enquired about the closure of the twin programmes for engineers/architects without attaining the objective and whether any actionable programme has been devised for the engineers/architects for future. The MHA in their reply furnished as under:—

“The twin Schemes were initially implemented by MHA and the target was to train 250 architects and 450 engineers as faculty members who in turn were to train 10,000 architects and 10,000 engineers respectively. The Scheme was transferred to NIDM in 2008 and all efforts were made to achieve the targets. Under the twin Scheme, 210 Architects were trained as master trainers against the target of 250. Similarly, 308 engineers were trained as master trainers as against the target of 450. Further, 1361 architects and 2528 engineers were trained by the master trainers. The programme could not run successfully due to non-availability of engineers and architects for training and therefore, was shelved by MHA in December 2010. Out of total releases of ₹ 9.28 crore made under the Schemes, Utilisation Certificates have been received except for ₹ 3.13 crore for which UCs are still pending as on 29.5.2013.”

84. In February, 2008 MHA approved a non-Plan scheme for extending financial assistance to the Administrative Training Institutes (ATIs) and State Training Institutes. In the five years of its execution, percentage of shortfall ranged from 45 to 76 *per cent*, with 2 to 10 ATIs not conducting any training programme at all. The Committee desired to know the status of DMCs at various ATIs and STIs and also of any evaluation study conducted to ascertain the extent of targeted benefits under RTI scheme. The MHA has furnished their comments as under:—

“The non-plan Scheme for financial assistance to State ATIs for operation of Centre for Disaster Management had a total allocation of ₹ 25 crore for a period of 5 years between 2007-08 to 2011-12. Under the Scheme the 30 CDMs in State ATIs were required to conduct 20 training programme with average of 20 participants in each programme in a year. Thus, the total number of personnel to be trained under the Scheme was 12,000 in a year making grand total of 60,000. Out of ₹ 25 crore earmarked for the Scheme, an amount of ₹ 17.59 crore was released to State ATIs. As against the target of 60,000 persons to be trained a total of 1,06,448 persons were trained in various aspects of disaster management. Thus, the achievement was much more than the target under

the Scheme. The saving in financial allocation was mainly on account of pay & allowances of faculty/staff members who could not be appointed by the ATIs. Out of ₹ 17.59 crore released under the Scheme, all Utilization Certificates have been received except for ₹ 29 lakh as on 29.5.2013.”

85. MHA developed India Disaster Resource Network (IDRN) portal with the support of UNDP and launched it in 2004 through National Informatics Centre (NIC). MHA entrusted (June, 2008) NIDM with the responsibility of updating and maintaining the portal but two posts that were created in MHA were not transferred to NIDM. In this connection the Committee enquired about not filing up of IDRN Posts relating to running of NIDM portal. The MHA informed as under:—

“IDRN portal was handed over by MHA to NIDM for further maintenance in the year 2008. However in the absence of dedicated persons at NIDM to maintain the portal and providing necessary technical support to users, the portal suffered in terms of data updating, user administration etc. Subsequently, a dedicated computer programmer was appointed in September, 2012 on contractual basis. The portal has now been made completely functional. Checking and fixing of all the errors identified by NIC were carried out. At the time of development of the IDRN portal during 2003 there were only 596 districts in India and hence the newly created districts were not able to upload district data. New district pages were subsequently created in addition to the 596 districts. Now, the portal is fully functional and as on 5th September, 2013, it has 1,45,105 records covering 660 districts (all States and UTs). Some new features have also been added in the portal to make it more user-friendly. Training programmes are also being organized region-wise, to orient State/District level officials and provide them necessary support and technical assistance.”

86. The Audit had pointed out that the academic and training programmes of NIDM had never been evaluated by an independent agency. Replying to a query of the Committee in this regard, the MHA stated that the Institute has already initiated the process for impact evaluation of training programmes conducted by NIDM. Proposals from reputed Institution/Agencies have been invited and a Committee has been constituted to evaluate the proposals. The assignment for impact evaluation will be awarded to an agency based on the evaluation of the proposal.

87. NIDM was sanctioned 57 posts to carry out its mandated work of capacity building. NIDM has never functioned with its full capacity as many of the critical posts of Professors, Associate Professors, Assistant Professors and Researchers were lying vacant at the end of each financial year. In reply to a query of the Committee regarding vacancies in NIDM, the MHA replied as under:—

“The posts of faculty members in NIDM are lying vacant as the Recruitment Rules of NIDM are still under consideration for approval of the Competent Authority. Hence, after taking the approval from MHA, the vacant faculty

position have been filled up on short-term contract basis except one post of Professor as no suitable candidate was found from amongst applicants.”

(ii) Pilot project on capacity building in disaster management

88. A pilot project on "Capacity Building in Disaster Management" for Government officials and representatives of local bodies at district level was implemented through an MoU between Indira Gandhi National Open University (IGNOU) and NDMA in February, 2010. Delay in implementation of this project had also affected the future plans of capacity building in disaster management across the country. When asked for the reasons for delay in implementation of this project the Ministry informed as under:—

“The Project on Capacity Building in Disaster Management for Government Officials and Representatives of Local Bodies at District Level funded by NDMA and carried out by the Faculty of Public Administration, IGNOU. CBDM was the first capacity building Pilot Project designed by NDMA in consultation with various institutes. As this was a pioneering work and all stakeholders were on their learning-curve, it was but natural that for on-course correction, several revisions and changes were introduced at different stages from conceptualization to final execution. The work on the project is successfully completed. In all, 16479 participants have attended the face to face training programmes (FFTPs), against a target of 16200. Even though there were delays in the project, tangible results could be achieved by way of development of five booklets translated in vernacular languages. Project reports are also available in public domain.”

IX. Disaster specific observations

(i) Earthquakes

89. Ministry of Earth Sciences (MoES) [India Meteorological Department (IMD)] is the nodal Ministry for the management and mitigation of earthquakes in the country. In terms of National Disaster Management Guidelines on Management of Earthquakes issued in April, 2007, MoES was to prepare the Earthquake Management Plan covering all aspects including earthquake preparedness, mitigation, public awareness, capacity building, training, education, research and development, documentation, earthquake response, rehabilitation and recovery. MoES did not prepare any disaster management plan for earthquakes. However, in reply to a query of the Committee regarding status of disaster management and mitigation plan for earthquake, the MHA informed as under:—

“ESSO-IMD is only responsible for monitoring seismic activity in and around the country and disseminates the information to all the user agencies including the concerned State and Central Government agencies responsible for carrying out emergency response, relief and rehabilitation measures. It is to mention that the institutions of MoES/ESSO only deal with monitoring, detection and warning of cyclones and tsunamis and only carry out aspects

of monitoring and detection in respect of earthquakes and hence have no experience of developing and monitoring the associated components of disaster management cycle *viz.*, preparedness, mitigation, risk reduction, response and relief, etc., that are all along being dealt with by different Central and State Government authorities. Moreover, the implementation of disaster mitigation plans also has a significant component of techno-legal and regulatory components that are operated by various competent authorities at different levels of governance in the country.”

90. A project on "Optimum Seismological Network Programme" was sanctioned in May, 2009 by the IMD at an estimated cost of ₹ 48 crore, which was reduced to ₹ 25.17 crore. The project implementation was proposed to be carried out in two phases spread over a period of three years from 2009-10 to 2011-12. The objective of the project was to strengthen and modernize the National Seismological Network for improving the detection and location capability for earthquakes of magnitude greater than or equal to 3.0, occurring anywhere in the mainland of the country. The project was found by audit as still in the preliminary stages of implementation even after expiry of three years. The MHA in their submission about the status of OSNP stated as under:—

“Earlier plan of 'Optimum Seismological Network Programme' was reviewed in the light of recent networks established in the country by various R&D groups. Under this approach, already 65-stations (40-seismic stations and 25-GPS stations) are operational and very soon the network would have 90 stations (50-seismic stations and 40-GPS stations) by which already medium and low seismic intensity is successfully getting monitored and analysed in real-time. Accordingly a new scheme was taken up for deploying a total of 78 additional State-of art broadband systems to the national seismological network in October, 2012. Global tenders have been floated and technical evaluation of bids received has been completed. Further action is in process for placement of order is under progress.”

91. MoES/IMD had set up the Earthquake Risk Evaluation Centre at Delhi, in February, 2004. During 2007—12, IMD proposed to carry out three projects *viz.*:—

- (a) Seismic microzonation of Mumbai, Guwahati, Ahmedabad and Dehradun on 1:10000 scale;
- (b) Creation of national database for seismic hazard and regional risk appraisal; and
- (c) Impact assessment of utilization of database in planning and mitigation.

An allocation of ₹ 298.38 crore was made for these projects. MoES stated (September, 2012) that the microzonation of Guwahati, Bangalore, Ahmedabad, Dehradun and Delhi was completed. IMD initiated a project titled "Archival digitization of seismic analog chart" in May, 2008 at an estimated cost of ₹ 13.50 crore

for two years. The duration of the project was extended from time to time and finally till June, 2012. In their submission, the MHA furnished as under:—

“Seismic data base comprises scanning and digitization of analog seismic charts for the period 1927—1996, on-line archival of digital wave form seismic data since 1996 in real time. The scanning of about 89,000 analog charts and out of which digitization of about 5000 earthquake events are taken up since 2008. As things stand today, the scanning of all the charts is completed and digitization of events is in its final stage. Archival-digitization of seismic analog charts is pursued till December, 2013 to complete the activity. The National Earthquake Risk Mitigation Project (NERMP) has been approved by the Government in April, 2013 at an outlay of ₹ 24.87 crore.”

92. NDMA had undertaken the task of preparing the upgraded hazard maps and atlas of Indian land mass. In this connection the MHA informed that as per the recommendations of the Working Committee of Experts (Geophysical-Hazards), NDMA has undertaken a project through Building Materials Technology Promotion Council (BMTPC) for upgradation of Earthquake Hazards Maps for the country at a cost of ₹ 76.83 lakh. Project which started in June, 2011 is yet to be completed. It is getting delayed due to non-availability of district boundaries data from the Census of India.

93. NDMA has also taken up National Earthquake Risk Mitigation project. This Project was still in preparatory phase after a lapse of five years. The Ministry while furnishing the status of project stated as under:—

“The Centrally Sponsored Scheme for National Earthquake Risk Mitigation (Preparatory Phase) has been approved in April, 2013 at an outlay of ₹ 24.87 crore, to be implemented within a period of two years viz. 2013—15. The aim of the project is to demonstrate the effectiveness of strategies proposed for implementation of activities under four components namely, (i) Techno-legal Regime, (ii) Institutional Strengthening, (iii) Capacity Building and (iv) Public Awareness. The scheme will be implemented in 21 States/UTs that lie in seismic Zones V & IV in the country. The scheme will *inter-alia* cover major cities and districts in these States. The target vulnerable population under the preparatory phase is 70,189,371 as per 2011 Census.

Present Status

- (i) NDMA has initiated preliminary steps for implementing the scheme.
- (ii) A Project Steering Committee has been constituted under chairmanship of Member (Earthquake), NDMA and Secretary, NDMA, JS(DM), Financial Advisor, Town & country Planner, Technical experts, representatives from BMTPC, CPWD, NIDM etc. as members.”

(ii) Floods

94. The total flood affected area in the country is 456.40 lakh hectares. An average of 72.25 lakh hectare of land is affected annually by floods of which 37.89 lakh hectare is cropped area.

95. The Ministry of Water Resources (MoWR) was responsible for laying down policy guidelines and programmes for the development and regulation of the country's water resources. According to the guidelines for management of floods issued by NDMA in January, 2008, MoWR was to prepare a detailed Action Plan for management of floods. MoWR had not formulated actionable plan for management of floods as per NDMA guidelines. The Committee desired to know the reasons for delay in formulation of plan and by what time it is likely to be formulated. The MHA informed as under:—

“NDMA guidelines issued in January, 2008 envisaged many activities which involved the roles of other agencies like States, NRSC, IMD, GSI, MHA etc. There are many additional activities indicated in these guidelines which are not presently carried out by the organizations of MoWR and such activities require major overhaul including re-structuring and strengthening of the organizations besides huge financial requirements in consultation with Planning Commission and Ministry of Finance. Moreover, timelines indicated in the guidelines need to be finalised in consultation with all the linked agencies. However, MoWR has already taken action on many of NDMA's recommendations.”

96. The Crisis Management Plan (CMP) of 2009 identified Central Water Commission (CWC) as the Authority responsible for sending first information relating to flood forecasts. MoWR prepared its Ministry level CMP in March, 2011 to handle crisis related to flood forecasting and dam failures. According to CMP, each State was required to establish a Dam Safety Organization (DSO) to address the safety issues of large dams in the States. Only 14 States have prepared DSO (July, 2012). CWC issued (May, 2006) guidelines for development and implementation of Emergency Action Plan (EAP) for large dams in the States. Only eight States had prepared EAP for 192 (4.06 per cent) large dams against 4728 large dams in 29 States as of September, 2011. Thus, non-preparation of EAPs by the Project Authorities in respect of 96 per cent of large dams renders huge area and property left vulnerable to cascading effects of dam failure. In reply to a query of the Committee about reason for non-preparation of EAP for dam and steps taken to ensure that EAPs are prepared for all large dams, the MHA informed as under:—

“Technical aspects of preparation of emergency action plan involve assessing the likely quantum of floods, their propagation downstream and the preparation of inundation maps. These works demand highly skilled manpower for conducting extensive field surveys and for computer-based simulations which are also time consuming. Also, the on-field implementation for EAP has to be planned out in meticulous detail with the cooperation of local administration and other departments.”

