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FOR DISCUSSION

NATIONAL DISASTER MANAGEMENT GUIDELINES

**SCALING, TYPE OF EQUIPMENT
AND TRAINING OF FIRE SERVICES**



September 2010



**NATIONAL DISASTER MANAGEMENT AUTHORITY
GOVERNMENT OF INDIA**

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The National Disaster Management Guidelines on Re-vamping of Fire Services are formulated under the Chairmanship of Shri Jyoti Kumar Sinha, Member, NDMA in consultation with various stakeholders, service providers and specialists in humanitarian response from across the country.

Preamble

These Guidelines on scaling, type of equipment and training of Fire Services are issued by the National Disaster Management Authority (NDMA) under Section 6 of the DM Act 2005 for effective, efficient and comprehensive management of Fire incidents and standardization of the Fire services in the country. The Vision is to minimize loss of life and property by strengthening and standardizing fire response mechanisms, equipment and training at different appropriate levels in the country.

Having examined the shortcomings in the fire fighting capabilities of our country as a whole, and with an aim of addressing the critical gaps, the NDMA has been engaged in constant dialogue with various authorities including the Hon'ble Prime Minister and the 13th Finance Commission (FC).

At the Prime minister's level it has been decided that the Planning Commission could play a role in persuading the States to make prioritized plan and provide proper allocations for the fire services in their annual five year plans.

Discussion with the 13th FC led to the understanding and appreciation of the problem by them and subsequent allotment of funds to all the States which had submitted proposals before it and direction to the other remaining States to specifically spend on fire services out of the funds allotted by the FC to the concerned local bodies in their respective jurisdictions.

It is expected that the glaring weakness because of lack of proper plan and availability of adequate funds will improve in next five years by the two pronged approach of;

- Prioritized and planned steps in the State five year plans
- Expeditious actions by the local bodies and the State governments as directed by the 13th FC

These guidelines have been prepared with help of a core group consisting of the members of the Standing Fire Advisory Council, Gol and other experts in the field. In order to operationalize the process in a systematic manner the NDMA is issuing these guidelines in regard to scaling / type of equipment, man power and their training for towns and cities / rural areas. All State governments and local bodies concerned shall follow it.

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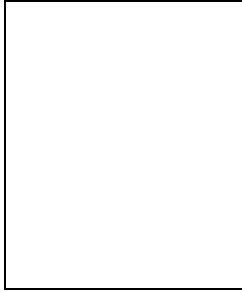
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FOREWORD

An efficient and well equipped fire service is essential to face and tackle fire hazards. The unacceptable deficiencies in the fire services of India had attracted the attention of NDMA right from the beginning. The matter was taken up at **various levels, from** the Prime Minister of India to the 13th Finance Commission. The Prime Minister of India, directed the Planning Commission to give it the required priority. The Finance Commission has already made reasonable allocations and the remaining will have to be taken care of in the coming Five Year Plan of the States.

In order to standardize Scaling / Type of Equipment and Training of manpower, it was felt necessary to issue these guidelines. Its' implementation would both Modernize and Standardize Fire Services and improve the fire fighting capabilities of the country.

I express my deep appreciation of the commitment of Shri J.K. Sinha, Member, NDMA, and the Members of the Core Group / Extended Core Group and Standing Fire Advisory Council (SFAC), Govt. of India for their wholehearted support and cooperation in the preparation of these guidelines.

New Delhi
September, 2010

General NC Vij
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The efforts of Maj. Gen. (Retd.) V.K. Datta, AVSM, SM**, VSM**, PPMG Sr. Specialist, Shri B.B. Gadanayak, Specialists and Shri Vinod Kumar Gupta, Sub-Inspector, in providing knowledge based technical input towards drafting of the document are highly appreciated.

I am happy to acknowledge the support and cooperation extended by Shri A.K. Prasad, IAS, Secretary, NDMA along with his team and members of my office Shri Amod Kumar and Rakesh Kumar Verma.

Finally, I would like to express my gratitude to our Hon'ble Vice Chairman, General N.C. Vij, PVSM, UYSM, AVSM(Retd.) for his critical review and input that have added immense value to the contents as well as the quality of these Guidelines. I also acknowledge my sincere gratitude to all the distinguished Members of NDMA for their valuable suggestions and feedback from time to time.

New Delhi
September, 2010

Jyoti Kumar Sinha

ABBREVIATIONS

GoI	Government of India
MHA	Ministry of Home
SFAC	Standing Fire Advisory Committee
SFAC	