97. The Committee desired to know about the measures taken by MoWR to ensure that States establish Dam Safety Organisation to address the safety issues

of large dams. The MHA informed as under:—

“As per Dam Safety procedures, each State which has significant number of major dams shall create a Dam Safety Cell in the State. National Committee of Dam Safety (NCDS) performs an advisory role in the matters of dam safety. The States having significant number of large dams *i.e.* Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh, Uttarakhand, West Bengal besides other dam owners like National Hydro Power Corporation Limited (NHPC), Bhakhra Beas Management Board (BBMB), Damodar Valley Corporation (DVC), Kerala Electricity Board and Kandi Area Development, Irrigation works (Punjab) are all represented as members of NCDS which advises them on performing the role of DSO/Cell etc. *i.e.* for looking after safety aspects of large dams in their respective States/jurisdiction. They have each formed a Dam Safety Organization/Cell/Directorate. The aforesaid dam owners are looking after dam safety of dams under their control in the respective States. In the States of Arunachal Pradesh, Haryana, Goa, Meghalaya, Nagaland, Tripura, Assam, Manipur, Sikkim, Jammu & Kashmir and Himachal Pradesh which are having fewer number of large dams as per NRLD and not having dedicated DSO's/Cell etc., the original dam builders like NHPC, BBMB etc. who are continuing to maintain the custody of the dams are also responsible for dam safety of select dams under their control. Through the proposed Central Dam Safety Bill, 2013 (Which is normally applicable to those States adopting the Central Bill), it is sought to bring all private/PSU owned dams under its ambit.”

98. There were 4728 reservoirs and barrages in the country as on September, 2011. CWC provided inflow forecasts to only 28 reservoirs and barrages. Indian Institute of Public Administration (IIPA) conducted an evaluation study on Plan schemes for flood control. The report submitted by IIPA to MoWR in November, 2009 highlighted various deficiencies. This included (i) non-functional telemetry stations, (ii) temporary gauge sites during the flood period, (iii) flood forecasting stations not having dedicated communication facilities, etc. These shortcomings had not been rectified by MoWR till July, 2012. In this regard the Ministry informed that CWC provides the inflow forecasts on specific requests of State Governments. In the past only 28 such requests were made. Further, CWC has in consultation with the States, plans to expand its inflow forecast network to additional reservoirs in the country.

99. MoWR implemented a State sector scheme, namely Flood Management Programme (FMP) in November, 2007 to provide financial assistance to the State Governments for undertaking flood management works in critical areas during the Eleventh Plan period. 420 works at an estimated cost as ₹ 9435.45 crore were approved with central share of ₹ 7739.69 crore under FMP. Out of these, 252 works were completed during Eleventh plan. Central assistance of ₹ 3566 crore (including ₹ 89 crore for the spill over works of Tenth plan) was released against the allocation of ₹ 8000 crore by Planning Commission up to 31 March, 2012. With the introduction of

FMP, 21.80 lakh hectares was to be protected against floods but new area of only 2.59 lakh hectares had been protected up to March, 2011.

100. The Committee asked the Ministry about the reasons of huge shortfall in achieving the targets of protecting new areas against flood. The MHA informed as under:—

“The total flood affected area in the country was compiled by XI Plan Working Group on Water Resources as 45.64 mha. Out of this, the area of 18.22 mha was providing reasonable protection against floods by the end of the X plan. Government of India launched Flood Management Programme during XI Plan with an outlay of ₹ 8000 crore. Under this Programme, a target was kept for protection of 2.18 mha. During XI Plan, 420 works were approved out of which 252 works were completed and the central assistance of ₹ 3566 crore was released till 31.3.2013. The completed works protected about 1.96 mha of flood affected area (1.70 mha of old area restored, 0.26 mha of new area protected) against the target of 2.18 mha. The shortfall against target of XI Plan is only 0.19 mha. The main reasons of shortfall include late approval of the scheme, slow execution of works by the State Government due to available lesser working period and land acquisition problems etc.”

(iii) Cyclones and Tsunami

101. MoES was identified as the nodal Ministry for mitigation efforts towards disasters relating to cyclones and tsunami. As per actionable points of NDMA guidelines on cyclone, MoES was to evaluate the vulnerability of cyclones and its changing profile from time to time. However, MoES informed (August, 2012) that the responsibility of the Ministry is only to provide timely warning on tsunami and cyclones and associated storm surges to various stakeholders for taking action to minimize the risk and damage to loss of life. Thus, no specific programmes related to the assessment of risk, hazard, vulnerability, damage and loss were initiated by the nodal Ministry as required under the national guidelines. However, the MHA informed the Committee that MoES institutions of ESSO-INCOIS (Earth System Science Organisation-Indian National Centre for Ocean Information Services) along with ESSO-IMD, ESSO-ICMAM (Integrated Coastal and Marine Area Management) have published multi-hazard Coastal Vulnerability Atlas at a coarser resolution of 1:100000. In addition, ESSO-IMD provides all the inputs related to cyclone to Building Material and Transport Promotion Corporation (BMTPC) of Ministry of Urban Affairs for preparation/updation and publication of Vulnerability Atlas of India. To study the changing profiles, ESSO-IMD carried out a study on cyclone hazard proneness of coastal districts recently, based on the cyclone parameters during 1891-2010. The hazard proneness of a district has been defined based on an index which takes into consideration the following parameters:—

- (i) Frequency of total cyclones;
- (ii) Total severe cyclones;

- (iii) Actual/estimated maximum wind strength;
- (iv) Probable Maximum Storm Surge (PMSS) due to the cyclone; and
- (v) Probable Maximum Precipitation (PMP).

The report on hazard proneness has been given to NDMA for publication, as the study was carried out by a sub-Committee involving IMD which was constituted by NDMA for the purpose.

102. MoES sanctioned (March, 2011) a project on "Multi-Hazard Vulnerability Mapping for the Indian Coast" to Indian National Centre for Ocean Information Services (INCOIS) at a total cost of ₹ 48 crore with a scheduled date of completion by March 2013. The aim of the project was to prepare and deliver vulnerability maps for the identified vulnerable areas of 5000 sq. km. in Coastal States of the country. In March, 2011, MoES released ₹ 7 crore to INCOIS, Hyderabad for execution of the project. INCOIS had not initiated the project as of June, 2012. MoES did not prepare any disaster management and action plan for tsunami and cyclone management. The Committee asked for the reasons for delay in initiation of the project by INCOIS and the current status thereof. The MHA in their reply furnished as under:—

“Ministry of Earth Sciences (MoES) has sanctioned the project in March 2011 after the mid-term appraisal. The objectives of the project are (i) generation of multi-hazard vulnerability maps, (ii) setting up of real time coastal inundation models, (iii) 3D GIS for selected vulnerable areas and (iv) integrated software for display and analysis. As a part of the effort continued so far, coastal multi-hazard vulnerability atlas publication, implementation of coastal inundation models, 3D GIS mapping/visualization at street level for Cuddalore and Nagapattinam etc., are completed. Development of 1:5000 scale coastal data sets are underway and accordingly multi-hazard coastal vulnerability maps would be updated. Mapping of multi-hazard vulnerability for entire Indian coast involves processing large number of datasets pertaining to topography (Airborne LiDAR Terrain Mapping data, Cartosat Digital Terrain Models), Shoreline change (long-term multi-temporal satellite data), Sea Level (long term historical tide gauge records) and other collateral information. Most of these data are restricted in nature and cannot be outsourced to private agencies. Hence, it was decided to carry out this work component at ESSO-INCOIS by engaging exclusive consultant/project staff. These constraints resulted in the delay. Taking guidance from the coastal multi-hazard vulnerability maps, vulnerable coasts have been identified for taking up further work on 3D GIS mapping and development of integrated software. This work will be carried out through competent vendors through open tender. Two RFPs have already been prepared and the proposals have been received from the vendors. Technical evaluation of the proposals is in the final stages. The execution of two work packages, 3D GIS mapping and development of integrated software, will start soon after the selection of competent vendors and will be completed within 2 years.”

103. As per the National Policy of Disaster Management, forecasting climate change is the most important element of disaster management. To modernize and upgrade the existing system of weather forecasting MoES submitted a proposal for implementation of the project in three phases. The Cabinet Committee on Economic Affairs, in December, 2007, approved the proposal for phase-I at a total estimated cost of ₹ 920 crore with the project duration of 24 months from December, 2007. Out of 17 projects undertaken in the modernisation scheme, five projects costing ₹ 84.15 crore were yet to be initiated. Another five projects costing ₹ 256.85 crore were under implementation. Only seven projects, costing ₹ 186.90 crore were completed. When asked to provide the status of projects undertaken in the modernization scheme, the Ministry in their written submission *inter alia* furnished as under:—

“Till the beginning of the XI Plan, most of the existing instrumentation systems are very old and do not have accuracy or connectivity (or both) for modern forecasting system. Also, the forecast methodology is largely by synoptic methods, making use of conventional observation. Adequate decision support system using IT tools is non-existent. A very limited effort started at the beginning of the XI Plan and few types of surface equipment were procured, although the number was only a small subset of the overall requirement. In addition, demands of weather information by user agencies are of diversified nature. Providing precise weather related services and their timely dissemination is vital to almost all important sectors of national economy. All these Services demand full automation in all meteorological observations, their efficient communication to the analysis/forecasting centres for real-time forecasting to cover all parts of the country. Thus, it was essential to have:—

- * Replacement of old manual observation equipment.
- * Networking of various observation systems to a Central Data Processing and Information System.
- * Integration of entire infrastructure & decision support system merging model output with synoptic reasoning.
- * Visualization & dissemination of processed information in real time to users.
- * To undertake the above it is required to have the Supercomputing facility and continuous human resource development.

In order to achieve the target, the modernization scheme recommended by the Expert Committee in phase-I planned to be completed in first two years consisted of (i) Networking existing observation instruments of IMD as well as new digital observation instruments (ii) Receiving, processing and archiving of all observations in digital form at a central information processing facility of HQ and (iii) Dissemination in real time of all processed information in digital form to forecasters in HQ office, Pune office, all Regional Centres and selected State capitals to value add and provide customer specific product to different user community.

....Most of the projects under modernization phase-I are completed. The residual components of modernization phase-I are included in various new schemes of IMD for implementation during XII Plan. A network of 550 AWS has been established across the country during the period 2009-12. The network uses Time Division Multiple Access (TDMA) technique for transmission of data from field sites through DRT aboard INSAT-3A. The sensors for parameters such as air temperature, relative humidity, atmospheric pressure, wind, rain, global solar radiation have been interfaced with each AWS. Sensors for additional parameters such as soil temperature, soil moisture, leaf temperature and leaf wetness have been interfaced with 127 AWS and these stations are called Agro-AWS. Network of ARG stations (1350 Nos.) is being established under Modernization programme Phase-I.

The National level forecasts are provided to NDMA control room, MHA as well as print and electronic media and is available on IMD website. The local forecasts are provided to all State and District level functionaries. A short-term forecast of low level winds (300-2100m) is also being provided for helicopter operations.”

104. In another reply to a query of the Committee, the MHA informed that as of now 1071/1350 Automatic Rain Gauges (ARGs) are commissioned and rest of them are in the process of installation. 11 DWRs at Delhi-Palam, Patiala, Lucknow, Patna, Mohanbari, Hyderabad, Nagpur, Agartala, Bhopal (under testing currently), Delhi-Lodi Road, Jaipur, are made functional. DWRs at Goa, Karaikal and Paradeep (held up due to MoD clearance—that is now given subject to Security Audit). With the completion of security audit, the commissioning at Goa, Karaikal and Paradeep would also be completed now. Due to unforeseen reasons, the procurements related to airport instrumentation and wind profilers could not be successful largely due to single tender resulting during the XI Plan.

105. IMD proposed a scheme on District Meteorological Information Centres (DMICs) throughout the country and an allocation of ₹ 204 crore was made in the Eleventh Plan for the purpose. The DMICs were envisaged to provide meteorological information at district levels. However, IMD stated (August, 2012) that no work was taken up for setting up of the DMICs during Eleventh plan period as the scheme for DMICs was envisaged after the completion of Modernisation Phase-I programme. The Committee enquired if the scheme is still being implemented. The Ministry informed as under:—

“Under Gramin Krishi Mausam Seva (GKMS) scheme during XII Plan, it is provisioned to set up District AgroMet Units (DAMUs) in the country at Krishi Vigyan Kendras (KVKs) of Indian Centre for Agricultural Research (ICAR) set up. The main responsibilities of DAMUs will be to prepare and communicate weather-based agromet advisory online to the farmers in block/

taluka/village level for efficient ways of farm management. These centres will also send the feedback information and also organize different awareness programmes like roving seminars, field schools, field demonstrations, field visits etc. Besides, these centres will also conduct farmers' training programme. It is proposed to set up 240 DAMUs during the XII Plan, along with 130 existing AFMUs as DAMUs as well.”

106. MoES sanctioned (March, 2010) a Forecast Demonstration Project for severe thunderstorms over east, north-east India, fog forecasting system and in tropical cyclones over the Bay of Bengal at an estimated cost of ₹ 49 crore. The project to be implemented by IMD was scheduled to be completed in two years *i.e.* by March, 2012. Audit noticed that there was no progress after October, 2010 despite incurring an expenditure of ₹ 1.32 crore on machinery and equipment till 2011-12. The Committee desired to know about the steps taken to complete the FDP. The MHA informed as under:—

“FDP is a research programme to improve our understanding and improve predictions in respect of cyclones, fog and severe weather events (thunderstorm, heavy rainfall etc.). Despite best efforts, hiring of instrumented aircraft to organize *in-situ* cyclogenesis and meso-convection data over the Bay of Bengal could not be materialized from the potential agencies who could spare such facilities along with their manpower for India as all had committed research campaigns elsewhere in other cyclone basins of the world. Efforts to organize hired research aircraft based observational campaign would, however, continue. RFPs for hiring research aircraft is already floated during 2013-14. All other components are included in a Severe Weather Prediction Scheme for its implementation during the XII Plan and SFC is under the process of obtaining clearance from the Integrated Finance Division currently and the responsibility to steer the Scheme is vested jointly with the NCMRWF and IMD.”

107. MoES sanctioned (May, 2008) a project on 'Development of Multi-Hazard Early Warning Support Interfaces in support of Emergency Response Planning' to INCOIS at a total cost of ₹ 20 crore. MoES released ₹ 3.82 crore to INCOIS for implementation of the project during 2008-10. The centre failed to initiate the project as no expenditure was incurred on the project up to March, 2011. Giving details about delay, the MHA has clarified that the scheme was envisaged after the completion of Modernisation Phase-I programme. The MHA further submitted as under:—

“The above scheme was formulated to take advantage of real time data likely to get collected from the commissioning of AWS, ARG and DWR data to generate value-added products by developing appropriate early warning support interfaces to quantify the likely to impact in association with the meso-scale forecasts (became possible only after commissioning of HPCs). The facilities available at INCOIS were planned to be used for building early warning interfaces with GIS and RS interfacing of generated products but the Scheme was formulated at MoES level. All the activities were to be executed

by deploying consultant groups for developing due early warning interfaces using real time data generated from AWS, ARG and DWR networks. Currently, the major component of storm surge component is implemented under Tsunami and storm surges programme at ESSO-INCOIS during the XII Plan. Other objectives of the programme will be fulfilled under the multi-hazard vulnerability mapping.”

(iv) Droughts

108. NDMA issued National Disaster Management Guidelines for management of drought in September, 2010. The guidelines envisaged the following role and responsibilities of Department of Agriculture and Cooperation (DAC) which were yet to be undertaken:—

- * Setting up of India Drought Management Center (IDMC) as an autonomous body under DAC.
- * Developing specific guidelines for the use of Information and Communication Technology for online interaction and availability of real-time drought related information.
- * Formulation of cloud seeding policy.
- * Establishing a dedicated faculty in selected ATIs and organizations exclusively for research and training in drought management by instituting chair positions.

109. The MHA in reply to a query of the Committee regarding Drought Management under Department of Agriculture and Cooperation and their main activities, submitted as under:—

“Department of Agriculture & Cooperation is mandated to coordinate relief measures necessitated by drought, hailstorm, pest attacks and cold wave/frost. Spatial Distribution and quantum of rainfall during South-West Monsoon (June-September) mainly determines the incidence of drought in the country, as it accounts for 75% of annual rainfall. The Department of Agriculture & Cooperation closely monitors progress of South-West Monsoon in the country, in close coordination with India Meteorological Department (IMD) and keeps watch over scanty/deficient rainfall conditions.

The role of the Government of India, of which the Department of Agriculture & Cooperation is an integral part, is to supplement the efforts of the State Governments in the face of the aforesaid natural calamities by way of requisite financial and logistical support.

State Governments initiate necessary relief measures in the wake of natural calamities including drought from State Disaster Response Fund (SDRF) which is readily available. Contribution of SDRF is made by Central and State Governments in the ratio 3:1 for 17 General Category States and 9:1 for 11 Special Category States (North-Eastern States including Sikkim and 3 hilly

States of Himachal Pradesh, Uttarakhand and Jammu & Kashmir). Additional financial assistance, over and above SDRF is provided from National Disaster Response Fund (NDRF) for natural calamities of severe nature as per established procedure and extant norms.”

110. The Audit has noted that lengthy procedures for processing the State Memorandum had taken enormous time keeping in view of the severity of drought disaster and its affected people. When the Committee enquired on the same, the MHA submitted as given below:—

“It is clarified that assessment and declaration/notification of drought is the prerogative of State Governments. Drought can be declared based on criteria outlined in Chapter-3 of Drought Manual (2009). Incidence of drought unlike earthquake, Tsunami, Landslides etc. is a long drawn process that depends upon many changing variables like intensity and duration of rainfall, temperature etc. As a result, many a time drought assessment requires a longer time-frame.

State Governments are empowered to initiate immediate relief measures from State Disaster Response Fund (SDRF)/own resources/extant schemes and programmes which are readily available to them. Additional financial assistance over and above SDRF from National Disaster Response Fund (NDRF) is given to complement relief expenditure incurred by the State.

After careful assessment of the situation, State Government declares/notifies drought in affected districts/talukas etc. It submits relief memorandum at this stages for seeking additional financial assistance from Central Government. Department of Agriculture & Cooperation thereafter constitutes an Inter-Ministerial Central Team (IMCT) which undertakes visit of the drought affected areas after consultation with the State Government for assessment of loss/damage to crops etc. Final assessment of relief under NDRF is made on the basis of State Government's memorandum and IMCT's assessment.

Further, an Empowered Group of Ministers (EGoM) has also been constituted to review the situation and take timely decisions on policy issues as well as on other issues for effective management of drought and other related issues.”

111. There were 15 cases of drought and hailstorm reported during the year 2009-10. In nine cases, time taken for release of assistance under National Disaster Response Fund (NDRF) ranged between two to nine months. Similarly, during the year 2010-11 and 2011-12, eight cases were reported and in four cases time taken for release of assistance ranged between two to ten months. The Committee desired to know whether any time frame has been fixed for release of assistance under NDRF. The MHA *inter-alia* informed as under:—

“Since the State Governments are empowered to initiate immediate relief measures from SDRF, as such, there is no stipulation of time for reporting the occurrence of drought etc. to the centre by the State. Further an Empowered

Group of Ministers (EGoM) has also been constituted to review the situation and take timely decisions on policy issues as well as on other issues for effective management of drought and other related issues.

National Agricultural Drought Assessment and Monitoring System (NADAMS) was initiated by National Remote Sensing Agency, Department of Space, with the support of IMD and various State departments of agriculture, towards the end of 1986. All the activities of NADAMS project starting from procurement of satellite data till dissemination of information to user community were currently being carried out under Disaster Management Support Programme of ISRO.”

(v) Forest Fire

112. As per the Crisis Management Plan (CMP) of the Cabinet, Ministry of Environment and Forests (MoE&F) was required to prepare contingency plan for dealing with forest fires. MoE&F also had to issue detailed guidelines to the State Governments for the preparation of local contingency plans. The Committee desired to know about the contingency plan prepared by MoE&F and its impact on prevention/containing forest fires. The MHA informed as under:—

“Guidelines for preparation of contingency plan was issued by Ministry of Environment and Forests *vide* letter No. 1-6/2006-FPD dated 29th January, 2009. The objective of the contingency plan for forest fire is to prepare a plan to tackle forest areas since time immemorial and management and control fire disasters if they occur and to take steps well in time so that such disasters can be prevented.

It may be mentioned that forest fire have been occurring in forest fire is an integral part of forest management. This activity is also provided for in the Forest Working Plans and Wildlife Management Plans of Forest Divisions and Protected areas respectively. As such, measures for forest fire control are routinely taken up by the State/UT Forest Departments.

The guideline consist of formats for preparation of forest fire plan and Standard Operating Procedures (SOPs) for forest fire.

However, as a part of the National Disaster Plan, the Ministry of Environment and Forests is in the process of preparing a National Forest Fire Disaster Plan and it will also guide the State Government for preparation of State Forest Fire Disaster Plan. It has been intimated by the Ministry of Environment and Forests that the National Forest Fire Plan would be finalised after undergoing wider consultation and due consideration of the inputs received from various stakeholders.”

113. As regards preparedness of States contingency plan, the Committee was informed as under:—

“As per the guideline mentioned above, the Ministry of Environment and Forests has received Crisis Management Plans for forest fire from the States

of Andhra Pradesh, Chhattisgarh, Haryana, Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Tripura, Uttarakhand and Uttar Pradesh. Chhattisgarh has not prepared local contingency plan to deal with the Forest Fire in the State. Jammu & Kashmir has informed that the contingency plan is being finalised at the end of August after the disaster management plan of the State is approved. The Ministry is considering the Crisis Management Plans of States. However, in view of the fresh guidelines/National Disaster Management Plan prepared by the MHA, fresh guidelines will be issued to the States after the finalization of the National Forest Fire Disaster Plan of this Ministry.”

114. The Forest Survey of India (FSI) under MoE&F had developed an indigenous methodology to detect forest fires from the given fire spots. The objectives of the project were to find and report forest fires at the nascent stage and to provide quick and reliable information to State Forest Departments (SFDs). The Committee were informed that the magnitude of forest fire and loss due to fire is not available on the website of FSI. At present, FSI is providing information about the location of forest fires on its website and this information is disseminated to the nodal officers and the registered front line staff in the State Forest Departments. The data on forest fires as generated by FSI has been used to study the occurrence of forest fires in the country. On the basis of these data, FSI has prepared a report titled "Vulnerability of India's Forests to Fire". This report identifies the vulnerable areas of the forests in India. This report has been shared with the State Forest Departments and will be used to prepare State and local level Forest Fire Management Plans. It is also proposed that a study similar to that done by the FSI will be done at the State Level to identify forest fire vulnerable areas at a division level so that effective planning can be done to take care of forest fire vulnerability of these areas.

115. MoE&F provided funds for forest fire control and management mainly through Intensification of Forest Management Scheme (IFMS). MoE&F did not ascertain the gaps between existing infrastructure and ideal requirement of State Governments for which these funds were released. MoE&F was to arrange for periodic monitoring and evaluation of the scheme. However, no such monitoring and evaluation was done. Replying to a query of the Committee regarding mechanism to ascertain the gaps between existing infrastructure and requirements by State Government and its efficiency in achieving the targeted goals, the MHA furnished as under:—

“The State Forest Departments submit annual plan proposal under IFMS to the Ministry. These proposals are considered by the Screening Committee appointed for the scrutiny and review of the proposals in the Ministry. The Screening Committee is chaired by Additional Director General of Forest (Forest Conservation). The other members of the Committee are Deputy Inspector General of Forests NAEB, Deputy Inspector General of Forests (Research & Training), Deputy Inspector General of Forests (Wildlife), Deputy Inspector General of Forests (Forest protection), Director (Finance) and Representatives of Civil Construction Unit.

After discussion with the representatives of the States/UTs who are also invited to the meeting of the Screening Committee, the Committee recommends the annual plans for the States/UTs under the scheme.”

116. When asked to give reasons for not doing monitoring and evaluation of IFMS by MoE&F, the Ministry replied as under:—

“The scheme is being implemented by the State Forest Departments and as such the Principal Chief Conservator of Forests is responsible for the implementation of the scheme. The scheme is being monitored at the level of the PCCF of the States/UTs. The Ministry had issued specific instruction for monitoring of the implementation of the scheme and reports have been received so far from the States of Gujarat, Goa, Haryana, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh, Mizoram, Sikkim, Tripura, Andaman & Nicobar Islands and Dadra & Nagar Haveli. A third party monitoring of the scheme is under process.”

(vi) Chemical Disaster

117. The Ministry of Environment and Forests (MoE&F) is the nodal Ministry for chemical disaster as per Crisis Management Plan (CMP), 2007 of GoI. MoE&F had notified two sets of rules namely: The Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 and the amendment (MSIHC Rules), and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996 [CA (EPPR) Rules]. The MSIHC rules prescribed preparation of on-site emergency plan by the occupier and off-site emergency plan by the District Authority. The Committee desired to know whether off-site and on-site emergency plan of all the districts have been prepared. The MHA informed that as per the available information the total number of district is 301 and Major Accident Hazard (MAH) units in these districts are 1861. The on-site plan of 1814 MAH units have been prepared and 1664 mock drills were conducted. As regard off-line plans 200 districts have prepared their plans and plans of 42 districts were under preparation. The Audit has also pointed out non coordination of central and State Crisis Group.

118. The Committee were informed that a draft National Action Plan (NAP) on Chemical (Industrial) Disaster Management (CIDM) was submitted by Disaster Management Institute (DMI), Bhopal. The draft NAP is being revised in consultation with National Management Authority and DMI as advised by NDMA.

119. The Committee were also informed that eight emergency Response Centres have been funded by the Ministry of Environment and Forests, five in Andhra Pradesh (Vishakhapatnam, Hyderabad, Kurnool, Vijaywada and Kakinada), one in Kerala (Ernakulam), one in Madhya Pradesh (Bhopal) and one in Maharashtra (Mahad).

120. The Audit had found that only 12 Chemical incidents reported since 2009. The authorities were not reporting all the chemical accidents even those reported in the National Chemical Disaster Database published by MoEF, to Chemical

Accidents Information and Regulating System (CAIRS). In reply to a query of the Committee the MHA informed as under:—

“According to NIC, based on the chemical accident information available with Ministry of Environment and Forests, their NIC team had updated the information into Chemical Accident Information and Reporting System (CAIRS), a software developed by NIC. At present CAIRS is functioning.”

(vii) Biological Disasters

121. Ministry of Health and Family Welfare (MoH&FW) was the nodal Ministry for coordinating the response to challenges of biological disasters. The Emergency Medical Relief (EMR) Division of the Directorate General of Health Services was the focal point for coordination and monitoring response for biological disasters of national and international concern. The core function for preparedness for biological disasters was surveillance which was undertaken through Integrated Disease Surveillance Project (IDSP). This project was run by National Centre for Disease Control (NCDC). IDSP was responsible for surveillance, detecting early warning signs and informing the government. The Committee desired to know about the biological disaster reported, including causes, effect and lessons learnt, so far in the country. The MHA informed as under:—

“Pandemic Influenza is the only biological event in recent past that was declared to be a Public Health Event of International Concern by World Health Organization. Member States including India followed an action plan to mitigate its impact. India reported 47840 laboratory confirmed cases and 2744 deaths for the period May, 2009—December, 2010. The lessons learned were that (i) there is a need for influenza surveillance to know the public health burden on influenza, (ii) strengthening of laboratory services and (iii) strengthening of critical care services.”

122. In reply to a query of the Committee it was informed that a draft Public Health (Preventive, Control and Management of Epidemics, Bio Terrorism and Disasters) Bill is under finalisation with the Ministry of Health and Family Welfare.

123. There is no proposal to prepare national code of practice for the bio-security and bio-safety. However, there is an International code of practice for bio-safety/bio security practices and the same is being followed in India also. The Committee enquired about the mechanism adopted by NCDC to improve upon the reporting of disease outbreaks by States and UTs to Central Surveillance Unit. The MHA informed as under:—

“Central Surveillance Unit, IDSP is a division under NCDC, Delhi. Under IDSP, the data is collected on epidemic prone diseases on weekly basis (Monday—Sunday) through portal. The information is collected on three specified reporting formats, namely "S" (suspected cases), "P" (presumptive cases) and "L" (laboratory confirmed cases) filled by Health Workers, Clinicians and Laboratory Staff respectively. The weekly data gives

information on the disease trends and seasonality of diseases. Whenever there is a rising trend of illnesses in any area, it is investigated by the Rapid Response Teams (RRT) to diagnose and control the outbreak. Data analysis and actions are being undertaken by respective State/District Surveillance Units. CSU, IDSP receives disease outbreak reports from the States/UTs on weekly basis. Even NIL weekly reporting is mandated and compilation of disease outbreaks/alerts is done on weekly basis. On an average, 30-35 outbreaks are reported to CSU weekly. A total of 553 outbreaks were reported in 2008, 799 outbreaks in 2009, 990 outbreaks in 2010, 1675 outbreaks in 2011 and 1356 outbreaks have been reported and responded to in 2013 (Date up to 1st September, 2013).”

124. Audit had found slow pace of strengthening of district laboratories. In this regard the Committee enquired about the status of strengthening of district laboratories. The MHA informed as under:—

“Strengthening of district laboratories for diagnosis of epidemic prone diseases namely Dengue, Chikunguniya, enteric fever, cholera, Hepatitis A and E: 42 district public health labs have been made functional by providing deficient equipment, trained manpower and operational funds. Overall in the 12th Plan, a total of 300 district labs are proposed to be strengthened for diagnosis of epidemic prone diseases.

State Referral Lab Network

The existing functional labs at medical colleges are linked to adjoining districts for outbreak investigations. A total of 85 Medical College labs in 17 States have been linked to the adjoining districts so far. Overall in the 12th Plan, a total of 190 Medical Colleges are proposed to be included in the State referral lab network for investigation of outbreaks in the linked districts.

In addition, Government has approved scheme of Indian Council of Medical Research for "Establishment of a network of Laboratories for managing Epidemics and natural calamities" to strengthen diagnostic capabilities of existing microbiology and virology laboratories in the country. The three tier network includes (i) Regional Level Bio Safety Level (BSL)-3 Laboratories (ii) State Level BSL-2 Plus Laboratories (iii) Medical College BSL-2 Laboratories. A total of 160 laboratories would be strengthened in this network all over the country.”

125. The Committee enquired about steps taken by the Government to strengthen disease surveillance in the country and funding status of this project. The Ministry in their written submission stated as under:—

“Under IDSP, Surveillance Units have been established in all States/Districts. These units have been linked through an IT network. District Surveillance units collect data from health facilities, compile and analyze to detect and respond to outbreaks at the earliest. Presently, about 90% of the districts

report weekly surveillance data through the portal. Whenever there is a rising trend of illness in any area, it is investigated by the Rapid Response Team to diagnose and control the outbreaks. The Rapid Response Teams and Surveillance Officers have been trained in all States. In the 12th Plan period, an outlay of ₹ 640 crore has been approved for implementation of Integrated Disease Surveillance Programme (IDSP) in the country. Funds are released to the State Health Societies as GIA to support them to undertake surveillance activities.”

126. The Audit had found that telecommunication network for IDSP was no functional despite incurring an expenditure of ₹ 12.93 crore as on September 2012. In this regard the Ministry have furnished the status as under:—

“Surveillance Units in State/Districts under Integrated Disease Surveillance Project has been connected through IT network established with the help of National Informatics Centre (Broadband Connectivity) and Indian Space Research Organization (Satellite Connectivity). IT network through broadband connectivity is functional. However, satellite connectivity will be available once the migration from GSAT-3 to GSAT-12 being done by ISRO is complete.”

(viii) Radiological and Nuclear Emergencies

127. Department of Atomic Energy (DAE) was the nodal agency for responding to any nuclear or radiological emergency. Atomic Energy Regulatory Board (AERB) was set up in 1983 to lay down safety standards and to assist DAE in framing rules and regulations for regulatory and safety functions. Prior to the establishment of AERB, radiation facilities were under the regulatory control of BARC. AERB did not obtain sufficient data relating to radiation facilities operating in the country when the regulatory work was assigned to it. AERB did not have an effective system in place to ensure continuous collection and updating of its inventory of all radiation sources. Codes for emergency preparedness plans for NPPs and nuclear fuel cycle facilities of Department of Atomic Energy had been framed and issued. However, no specific codes on emergency preparedness plans for other types of radiation facilities such as industrial radiography, radiotherapy and gamma chambers, etc. had been brought out even though the hazard potential of these were rated as high. NDMA brought out the National Guidelines for management of nuclear and radiological emergencies in February, 2009.

128. In reply to a query of the Committee the Ministry has informed that AERB has brought out Safety Codes establishing the requirements related to emergency preparedness in radiation facilities/practices and is of the view that the present arrangement is adequately addressing the regulatory functions as well as the intent of the recommendation. For prevention and mitigation of accidents and emergencies in the Nuclear Power Plants/Projects (NPPs) also, AERB has specified very elaborate requirements with respect to their sitings design and operation in the AERB safety code.

129. The Committee enquired about the mechanism evolved by AERB to ensure continuous collection and updation of inventory of radiation sources. The Ministry replied as under:—

“AERB has established regulatory requirements with respect to possession and use of radiation sources. These include the requirement to obtain AERB's consent, adherence to the safety requirements during their handling, use and storage, requirements with respect to periodic reporting of safety status; and requirements for safe disposal of the sources. AERB is maintaining a database of the inventory of radiation sources in the country. AERB has established a mechanism for updating of this database based on information from the consents that are issued to the users for procurement of fresh sources, periodic safety status reports from the users, feedback from the inspections done by AERB consents issued for safe disposal of disused sources and the acknowledgement received from the authorized waste management agencies and source suppliers.”

130. The Committee desired to know about the steps taken by AERB in strengthening the approach to deal with issue of orphan sources. The Ministry in their reply furnished as under:—

“A radioactive source that is not under regulatory control, either because it has never been under regulatory control or because it has been abandoned, lost, misplaced, stolen or otherwise transferred without proper authorization, is referred to as an orphan source. In order to deal with the issue of orphan source, it is first necessary to have a sound and robust control over the radioactive sources used in the country.

After the incident at Mayapuri Scrap Yard, Delhi AERB initiated various actions to further strengthen the inventory of the sources including the legacy sources. All the Indian source suppliers were contacted to get details of the sources supplied by them to verify the existing inventory with AERB. Various Ministries like Ministry of Steel, Ministry of Health and Family Welfare, Ministry of Coal, Ministry of Power etc. and UGC were requested to issue circulars to the units under them to come forward with details of used/disused sources. All the universities have been individually contacted. All the users of the sources were informed with the help of the print media to furnish information on sources in their possession. Computerisation of updated inventory of radiation sources has been completed.

AERB has ensured that all the licensees report immediately, any incident of lost/theft or misplacement of sources, to AERB so as to enable prompt action to trace/recover the sources. If the cases of lost/theft or misplacement of the the sources are known to be due to negligence from the side of the users (licensees), appropriate regulatory actions are initiated against the defaulters.

AERB is also taking measures to enhance the awareness on the above, among the source suppliers and user institutions. The following are the major actions taken, following the Mayapuri incident.

- * Periodic advertisements issued in all leading newspapers about the need for licensing as per Atomic Energy (Radiation Protection) Rules, 2004 and disposal of disused sources as per Atomic Energy (Safe Disposal Radioactive Wastes) Rules, 1987.
- * Intimation to all source suppliers about the disused sources with various radiation facilities.
- * Inspections of radiation facilities, with special emphasis on facilities possessing disused source (such as Universities, academic institutions and other radiation facilities) has been enhanced.
- * Issuance of circulars to radiation facilities, for obtaining formal licences.
- * Conduct of regular awareness programmes by AERB.

Further to this, AERB has taken initiative to implement a state-of-art e-Licensing of Radiation Application (ELORA), a web-based application for the automation and real time management of consenting process. The proposed system will ensure that radiation sources are effectively tracked from cradle to grave.”

(ix) Heatwave Conditions

131. According to some news reports, in India's natural death trap, the sun is the second biggest killer after water and its victims have increased by over 60% in the last decade as thousands die because of ineffective heat management plans by the Government. National Crime Records Bureau data shows a searing heat wave has clocked the highest toll in 15 years, killing over 2,000 people. In fact, the number of victims was more than double than that in 2003 and a long-term analysis revealed the lives claimed by India's sizzling summers have been steadily rising. Between 2005 and 2015, the highest number of deaths was reported in 2012 when the toll was the maximum among all natural disasters. The blazing heat was way behind floods in its killing ability till about ten years back but has since caught up, a fact experts blame on climate change. Global temperatures have risen by an average of 0.8°C in the last century but warmer tropical regions, including south India, have witnessed a spike of between two and four degrees, said the fifth assessment report of the Inter-governmental Panel on Climate Change.

132. The Committee asked the MHA about the plan to declare heatwave a natural disaster and plans undertaken for management of such disaster in the country. The Ministry in their submission *inter-alia* stated as under:—

“Heat Wave is a period of abnormally high temperatures, more than the normal maximum temperature that occurs during the summer season in the North-Western parts of India. Heat Waves typically occur between March and June and in some rare cases even extend till July. The extreme temperatures and resultant atmospheric conditions adversely affect people living in these regions as they cause physiological stress, sometimes resulting in death.

Higher daily peak temperatures and longer, more intense heat waves are becoming increasingly frequent globally due to climate change. India too is feeling the impact of climate change in terms of increased instances of heat waves, which are more intense in nature with each passing year, and have a devastating impact on human health thereby increasing the number of heat wave casualties.

Deaths due to heat wave/heat stroke have been reported in the past from all over the world from areas prone to hot weather conditions.

Heat illness may be viewed as a continuum of illness relating to the body's inability to cope with heat. It includes minor illnesses, such as edema, heat rash, heat cramps and tetany, as well as heat syncope and heat exhaustion. Heat stroke is most severe form of heat-related illnesses and is defined as a body temperature higher than 41.1⁰ C (106⁰ F) associated with neurologic dysfunction.

In developed countries like United States of America, heat waves claim more lives each year than all other weather-related exposures combined (hurricanes, tornadoes, flood and earthquakes). In 1998, in one of the worst heat waves to strike India in 50 years resulted in more than 2600 deaths in 10 weeks. This summer, as per media reports, more than 2000 deaths have been reported in India across the country.

.....Heat waves are now one of the deadliest reasons for loss of human lives during summer. NDMA has prepared some do's and don't's (in English) for heat waves which is available in their website www.ndma.gov.in. However, the common man either does not understand English or has access to internet as such and therefore, there is a felt need for advisories to be issued to the State Government. NIDM has been requested on 01.06.2015 to undertake a study and submit their recommendations about the preventive actions to be taken by the State Governments. This may include how to publicize do's and don't's as suggested by NDMA, what medicines to be stored and logistic arrangement to be made by State Governments/local bodies. NIDM has also been requested to send NIDM teams to Andhra Pradesh and Telangana to study the economic profile of the people who reportedly died due to heat waves. NIDM has been requested to provide their report in 2 months time.

Many of States had requested for inclusion of new disasters like heat wave, erosion, lightning, bamboo flowering etc. in the list of disasters eligible for assistance from State Disaster Response Fund (SDRF)/National Disaster Response Fund (NDRF). Considering the need for flexibility in regard to State-specific disasters, the 14th Finance Commission in its recommendation has recommend that up to 10 per cent of the funds available under the SDRF can be used by State Government for natural disasters that they consider to be disasters within the local context in the State and which are not included in the notified list of disasters of the Ministry of Home Affairs.

Accordingly, the Ministry of Home Affairs has revised the norms of SDRF/ NDRF *vide* letter dated 08.04.2015. As per revised norms, the States can use 10% of their State Disaster Response Fund for State specific local disasters, example heat wave which are not covered in centrally notified list. However, the State Government has to notify these local disasters and the scale of assistance for such local disaster should not exceed the norms of SDRF/ NDRF. Thus, under the revised norms, the State Government can declare heat wave as a local disaster if situation requires so.”

PART II

RECOMMENDATIONS AND OBSERVATIONS

1. A disaster, as defined in 'The Disaster Management Act, 2005', is a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, which results in substantial loss of life or human suffering or damage to and destruction of, property, or damage to, or degradation of environment and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area. India is one of the most disaster prone countries in the world largely due to its geo-climatic conditions combined with the second largest population in the world and other-socio economic factors. Since the possibility to eliminate disasters, particularly natural one, is not possible, disaster preparedness is becoming the most prominent theme for disaster management. The country has faced several devastating disasters including river floods, cloudbursts, earthquake, tsunamis and stampedes in the recent past and due to a very high population density suffered excessive damage to human lives, property, livestock and environment. Accordingly, India enacted a law for setting up of a disaster management institution under 'The Disaster Management Act, 2005'. In this connection, while considering that a long time had elapsed since enactment of said law and the Government, at Central and State level had initiated various mitigation projects, created institutional set-ups at Central, State and district levels, and identified nodal Ministries responsible for Disaster Risk Reduction (DRR) work for various manmade and natural disasters, the C&AG had conducted a performance review to assess the level of preparation in the country to manage disasters. Based on the Audit findings, as well as information gathered from MHA, the Committee have analysed various issues involved and critical gaps in preparedness of disaster management and given their considered opinions in the succeeding paragraphs.

2. Institutional set-up and less sittings of NEC

The Committee note that as a follow up of UN General Assembly declaration of the decade of 1990s as 'International Decade for National Disaster Reduction', a Disaster Management cell was established under the Ministry of Agriculture. Later, in 2002, the DM division was shifted to Ministry of Home Affairs, as recommended by a High Powered Committee (HPC). Following the report of the HPC submitted in October, 2001, the Government enacted Disaster Management Act, 2005 on 23 December, 2005. The DMA Act provided for three tier institutional arrangements for setting up of National Disaster Management Authority (NDMA) headed by PM, State Disaster Management Authorities (SDMAs) headed by Chief Ministers and District Disaster Management Authorities headed by Collectors/DCs/DMs. NDMA, responsible for laying down policies and guidelines, is a central

nodal agency to deal with all types of disaster except certain specific emergencies. The national Executive Committee (NEC), constituted in September, 2006 and headed by the Home Secretary and 14 Secretaries of GoI and Chief of Integrated Defence Staff as members is the executive Committee of the NDMA to assist in the discharge of its functions. NEC was to co-ordinate the response in the even of any disaster situation. It was also responsible for preparing the National Plan for DM and to monitor guidelines issued by the NDMA. The Committee note that NEC was supposed to meet atleast once in three months. However, the audit revealed that it met only three times. *i.e.*, on 08.01.2007, 18.05.2007 and 13.05.2008 in three years, since its inception in September, 2006, despite the country facing many disasters in those years *e.g.* floods in West Bengal in July, 2007, floods in Kosi river, Bihar, in September, 2008 and two major stampedes in H.P. and Rajasthan in 2008. The Committee also note that the NEC only met more frequently during July and September, 2013 *i.e.* after the Uttarakhand cloudburst disaster in Kedarnath Shrine area. The Committee, however, wonder as to why the NEC could not meet in earlier years of its inception, as was expected, to prepare the National Plan on DM and consequent related preparedness at the level of Ministries/ Departments/ State Governments. The Committee, therefore, feel that the exact role of NEC needs to be clarified to them. Further they desire to know the difficulties, if any, in convening its meetings every three months as stipulated. They feel that the NEC either should meet more often to perform its assigned role for disaster management in the country of its powers need to be delegated to a suitable authority so that preparedness of other agencies is not delayed and implementation of its Guidelines is monitored effectively.

3. The Committee note that NEC was to prepare National Plan for Disaster Management of the country and circulate of Ministries/Departments/States so that they can draw their own plans in accordance with it. However, neither NEC nor MHA prepared National Plan till 2013 when it was sent to the NDMA for further necessary action. The Committee understand the difficulties/problems in formation of a National Plan for a country with very diverse geo-climatic conditions. Moreover, a number of Ministries/Departments and other agencies/Governments were involved. Still they feel that the NEC took a very long time of 7 years *i.e.* from 2006 to 2013 to finalise the Plan. Quite evidently, the inadequate number of meetings held by NEC due to lack of adequate secretarial support was one of the factors responsible for this delay. The Committee note that in the meantime, NDMA issued guidelines, in 2007, for preparation of State Disaster Management Plan. The NDMA has issued 17 guidelines on various types of disasters and related issues till October, 2012. Till 2014, 20 States had shared their plans with NDMA. The Government has also provided Grants-in-aid ranging between 8-10 lakh to the States for finalisation of their Plans. The Committee, however, find that avoidable delays took place in finalisation of National as well as States' Plans for management of disasters. The Committee are of the firm view that delay has taken place because the NEC and NDMA has delayed the finalisation of Guidelines and National Plan for disaster management. As due to several natural and man-made causes, an

alarming rise in disasters is being witnessed in the country now, the Committee desire that the Ministry of Home Affairs must take up the matter urgently with the remaining State Governments/Ministries/Departments/agencies, who have not drafted or finalised their State Disaster Management Plans and get needful done. The Ministry should inform the latest position in this regard to the Committee within three months from the date of presentation of this report to the Parliament. The Committee may also be informed of the status of National Plan for disaster management, which was statedly pending for NDMA approval.

4. *Functioning of National Disaster Management Authority (NDMA)*

NDMA was formally constituted in accordance with Section 3 (1) of the Act on 27 September, 2006 to deal with all types of disasters. The Advisory Committee of NDMA consisting of experts in the field of disaster management and having practical experience, was to be constituted to make recommendations on different aspects of disaster management. It was constituted in July, 2007 initially for 2 years period which was extended for one more year. The Committee note that in June, 2010 NDMA initiated the proposal for constitution of the 2nd Advisory Committee which could not be constituted till 2014. According to the MHA. The process was time-consuming as well as requiring involvement of various stakeholders hence the delay. However the process of short listing of experts in NDMA was stated to be at the final stage of completion. The Committee also note that the working group of the then Planning Commission (December, 2006) had recommended various projects to be taken up by NDMA during the Eleventh Plan for disaster management, out of which, as per the MHA, no other project could be sanctioned except the National Earthquake Risk Mitigation Project (NERMP) on 5 April, 2013, which is currently under implementation. Some projects were dropped as some other agencies were already formulating those projects. The Committee are aghast at this scenario. They further note that the Guidelines by the Ministry of Finance could be issued only in 2009 to ensure that a new scheme meets the concerns of disaster mitigation. As regard manpower management in NDMA, the Committee note from the audit Report that there were 33 to 60 per cent vacancies at the end of each financial year in NDMA during 2008-09 to 2012-13. However, they were informed that during 2014, out of 155, only 8 posts were vacant and 147 are filled, either through regular staff or outsourced/ contractual staff. The Committee, however, still feel that the Government lacked requisite promptness in dealing with issue critical for disaster preparedness in the country. Therefore, while expressing their displeasure on the working of NDMA, the Committee desire the MHA:—

- (i) To take up the issue of constitution of 2nd Advisory Committee of NDMA at the earliest and inform about the latest status.
- (ii) To review its project execution capacity, reinforce it and fix timelines for execution so that shoddiness is eliminated and projects are finalised within the prescribed time.

- (iii) To start systematic assessment of major National projects/Schemes, particularly those already made for landslide and floods and enhance monitoring to ensure that these projects are finalised at the earliest and are as per structural requirement of disaster reduction.
- (iv) To ensure that all critical posts in NDMA are filled instantly.

5. Resource and fund arrangements for disaster management

The Guidelines for administration of the State Disaster Response Fund (SDRF) and National Disaster Response Fund (NDRF) were issued in September 2010. The funds were made operative for a period of five years (1 April, 2010 to 31 March, 2015) for use only to meet expenditure for providing immediate relief to the victims of cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloudburst and pest attack. The Committee note that as per Audit Report, States were found to be deficient in sending the details of utilisation and balances in SDRF regularly. They also incurred an expenditure of ₹ 345.03 crore on inadmissible components during 2007-08 to 2011-12. States had also not invested unspent balances in their SDRFs/CRFs resulting in potential loss of interest of ₹ 477.99 crore. The MHA, however, informed that State Executive Committee is responsible to ensure proper utilisation of the fund. While not agreeing with the argument put forth by the MHA, the Committee point out that as per the guidelines, MHA is the nodal ministry for overseeing the operation of SDRF and monitoring compliance with the prescribed processes. The Committee therefore urge the MHA to act, as mandated, on the matter and desire them to strengthen their monitoring mechanism so that proper utilization of funds under SDRF is ensured and unspent balances are regulated.

6. The expenditure on disaster preparedness, restoration, reconstruction and mitigation were not to be met from NDRF but from the plan funds of States. DM Act also provides for constitution of a National Disaster Mitigation Fund (NDMF), at the disposal of NDMA, for funding the projects geared exclusively for disaster mitigation. The NDRF however was found to be unavailable to NEC and was operated by MHA in contravention of the Act. However, after being pointed out by the Audit, MHA has since taken corrective measures and constituted two sub-Committees for scrutiny of reports of the Inter-Ministerial Central Team on behalf of the NEC on 17 September, 2013. An amount of ₹ 654.04 crore in case of Gujarat, Assam and Goa, identified as excess against the on-account release made from NDRF, was to be adjusted against the requests of the States for assistance from NDRF in future. MHA denied utilisation of NDRF for the purpose other than the prescribed purposes. The Committee also have been informed that the Department of Expenditure, Ministry of Finance had expressed views against the NDMF on the basis of the argument that mitigation should be part of the Plan process as there are already schemes targeted towards mitigation. They also stated to have revised the formats for EFC evaluation of new Plan and Non-Plan Expenditures with a view to addressing disaster concerns. Meanwhile the Task Force set up by the MHA on Disaster Management has recommended for constitution of NDMF and accordingly

the Ministry of Finance has been requested by the MHA to do so. A Cabinet note on the issue is under preparation. The Committee are perturbed to note that substantial time has been lost in the bureaucratic tussle for a decision to constitute the NDMF at National, State and District level. They therefore, urge the MHA to expedite the Cabinet note with requisite promptitude as well as pursue the matter vigorously with the Ministry of Finance for formation of the NDMF at all three levels so that mitigation activities get a boost. The Committee desire to be apprised of the latest status in this regard.

7. Delay in setting up Communication systems for disaster management

The Committee note that timely deployment and use of telecommunication resources play an extremely crucial role in saving lives, mitigating disaster and carrying out relief operations. The Department of Space (DoS) had in March, 2003, started the Disaster Management Support (DMS) Programme to harness the benefits of the space based technology for applications in disaster management in the country. Under this programme, a Decision Support Centre was set up at the National Remote Sensing Centre that monitored prevalence and severity of agricultural drought in 13 States during Kharif crops season, active forest fire and all major earthquakes and landslides in India and its adjoining region. DoS had undertaken a project to develop National Database for Emergency Management (NDEM), to be completed by 2011, which, however, the audit found as not operational till July, 2012. However, MHA informed that 32 central Ministries/Departments and 29 States/UTs have already identified the details of nodal officers and the data is placed on NRSC and NDEM websites. ISRO formulated a programme for creation of a digital, thematic and cartographic data base for hazard zonation and risk assessment and with NRSA it planned to cover one lakh sq. km. every year for the development of close contour information of ground using the Airborne Laser Terrain Mapper (ALTM) system thereby covering all priority flood prone areas (five lakh sq. km.) in five years. The ALTM survey during 2004—06 could not be undertaken due to non-availability of clearance from Defence, which, as per the MHA, has now been made available. The Committee further note with concern that support through Disaster Management System Aperture Radar (DMSAR) by acquiring aerial radar data during natural disasters could not be materialised even after incurring an expenditure of ₹ 28.99 crore and the flight model DMSAR system testing was going on at NRSC, Hyderabad till 2013. Satellite based communication network was not fully operational even after six years of receipt of equipment and incurring expenditure of ₹ 6.77 crore. Although, as per the Ministry, 32 units/systems for instance, the primary node of a dedicated electronic satellite based network at IMD, Delhi have now started functioning. Furthermore, an amount ₹ 35.64 crore was spent by DoS for setting up of the five Doppler Weather Radars for monitoring of severe weather system but those failed to reap the desired results. Equipment are now stated to be in the process of installation. Similarly, Projects conceived by the NDMA (i) National Disaster Communication Network and

(ii) National Disaster Management Informatics System are still at the stage of planning. From the foregoing, the Committee conclude that all the projects undertaken for strengthening the communication network for disaster management are either delayed badly or still at the planning stage. The Committee express their anguish over delay in such crucial projects prepared with the involvement of the country's premier scientific departments with proven credentials, due to reasons varying from non-availability of land/sites to non-clearance from Defence Authorities. The Committee, therefore, desire the MHA to pursue the matter with the respective agencies *viz.* Department of Space, ISRO, etc. to ensure completion and operationalisation of the respective communication network projects being handled by them at the earliest. The Committee also desire to know the progress of proposed Integrated Himalayan Meteorological Project specially made for weather monitoring and forecasting in the Himalayan region.

8. Status of National Disaster Response Force (NDRF) & State Disaster Response Force (SDRF)

The Committee note that NDRF was formed in 2006 as a specialist force with the capabilities to deal with all types of natural and man-made disasters. It had 10 battalions consisting of deputationists from CAPF, spread all over the country, with headquarters at Delhi. As per the Audit, there was shortage of 3031 personnel *i.e.* 27 per cent as of May, 2012 of which specialised posts constituted 43% (1318). The powers of the DG, NDRF has been enhanced *w.e.f.* 2013 on the matter of transfer of NDRF personnel, which did not exist earlier. The Committee also note that despite the decision taken in 2006 to establish a National Institute of Disaster Response to cater to the training needs of NDRF and other stakeholders at the cost of ₹ 116 crore, the said Institute is still at the proposal stage. Also, there are shortage of accommodations for battalions of NDRF, which are at present sharing accommodation with the CAPFs despite a proposal of ₹ 3171.58 crore under consideration of MHA since December, 2011. The Committee are of the firm view that performance of the NDRF can be seriously hampered due to shortage of trained manpower, absence of required/specialised training facilities infrastructure and equipment. Only 7 States had constituted SDRF in their respective States. The Committee, therefore, desire the NDRF to take appropriate action to fill the vacant posts including those of specialists in the force. They also desire that MHA should take necessary steps to provide adequate infrastructure for NDRF battalions and their officers by pursuing the matter with Ministry of Urban Development, including specialised training institute at the earliest so that the NDRF personnel remain motivated and concentrate on enhancing their performance. The MHA should also encourage and pursue State Governments for formation of SDRFs at the earliest.

9. Need to enhance Civil Defence, Fire Service and Medical Preparedness in response to disaster

The Committee note that upgradation of National Civil Defence College, Nagpur has been completed in March, 2013 so that it could play a significant role

in disaster management and assist police in internal security and law and order situations in addition to its primary role. However, the scheme to upgrade National Fire Service College which was launched in June, 2010 could not be completed due to large scale encroachments, which have now been removed. The Committee further note that as per the guidelines, medical facilities for Chemical, Biological, Radiological and Nuclear (CBRN) disasters were lacking in the country. To initiate with it a CBRN Medical Management Centre is envisaged at Safdarjung Hospital for which detailed project report preparation is being taken up. The repair of CBRN Vehicles have been completed and are likely to be located at Pune, Ghaziabad, Chennai and Kolkata. Also training to medical staff/technicians and others, is being provided at different institutes/hospitals at different locations in the country. Also now three MCI recognised degree courses in emergency care, medicine and surgery have been started in AIIMS. The Committee appreciate the various efforts being made towards preparedness for medical emergencies. The Committee however, desire the MHA to take immediate steps for upgradation and strengthening of National Fire Service College as Fire services were not adequately staffed in various States to provide quick and immediate response. They also desire MHA to review/assess the availability of training personnel to be required to deal with the disaster situations at the requisite places at the earliest.

10. The Committee note that the NDRF, which was formed in 2006, is a multi-disciplinary, multi-skilled high-tech force, having 10 battalions, to deal with all types of disasters. Composed of trained personnel, it can provide specialist search and rescue teams. The Committee also note that training is a continuous process and NDRF personnel are being trained by International Experts in specialise areas of expertise at Government Institutes of BSF, CRPF, ITBP, Bhabha Atomic Research Centre, Mumbai etc. and some private institutes such as Sea Explorers Institutes, Kolkata; NIM, Uttarkashi, Himalayan Mountaineering Institute, Darjeeling; Swami Vivekananda Institute of Mountaineering, Mount Abu etc. Further, 119 NDRF personnel have undergone training in different foreign countries. Under the India Swiss Collaboration training of Trainers at NISA, Hyderabad and Basic Training Centre, Bhanu, Chandigarh was imparted wherein 186 personnel of NDRF were trained. 67 dogs were also given training. Swiss Development Corporation has also imparted training to 118 NDRF personnel at 3rd Bn. NDRF, Mundali. Programme for Enhancement of Emergency Response (PEER) is a regional training programme initiated by the USAID to strengthen and institutionalise capacity in emergency and disaster response. PEER has supported capacity building initiative of Government of India and imported training in Medical First Responders, Collapsed Structure Search and Rescue (CSSR) graduates, CSSR instructors and Master instructors. The Committee are happy to know that the good training arrangements have been made by the Government to impart training to NDRF personnel within and outside the country. They also appreciate the good relief and rescue work done by the NDRF after the earthquake in Nepal and flood in Jammu and Kashmir, and feel that the force needs to be strengthened further to perform even better in future. The Committee also desire that coordination between Civil Defence personnel and State authorities needs to be looked into to provide better services to the people affected by the disaster.

11. *Capacity building for disaster preparedness*

The Committee note that effective disaster management requires trained manpower to deal with complex situations effectively and rapidly to reduce the impact of disaster. It is, therefore, necessary to continuously undertake measures to build capacity amongst those who are handling disaster prevention, mitigation, preparedness, response, reconstruction and also create awareness amongst the people. Two programmes, launched by MHA in 2004-05 and later on transferred to NIDM in 2008, namely the National Programme for Capacity Building of Engineers in Earthquake Risk Management (NPCBEERM) and the National Programme for Capacity Building of Architects in Earthquake Risk Management (NPCBAERM) were shelved in December, 2010 due to non-availability of engineers and architects for training, after training 210 Architects as master trainers against the target of 250 and 308 engineers as master trainers against the target of 450, who, in turn, trained 1361 architects and 2528 engineers. However the non-plan scheme for financial assistance of ₹ 25 crore to Administrative Training Institutes (ATI) and State Training Institutes for operation of Centre for Disaster Management, which was approved for a period of five years, was successful as under it, 1,06,448 persons were trained as against the target of 60,000 in various aspects of disaster management. On the other side, India Disaster Resource Network portal which was handed over to NIDM in 2008 for updating and maintaining the portal suffered due to non-availability of dedicated staff. It could start maintaining data only from 2012, when a dedicated computer programmer was appointed on contractual basis. NIDM is also lacking trainers as many posts were lying vacant since the recruitment rules are still under consideration for approval of the competent authority thus underutilisation of NIDM capacity. Also though there were delays in completion of projects on Capacity Building in Disaster Management for Government officials and representatives of local bodies and district level funded by NDMA, in all, 16479 participants have attended their face-to-face training programmes against the target of 16200. The Committee thus observe that the capacity building measures have brought out results despite experiencing delays in all the concerned projects. The Committee, however, desire:—

- (i) That MHA finalise the recruitment rules of NIDM expeditiously and take urgent steps to fill all vacant faculty posts of the institute so that it can perform with full strength and impart training to more persons involved in disaster management. This would ultimately increase a specifically trained manpower to handle the disaster situations in a better way.
- (ii) To be informed about the alternative arrangements made by MHA to train architects and engineers in view of shelving of the twin programmes viz. NPCBEERM and NPCBAERM.
- (iii) To be informed about the progress made in impact evaluation of training programme conducted by NIDM.
- (iv) The continuous uploading of data in India Disaster Resource Network.

12. *Disaster preparedness for Earthquake*

The Committee note that considering the vulnerability of the country's landmass to the risks of earthquake, various efforts are underway to prepare for such eventualities. It includes archival-digitisation of seismic/analogue charts since 1996, preparation of hazards map and atlas of India etc. Also following the Optimum Seismological Network Programme sanctioned in 2009 by the IMD, 65 stations are now operational and the capacity is being further enhanced. However, the Project for upgradation of Earthquake Hazards Maps for the country costing ₹ 76.83 lakhs, which started in June, 2011, is yet to be completed due to non-availability of district boundaries data from the Census of India. Another project 'National Earthquake Risk Mitigation', approved in April, 2013 is under implementation during 2013-15. Considering the increased seismic activity in the Himalayan region which has been witnessed recently, the Committee emphasis upon an early completion of the earthquake preparedness activities at all levels. They desire that the MHA must take up the matter urgently with the Census Commissioner for supply of requisite boundaries data so that the hazard atlas/map could be completed early. The Committee hope that the preparatory phase of the Earthquake Mitigation project would be completed this year as stipulated and final phase would start on time. Meanwhile the MHA must strive to create maximum public awareness on earthquakes in the Country as an essential part of disaster preparedness.

13. *Floods*

The Committee note that the total flood affected area in the country is vast *i.e.* 456.40 lakh hectares. An average of 72.25 lakh hectare of land is affected annually by floods of which 37.89 lakh hectare is cropped area. Thus, floods cause loss of livelihood of lakhs of farmers in the country too, thereby making a dent in the economy. The Ministry of Water Resources (MoWR) was to prepare a detailed action plan for management of floods as per NDMA guidelines on which MoWR has taken action. However, according to MoWR there are many additional activities indicated in these guidelines including safety issues of large dams, flood forecasting etc. which are not presently carried out by the organisations of MoWR/States/local administrations. The Committee have been informed that such activities require major overhaul including re-structuring and strengthening of the organisations besides huge financial requirements in consultation with Planning Commission and Ministry of Finance. Time lines indicated in the guidelines need to be finalised in consultation with all the linked agencies which include States, NRSC, IMD, GSI, MHA etc. The Committee note that 14 States have responded to establishing a Dam Safety Organisation (DSO). The Audit also revealed that only eight States had prepared Emergency Action Plans (EAP) for 192 (4.06%) large dams as against 4728 large dams in 29 States as of September 2011, as highly skilled manpower and extensive field survey for the same, which require coordination with other departments also, needs a lot of time. This has resulted in 96% of large dams rendering huge area and property

vulnerable to cascading effects of dam failure. Also, while there are 4728 reservoirs and barrages in the country, the Central Water Commission (CWC) provided inflow forecasts to only 28 reservoirs and barrages as only 28 requests were received by CWC for such forecasts. An IIPA study report given to MoWR in 2009, had highlighted various deficiencies in the scheme of things which included non-functional telemetry stations and absence of dedicated communication facilities in flood forecasting stations. As per the Ministry, under the Flood Management Programme (FMP), it was able to implement 252 works out of 420 works and, as against target of 2.18 mha, could protect 1.96 mha of flood affected area from the flood. The short fall of only 0.19 mha, was due to late approval of the scheme and slow execution by State Government due to lesser working period. The Committee, therefore, desire that the MHA must coordinate with MoWR to :—

- (i) Encourage the States and ensure that all the concerned States establish their Dam Safety Organisation and prepare Emergency Action Plans for large dams so that in case of any adverse situation or emergency, immediate and corrective steps are taken for safety of people from the cascading effects of floods. The State Governments should be encouraged to identify all water bodies in their States, ensure their maintenance and control the increasing instances of encroachment of water bodies, particularly in the cities.
- (ii) Ensure that deficiencies pointed out by IIPA in their study in forecasting of floods are rectified and consult and coordinate with the States to expand their plan for inflow forecast network to additional reservoirs in the country.
- (iii) Implement and execute more works under the Flood Management Programme to save people, livestock and property from the impact of the flood.
- (iv) As floods are a grave perennial problem for States like Assam, Bihar, U.P. etc., the Committee are convinced that a well-Coordinated strategy is required to tackle floods as National emergency, particularly in Monsoon months, and merely the non-mandatory Guidelines of NDMA are inadequate to handle preparedness and mitigation efforts concerning floods. The Committee therefore feel that the MHA, MoWR, Department of Space, IMD, Dam Owing Companies and all concerned State Governments must come together to assess and minimize the damage caused by floods. As some of the neighbouring countries are also suspected to engage in building dams on rivers flowing through the Indian Sub-continent, which impact the flood plains adversely in India, the Committee desire that the matter needs greater attention from the PMO and the MEA to protect the Country from any potential man-made floods caused by such activities.

- (v) **The Ministry of Water Resources/Irrigation Departments should also take necessary steps to manage the floor water by diverting it to water deficit States through implementation of schemes for Inter-linking of rivers and creating network of canals.**

14. The Committee note that NDMA issued guidelines which envisaged the role are responsibilities of Department of Agriculture and Cooperation (DAC) to tackle drought situation. DAC is mandated to coordinate relief measures necessitated by drought, hailstorm, pest attacks and cold wave/frost. The Committee further note that spatial distribution and quantum of rainfall during South-West Monsoon (June-September) mainly determines the incidence of drought in the country, as it accounts for 75% of annual rainfall. The Department of Agriculture & Cooperation closely monitors progress of South-West Monsoon in the country, in close coordination with India Meteorological Department (IMD) and keeps watch over scanty/deficient rainfall conditions. As the assessment and declaration/notification of drought is the prerogative of State Governments, the Committee note that the role of the Government of India, of which the DAC is an integral part, is to supplement the efforts of the State Government in the face of the aforesaid natural calamities by way of requisite financial and logistical support State Disaster Response Fund (SDRF), which is readily available to the State Government to initiate relief measures during drought, has contributions made by the Central and State Governments in the ratio 3:1 for 17 General Category States and 9:1 for 11 Special Category States. The Committee have been informed that the incidence of drought is a long drawn process that depends upon many changing variables like intensity and duration of rainfall, temperature etc. Therefore, many a time drought assessment requires a longer time frame and consequently there is no stipulation of time fixed for reporting the occurrence of Drought etc. to the Centre by the States. An Empowered Group of Ministers (EGoM) also was stated to be constituted to review the situation and take timely decisions on policy issues as well as on other issues for effective management of drought and other related issues. Also, the activities under the National Agricultural Drought Assessment and Monitoring System (NADAMS) which was initiated in 1986 by National Remote Sensing Agency, Department of Space, with the support of IMD and various State Departments of Agriculture, were being carried out under Disaster Management Support Programme of ISRO. The Committee, desire that the Department of Agriculture & Cooperation must ensure that the drought-prone areas of the country are be closely monitored during the South-West Monsoon period so that additional financial assistance from NDRF could be provided to the drought affected State Governments promptly. The Committee also desire that submission of monthly drought reports should be ensured by all stakeholders so that the project activities of the NADAMS could be reviewed periodically.

15. *Delay in execution of projects undertaken for forecasting of Cyclone and Tsunami*

The Committee note that MoES was to execute various projects to provide timely warning on tsunami and cyclones and associated storm surges to various stakeholders for taking action to minimize the risk and damage to loss of life. However, all the projects have been delayed. These include the Multi Hazard Vulnerability Mapping for Indian Coast at a Cost of ₹ 48 crore, which was scheduled to be completed by March, 2013 by the National Centre for Ocean Information Services, but is still incomplete/partially completed. To modernise and upgrade the existing system of weather forecasting, Phase I was approved at a cost of ₹ 920 crore for completion by December, 2009. Most of the projects under phase I have been completed in 2012 *i.e.* after a delay of 2 years. Also, the Audit found that IMD proposed a scheme on District Meteorological Information Centres throughout the country at a cost of ₹ 204 crore made available in Eleventh Plan, on which no work was started therefore in Twelfth Plan, it is being covered under Gramin Krishi Mausam Seva Scheme. Further, the Forecast Demonstration Project for severe thunder storms over East and North East India and fog forecasting system in tropical cyclones on Bay of Bengal for ₹ 49 crore, which was to be completed by 2012, had been shifted to Twelfth Plan as the requisite manpower and instrumented aircraft could not be materialised. A project on Development of Multi-Hazard Early Warning Support as part of Emergency Response Planning, sanctioned in May, 2008 and to be executed by Indian National Centre for Ocean Information Services (INCOIS) at a cost of ₹ 20 crore, could not be initiated till March, 2011. The Committee have been informed that facilities and equipment were not suitable for a modern forecasting system at the beginning of the Eleventh Plan hence the projects could not gather momentum. Also near-accurate weather forecasting services demand a highly automated environment as well as full networking and integration of entire infrastructure and decision support system. The Committee have now been informed about the progress of various components which has gathered momentum during the Twelfth Plan. The Committee hope that delays in execution of projects related to communication system for cyclone and tsunami preparedness has now been arrested. They further hope that the Coastal State Governments would follow the level of preparedness and alertness shown by Odisha and AP Governments during cyclone Phailin which prevented mass scale damage to life and property in these States.

16. *Delay in finalization of contingency plan to deal with Forest Fires*

The Committee note that the contingency plans for dealing with forest fires has been received by MoE&F from thirteen States for approval. Once the said plans are received from all States, MoE&F will finalise the National Forest Fire Disaster Plan which will guide the State Governments for preparation of respective State Forest Fire Disaster Plans. Meanwhile, the Forest Survey of India (FSI) has developed an indigenous methodology to detect forest fires from the given fire spots through their report titled "Vulnerability of India's Forests to fire", which identifies the vulnerable areas of the forests in India. This report has been shared

with the States and it is envisaged that the same will be used to prepare State and local level Forest Fire Management Plans. The Committee note that it is also proposed for States to undertake a similar study to identify forest fire vulnerable areas. They also note that MoEF provides funds under its 'Intensification of Forest Management Scheme' (IFMS) for management of forest fires which is implemented by the Principal Chief Conservator of Forests. As the audit had pointed towards lack of monitoring in the scheme, the MoEF has issued necessary instructions and accordingly has received reports from 13 States/UTs. Third Party monitoring is statedly under process too. The Committee desire to be apprised of the progress in the matter. Further, they desire the Ministry to urgently consider the States contingency plans by utilising the forest fire data available with them, for giving approval. The Committee hope that the National Forest Fire Plan would be finalised early. The Central Crisis Group needs to play its role in monitoring post accident situation and to suggest measures for prevention and recurrence of forest fires.

17. Preparedness to manage Chemical Disaster

Rapid industrialisation of cities and towns have increased the dangers of a chemical disaster. In this regard, the Committee note that the National Action Plan on Chemical (Industrial) Disaster Management (CIDM) is being revised by the MoEF. The Committee also note that total number of districts in the country is 301 and the total Major Accident Hazard (MAH) units located in these districts are 1861. The on-site emergency plan by the occupier and off-site emergency plan by the District Authorities were prescribed as per the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 and the amendment (MSIHC Rules). The on-site plan of 1814 MAH units have been prepared and 1664 mock drills were conducted. As regard off-site plans, 200 districts have prepared their plans and plans of 42 districts were under preparation. They also note that Chemical Accidents Information and Regulating System (CAIRS) has started functioning. The Committee, however, desire the MoEF:—

- (i) To pursue the remaining States to prepare on-site and off-site Emergency Plans in all the districts required to do so.
- (ii) To make mandatory the reporting of chemical accidents to CAIRS.
- (iii) Assess the need of setting up of an Emergency Response Centre in other States having chemical industrial units.
- (iv) Ensure that State Crisis Groups submit their progress reports to Central Crisis Group for review so that their current status of preparedness is available and necessary directions/suggestions for improvement is given, if necessary.

18. Expanding the laboratory network to manage Biological Disaster

The core function for preparedness for biological disaster was disease surveillance which was undertaken through Integrated Disease Surveillance Project (IDSP) run by the National Centre for Disease Control (NCDC). The

Committee note that under IDSP, surveillance units have been established in all States/Districts and linked through an IT network established with the help of NIC and ISRO. Satellite connectivity will be available once the migration from existing satellite to GSAT-12 is done by ISRO. About 90% of the districts report weekly surveillance data through the portal. The Committee also note that the draft Public Health (Prevention, Control and Management of Epidemics, Bio Terrorism and Disasters) Bill is under finalization by the MOH&FW. As regards strengthening of districts laboratories for diagnosis of epidemic prone diseases, 42 labs have become functional and 300 labs were proposed to be set up under 12th Plan. Additionally, in 17 States, 85 Medical Colleges labs have been linked to adjoining districts so far and 190 Medical Colleges are proposed to be linked in 12th Plan in the State referral lab network. Under the scheme of Indian Council of Medical Research for 'Establishment of a network of labs for managing Epidemics and Natural Calamities', a three tier network of 160 labs is proposed to be set up. The Committee are happy to note that a reasonable progress have been made in surveillance and in setting up of laboratories. However, the pace of setting up of laboratories needs to be accelerated in view of the density of population in the country which makes it a potential hub for faster spread of diseases. The Committee, therefore, desire the Ministry to step up their efforts to set up labs in the remaining districts. The Committee may also be informed of status of the Public Health Bill which was said to be at the drafting stage. The Committee also desire that surveillance at National entry level point and laboratory infrastructure in the country must be strengthened to prevent spread of diseases in the country through these points.

19. Need to create awareness about Radiological and Nuclear Disasters

The Committee note that Atomic Energy Regulatory Board (AERB) has brought out Safety Codes for emergency preparedness in radiation facilities/practices and at present adequately addressing the regulatory function. For Nuclear Power Plants/projects also, AERB has specified very elaborate requirements in the safety code. AERB has also been regulating requirements with respect to possession and use of radiation sources. After the incident of Mayapuri Scrap Yard, Delhi in which radioactive waste was stated to be mishandled, AERB has initiated various actions for orphan sources with the help of other Ministries/Department. AERB has ensured that all the licensees report any incident of lost/theft of sources to it immediately so as to initiate action to take remedial action. The proposed system of e-licensing of Radiation Application (ELORA) for management of consent process will ensure that radiation sources are effectively tracked from cradle to grave. The Committee hope that steps taken by AERB to ensure all cases of radiation, including from orphan sources, would be effective to handle those cases appropriately with full safety. Since any leakage of radiation can be a major disaster, the Committee emphasise that AERB also has responsibility to educate public and society at large about the safety measures taken to protect them from any unfortunate incident and consequent losses to

them. They, therefore desire the Ministry of Home Affairs to apprise AERB of their concern.

20. Disaster by Heat Wave

The Committee note that with an alarming increase in global warming, the heat wave condition has become an international issue faced by many countries. The reported death toll due to heat wave in India has reached to more than 2000 during summer of 2015. NDMA has proposed some do's and dont's as mitigation measures to deal with heat wave. The Ministry has further informed the Committee that many States had requested to Government for inclusion of new disasters like heat wave in the list of disasters eligible for assistance from SDRF/NDRF. Fourteenth Finance Commission had also recommended that 10% of the funds available under SDRF can be used by States for disasters not covered in the notified list. The MHA has accordingly revised the norms of SDRF/NDRF *w.e.f.* 08.04.2015 and States now can use 10% of their SDRF for State specific local disasters which are not covered in the centrally notified list. The Committee appreciate the decision taken by MHA. However, the Committee still feel that India's climatic conditions are such that during summer season, most of the country's mainland reels under severe heat wave resulting in large scale deaths of poor and homeless people. This calls for inclusion of heat wave under the disasters covered in NDRF. They therefore recommend that the Ministry should actively explore this possibility. Also there is a need to bring out specific guidelines on heat wave by the NDMA.

21. Saving the pets/animals/livestock during disaster

The Committee observe that the DMA Act, 2005 has specified, among measures which the State Government may take, the issue of evacuation of animals *i.e.* pets, livestock and wild animals from an area of disaster but is silent on ensuring their safety and rehabilitation during disaster. Livestock are economic assets for village folks and their loss impacts them in a substantial manner. Still, whenever disaster happens, the focus during relief work is always on people only. Pets, animals and livestock belonging to affected people fail to get any attention from the relief workers. The Committee, therefore, desire that the existing guidelines on formulation of State DM plans, issued by the NDMA should be expanded to cover protection of animals during disasters, since protection of animals is responsibility of the States. Also, the Handbook for training and capacity building of civil defence and sister organizations should include a specific chapter dedicated to evacuation, rescue and rehabilitation of pet animals and livestock during disasters and involvement of Government and State-run-Animal Welfare Organization with proven track record in the same. The Committee further desire that the MHA should start by preparing a list of such animal welfare organizations that can be given task of saving pets and livestock and can be contacted by citizens for the same during disasters. The Committee would like to be apprised of the action taken in this direction.

22. Saving human lives during man-made disaster

The Committee are extremely concerned to note the increasing incidents of stampedes taking place during religious congregations in various parts of the country. Such man-made disasters have claimed umpteen numbers of human lives, which could have been prevented with appropriate and timely arrangements by local administration. An increase in such unfortunate accidents warrants that the Government intervenes in the matter. The Committee opine that setting up a registration counter to note details of visiting pilgrims, efficient crowd management, presence of trained medical/paramedical personnel etc. are measures which should be made mandatory for all large religious congregations. The Committee feel that the Ministry needs to study the matter, devise comprehensive preventive measures and issue advisories to all State Governments to instruct their local administration accordingly. This, they feel, would go a long way in not only preventing unnecessary deaths during stampedes but also in providing prompt information and relief to the affected people, should such incidents happen. The Committee also desire that a permanent unit of NDRF should be stationed at major pilgrimage centres during festival seasons as the local administration, which holds charge of various other matters concerning the district, may not have the requisite capacity to handle stampedes or other such unfortunate incidents. The Committee would desire to be apprised of the Ministry's take on this issue.

NEW DELHI;
09th December, 2015

18 Agrahayana, 1937 (Saka)

PROF. K. V. THOMAS
Chairperson,
Public Accounts Committee.

APPENDIX I

MINUTES OF THE FOURTH SITTING OF THE PUBLIC ACCOUNTS COMMITTEE (2013-14) HELD ON 1ST JULY, 2013

The Committee sat on Monday, the 1st July, 2013 from 1100 hrs. to 1245 hrs.
in Room No. 'G-074', Parliament Library Building, New Delhi.

PRESENT

Dr. Murli Manohar Joshi — *Chairperson*

MEMBERS

Lok Sabha

2. Shri Ramen Deka
3. Dr. M. Thambi Durai
4. Shri Bhartruhari Mahtab
5. Shri Abhijit Mukherjee

Rajya Sabha

6. Shri Prasanta Chatterjee
7. Dr. V. Maitreyan
8. Shri Satish Chandra Misra
9. Shri N.K. Singh

SECRETARIAT

1. Shri Devender Singh — *Joint Secretary*
2. Shri Abhijit Kumar — *Director*
3. Shri M.L.K. Raja — *Deputy Secretary*

Representatives of the Office of the Comptroller and Auditor General of India

1. Shri A.K. Singh — Deputy C&AG
2. Ms. Shubha Kumar — Director General
3. Shri Roy S. Mathrani — Director General
4. Shri Purshottam Tiwary — Principal Director (PAC)

Representatives of the Ministry of Home Affairs

1. Shri Anil Goswami — Home Secretary
2. Shri G.V.V. Sarma — Joint Secretary (DM)
3. Shri Bhagwan Shankar — Joint Secretary (A)
4. Shri M. Raju — Deputy Director General, GSI Kolkata
5. Shri J. Bagchi — Suptd. Geologist

Representatives of the National Disaster Management Authority (NDMA)

1. Dr. Shyam S. Agarwal — Secretary, NDMA
2. Dr. (Mrs.) Anita Bhatnagar Jain — Advisor, NDMA
3. Smt. Archana G. Gulati — FA, NDMA
4. Ms. Preeti Banzal — JA (CBT)

Representative of ISRO

Shri Devi Prasad Karnik — Director (P&PR)

Representative of National Disaster Response Force

Shri Sandeep Rai Rathor — IG (NDRF)

Representatives of Department of Space

1. Dr. V.K. Dadhwal — Scientist & Director, National Remote Sensing Centre
2. Dr. P.G. Diwakar — Sci./Engr. 'H' & Programme Director

Representatives of the Ministry of Water Resources

1. Shri N.K. Mathur — Commissioner (Ganga)
2. Shri G. Aranganathan — Commissioner (Indus)

Representatives of the Ministry of Mines

1. Shri Gauri Kumar — Special Secretary
2. Shri Naresh Kumar — Joint Secretary

Representative of the Ministry of Health and Family Welfare

Shri Anshu Prakash — Joint Secretary

Representatives of Bhabha Atomic Research Centre

1. Dr. D.N. Sharma — Director (Health Safety & Environment)
2. Dr. C.S. Hari Kumar — Scientist (G), Atomic Energy Regulatory Board

Representative of the Ministry of Urban Development

Ms. Nandita Mishra — Director

Representative of Department of Atomic Energy

Shri K.A.P. Sinha — Joint Secretary

Representatives of the Ministry of Earth Sciences

1. Shri K.J. Ramesh — Advisor
2. Dr. R.S. Dattatrayam — Scientist F (IMD)
3. Shri B. Bandopadhyay — Scientist F (IMD)

Representative of National Institute of Disaster Management (NIDM)

Dr. Satendra — ED (NIDM)

Representative of the Ministry of Agriculture

Shri A.K. Majhi — JS (DM)

2. At the outset, the Chairperson welcomed the Members, the representatives of the Office of the Comptroller and Auditor General of India, the Ministry of Home Affairs, National Disaster Management Authority (NDMA) and other nodal Ministries/Departments/Agencies to the sitting of the Committee. Apprising that the meeting had been convened to take oral evidence of the representatives of the Ministry of Home Affairs and other concerned Ministries on the subject "Disaster Preparedness in India" based on the C&AG Report No. 5 of 2013 (Performance Audit), the Chairperson impressed upon the witnesses not to disclose the contents of the deliberations of the Committee to any outsider, especially to the members of the Print and Electronic media.

3. The Secretary, Ministry of Home Affairs and representatives of NDMA briefed the Committee on various issues relating to Disaster Preparedness in India. The Chairperson and the Members then raised several queries and concerns which *inter-alia* included the prevailing critical gaps in the preparedness level for various disasters, the non-achievement of desired impact of Disaster Management Act, 2005, ineffectiveness of functioning of National Disaster Management Authority (NDMA) in most of the core areas, absence of co-ordination between NDMA, State Governments and various Ministries/Departments for various disasters and the need for well-defined roles and responsibilities of the apex bodies at the national and State level for addressing disasters. The representatives of the Ministry, NDMA and other agencies attended to the queries raised by the Members. The Home Secretary candidly submitted that a lot of improvements were needed to effectively address the issue of Disaster Preparedness in India. As some questions could not be replied and some questions required detailed and statistical information and documents, the Chairperson asked the Home Secretary to furnish the same within

fifteen days. The Committee also decided to hold further meetings to deliberate on the subject in detail.

4. The Chairperson, then, thanked the representatives of the Ministry and the NDMA/various agencies for appearing before the Committee and furnishing the available information on several issues on the subject. The Chairperson also thanked the Members for their active participation in the discussions on the subject as well as the Audit Officers for their assistance to the Committee.

The witnesses then withdrew.

A copy of the verbatim proceedings was kept on record.

The Committee then adjourned.

APPENDIX II

MINUTES OF THE ELEVENTH SITTING OF THE PUBLIC ACCOUNTS COMMITTEE (2014-15) HELD ON 9TH DECEMBER, 2014

The Committee sat on Tuesday, the 9th December, 2014 from 1500 hrs. to 1730 hrs. in Committee Room 'D', Parliament House Annexe, New Delhi.

PRESENT

Prof. K.V.Thomas — *Chairperson*

MEMBERS

Lok Sabha

2. Shri Bhartruhari Mahtab
3. Shri Ramesh Pokhriyal "Nishank"
4. Shri Neiphiu Rio
5. Shri Dushyant Singh
6. Shri Janardan Singh Sigriwal
7. Shri Kirit Somaiya

Rajya Sabha

8. Dr. Satyanarayan Jatiya
9. Shri Sukhendu Sekhar Roy

SECRETARIAT

1. Shri A.K. Singh — *Joint Secretary*
2. Smt. Anita B. Panda — *Director*
3. Shri Jayakumar T. — *Additional Director*

Representatives from the Office of the Comptroller and Auditor General of India

1. Shri P. Mukherjee — *Dy. CAG*
2. Shri S. Nandeolkar — *Director General (Rlys.)*
3. Shri L.S. Singh — *Principal Director*
4. Shri P. Tiwary — *Principal Director*

2. At the outset, the Chairperson welcomed the Members and the representatives of the Office of the C&AG of India to the Committee. The Chairperson then apprised the Members that the meeting has been convened to consider and adopt two Draft Reports, and to take oral evidence of the representatives of Ministry of Home Affairs on the subject 'Disaster Preparedness in India' based on C&AG Report No. 5 of 2013.

3. * * *

4. * * *

5. * * *

6. Thereafter, the representatives of the Ministry of Home Affairs were called in.

Representatives of the Ministry of Home Affairs

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|-----|------------------------|---|-------------------------------|
| 1. | Shri Anil Goswami | — | Secretary |
| 2. | Smt. Sneha Lata Kumar | — | Secretary (Border Management) |
| 3. | Shri R.K. Jain | — | Secretary (NDMA) |
| 4. | Smt. Soma Roy Barman | — | Financial Advisor (NDMA) |
| 5. | Shri G.V.V. Sarma | — | JS (Disaster Management) |
| 6. | Dr. Satendra | — | ED, NIDM |
| 7. | Shri O.P. Singh | — | DG, NDRF |
| 8. | Shri Sandeep Rathore | — | DG, NDRF |
| 9. | Shri R. Bhattacharya | — | Secretary, AERB |
| 10. | Shri Anil Sanghi | — | JS (Mitigation) |
| 11. | Smt. Neelkamal Darbari | — | JS (Admin.) |
| 12. | Ms. Nisha Singh | — | JS (AERB) |

7. The Chairperson welcomed the officials of the Ministry and observed that National Executive Committee (NEC) is a plural body with the representation of Secretaries of 14 Departments, mandated for implementation of the National policy on Disaster Management, preparation of the plan, laying down guidelines and evaluation of the preparedness at all levels and therefore coordination of duties, which are assigned to NEC, by the Home Ministry, is not a rational stand. The Chairperson sought specific response from the Secretary on the failure to convene regular meetings of NEC. The Chairperson further pointed out the need to pay special attention towards preventing the delay in finalising the National Plan for Disaster Management, which has affected subsequent planning by the States and non-finalisation of National mitigation plan, National Response plan and National capacity Building plan. He sought response on the action against eight States

where the performance audit has highlighted a few serious and glaring financial irregularities including diversion and non-utilisation of funds and non-submission of utilization certificates. The Chairperson desired that the Ministry should conduct a study on the failure to give advance warning of impending disaster in places like Uttarakhand, need for prevention of illegal and rampant construction activities on hilly terrains/river beds and to include cloud burst and lightning in the list of natural calamities. The Secretary then gave a brief overview on the subject which was followed by a power point presentation on the Ministry's response to the Audit findings. He also highlighted the better performance of disaster management agencies during the recent disasters in Odisha & Andhra Pradesh caused by cyclones Hudhud & Phailin.

8. Thereafter, Secretary of the Ministry attended to the queries of the members on the various issues relating to the need for immediate and hassle free award of medical compensation to the victims, speeding up of overall relief, rehabilitation and reconstruction activities; selection of projects without proper ground work; diversion and non-utilization of funds by various States; review and study of response of the Government to disasters, monitoring mechanism for the guidelines issued by the NDMA and demarcation of roles and responsibilities and regular updation of the mapping data. He apprised the Committee that replies to all the queries raised by the Members would be forwarded to the Lok Sabha Secretariat within 15 days.

9. The Chairperson thanked the representatives of the Ministry for appearing before the Committee and furnishing updated information on the subject.

A copy of the verbatim proceedings was kept on record.

10. * * *

The Committee then adjourned.

APPENDIX III

MINUTES OF THE EIGHTH SITTING OF THE PUBLIC ACCOUNTS COMMITTEE (2015-16) HELD ON 7TH SEPTEMBER, 2015

The Committee sat from 1700 hrs. to 1800 hrs. on 7th September, 2015 in Room No. "53", Parliament House, New Delhi.

PRESENT

Prof. K.V. Thomas — *Chairperson*

MEMBERS

Lok Sabha

2. Shri S.S. Ahluwalia
3. Shri Nishikant Dubey
4. Shri Gajanan Kirtikar
5. Shri Bhartruhari Mahtab
6. Shri Janardan Singh Sigrwal
7. Shri Shiv Kumar Udasi
8. Dr. Kirit Somaiya
9. Dr. P. Venugopal

Rajya Sabha

10. Shri Naresh Agrawal
11. Shri Bhubaneswar Kalita
12. Shri Shantaram Naik
13. Shri Sukhendu Sekhar Roy

SECRETARIAT

1. Shri A.K. Singh — *Additional Secretary*
2. Smt. Anita B. Panda — *Director*
3. Shri T. Jayakumar — *Additional Director*
4. Smt. Anju Kukreja — *Under Secretary*

Representatives from the Office of the Comptroller and Auditor General of India

- | | | |
|--------------------------|---|----------------------------------------------------|
| 1. Shri Arun Kumar Singh | — | Deputy C&AG (RC) |
| 2. Shri Satish Loomba | — | Director General of Audit
(Central Expenditure) |
| 3. Shri Manish Kumar | — | Principal Director (Direct Taxes) |
| 4. Shri Manish Kumar | — | Principal Director (PAC) |

2. At the outset, the Chairperson welcomed the Members to the sitting of the Committee. Thereafter, the Committee took up the following draft Reports for consideration:—

- (i) Draft Original Report on "**Disaster Preparedness in India**" based on C&AG Report No. 5 of 2013; and
- (ii) Draft Action Taken Report on Action Taken by the Government on the observations/recommendations of the Committee contained in their Second Report (Sixteenth Lok Sabha) on "**IT Applications in Income Tax Department**".

3. The Chairperson invited suggestions of the Members on the draft Reports. After discussing the contents of the draft Reports, the Committee adopted the draft original Report at (i) with some changes/modifications, which are appended as Annexure. The Committee then adopted the draft Action Taken Report at (ii) without any changes/modifications.

4. The Committee authorized the Chairperson to finalise these Reports in the light of verbal discussion and consequential changes arising out of factual verification by the Audit and present the same to Parliament.

The Committee then adjourned.

STATEMENT INDICATING THE CHANGES/MODIFICATIONS MADE IN
DRAFT REPORT ON “DISASTER PREPAREDNESS IN INDIA”

Sl. No.	Para No.	Read
1.	10	<p><i>Add at the end of Para No. 10 of draft report</i></p> <p>The Committee also desired that coordination between Civil Defence personnel and State authorities needs to be looked into to provide better services to the people affected by the disaster.</p>
2.	13(i)	<p><i>Add at the end of Para No. 13(i) of draft report</i></p> <p>The State Governments should be encouraged to identify all water bodies in their States, ensure their maintenance and control the increasing instances of encroachment of water bodies, particularly in the cities.</p>
3.	13(v)	<p><i>Add at the end of Para No. 13(v) of draft report</i></p> <p>The Ministry of Water Resources/Irrigation Departments should also take necessary steps to manage the floor water by diverting it to water deficit States through implementation of schemes for inter-linking of rivers and creating network of canals.</p>
4.	14	<p><i>Add after Para 14 of draft report</i></p> <p>The Committee note that NDMA issued guidelines which envisaged the role and responsibilities of Department of Agriculture and Cooperation (DAC) to tackle drought situation. DAC is mandated to coordinate relief measures necessitated by drought, hailstorm, pest attacks and cold wave/frost. The Committee further note that spatial distribution and quantum of rainfall during South-West Monsoon (June-September) mainly determines the incidence of drought in the country, as it accounts for 75% of annual rainfall. The Department of Agriculture and Cooperation closely monitors progress of South-West Monsoon in the country, in close coordination with India Meteorological Department (IMD) and keeps watch over scanty/deficient rainfall conditions. As the assessment and declaration/notification of drought is the prerogative of State Governments, the Committee note that the role of the Government of India, of which the DAC is an integral part, is to supplement the efforts of the State Governments in the face of the aforesaid natural calamities by way of requisite financial and logistical support State Disaster Response Fund (SDRF), which is readily available to the</p>

Sl. No.	Para No.	Read
		<p>State Government to initiate relief measures during drought, has contributions made by the Central and State Governments in the ratio 3 : 1 for 17 General Category States and 9 : 1 for 11 Special Category States. The Committee have been informed that the incidence of drought is a long drawn process that depends upon many changing variables like intensity and duration of rainfall, temperature etc. Therefore, many a time drought assessment requires a longer time-frame and consequently there is no stipulation of time fixed for reporting the occurrence of Drought etc. to the Centre by the States. An Empowered Group of Ministers (EGoM) also was stated to be constituted to review the situation and take timely decisions on policy issues as well as on other issues for effective management of drought and other related issues. Also, the activities under the National Agricultural Drought Assessment and Monitoring System (NADAMS) which was initiated in 1986 by National Remote Sensing Agency, Department of Space, with the support of IMD and various State Departments of Agriculture, were being carried out under Disaster Management Support Programme of ISRO. The Committee, desire that the Department of Agriculture & Cooperation must ensure that the drought-prone areas of the country are closely monitored during the South-West Monsoon period so that additional financial assistance from NDRF could be provided to the drought affected State Governments promptly. The Committee also desire that submission of monthly drought reports should be ensured by all stakeholders so that the project activities of the NADAMS could be reviewed periodically.</p>
5.	21	<p><i>Add before the last sentence of Para 21 of draft report</i></p> <p>The Committee also desire that a permanent unit of NDRF should be stationed at major pilgrimage centres during festival seasons as the local administration, which holds charge of various other matters concerning the district, may not have the requisite capacity to handle stampedes or other such unfortunate incidents.</p>

APPENDIX IV

GLOSSARY

AERB	Atomic Energy Regulatory Board
ALTM	Airborne Laser Terrain Mapper
ATIs	Administrative Training Institutes
CAPF	Central Armed Police Force
CBRN	Chemical, Biological, Radiological and Nuclear
DDMA	District Disaster Management Authority
DM	Disaster Management
DMSAR	Disaster Management Synthetic Aperture Radar
DSO	Dam Safety Organization
DWR	Doppler Weather Radars
EAP	Emergency Action Plan
ESSO-INCOIS	Earth System Science Organisation-Indian National Centre for Ocean Information Services
ESSO-ICMAM	ESSO-Integrated Coastal and Marine Area Management
HPC	High Powered Committee
NCDC	National Centre for Disease Control
NCMC	National Crisis Management Committee
NCRMP	National Cyclone Risk Mitigation Project
NDCN	National Disaster Communication Network
NDEM	National Database for Emergency Management
NDMA	National Disaster Management Authority
NDMF	National Disaster Mitigation Fund
NDMIS	National Disaster Management Informatics System
NIDM	National Institute of Disaster Management
NDRF	National Disaster Response Force/Fund
NDRR	National Disaster Response Reserve
NEC	National Executive Committee
NERMP	National Earthquake Risk Mitigation Project

NPCBEERM	National Programme for Capacity Building of Engineers in Earthquake Risk Management
NPCBAERM	National Programme for Capacity Building of Architects in Earthquake Risk Management
RRC	Regional Response Centre
SDMA	State Disaster Management Authority
SDMP	State Disaster Management Plan
SDRF	State Disaster Response Force/Fund
SEC	State Executive Committee

PARLIAMENTARY PUBLICATIONS CAN ALSO BE OBTAINED FROM THE FOLLOWING AUTHORISED AGENTS:—

Sl.No.	Name of Agent	Sl.No.	Name of Agent
ANDHRA PRADESH		13.	M/s. Jayna Book Depot, Chowk Chhapparwala, Bank Street, Karol Bagh, New Delhi-110 005.
1.	M/s. Ashok Book Centre, Benz Circle, Vasavya Nagar, Vijaywada-520 006 (AP).	14.	M/s. Standard Book Co., 125, Municipal Market, Connaught Place, P.B. No. 708, New Delhi-110 001 (T. No. 23411919).
BIHAR		15.	M/s. D.K. Agencies (P) Ltd., A/15-17, Mohan Garden, Najafgarh Road, New Delhi-110 059.
2.	M/s. Progressive Book Centre, Zila School, Pani Tanki Chowk, Ramna, Muzaffarpur-842 002 (Bihar).	16.	M/s. Vijay Book Service, C-D/123/C, Pitam Pura, New Delhi-110 034.
DELHI		MADHYA PRADESH	
3.	M/s. Jain Book Agency, C-9, Prem House, Connaught Place, P.B. No. 1113, New Delhi-110 001.	17.	M/s. Suvidha Law House, 28, Malviya Nagar, Roshanpura, Bhopal-462 003.
4.	M/s. Bookwell, 2/72, Sant Nirankari Colony, Kingsway Camp, Delhi-110 009.	MAHARASHTRA	
5.	M/s. Rajendra Book Agency, IV-D-50, Lajpat Nagar, Old Double Storey, New Delhi-110 024. (T. Nos. 26412362 & 26412131).	18.	M/s. Usha Book Depot, 585/A, Chitra Bazar, Khan House, P.B. No. 2621, Mumbai-400 002.
6.	M/s. Central News Agency Pvt. Ltd., P-23, Connaught Circus, New Delhi-110 001.	19.	M/s. Jaina Book Agency (India), 649-A, Girgaum Road, Opp. 2nd Dhobi Talao Lane, Mumbai-400 002.
7.	The Manager, M/s. Books India Corporation, Publishers, Importers & Exporters, L-27, Shastri Nagar, Delhi-110 052.	PUDUCHERRY	
8.	M/s. Sangam Book Depot, LG-3, Akarshan Bhawan, 23, Ansari Road, Darya Ganj, New Delhi-110 002.	20.	Editor of Debates, Legislative Assembly Department, Puducherry-605 001.
9.	M/s. Biblia Impex Pvt. Ltd., 2/18, Ansari Road, New Delhi-110 002. (T.No. 23262515).	TAMILNADU	
10.	M/s. Universal Book Traders, 80, Gokhale Market, Opp. New Courts, Delhi-110 054 (T. No. 23911966).	21.	M/s. M.M. Subscription Agencies, 123, Third Street, Tatabad, Coimbatore-641 012.
11.	M/s. Seth & Co., Room No. 31D, Block-B, Delhi High Court, Sher Shah Road, New Delhi-110 003.	22.	M/s. C. Sitaraman & Co., 73/37, Royappettah High Road, Chennai-600 014.
12.	M/s. Dhanwantra Medical & Law House, 592, Lajpat Rai Market, Delhi-110 006 (T. No. 23866768).	UTTAR PRADESH	
		23.	M/s. Law Publishers, Sardar Patel Marg, P.B. No. 1077, Allahabad (UP).
		24.	M/s. Ram Advani Bookseller, Mayfair Building, Hazrat Ganj, GPO Box No. 154, Lucknow-226 001.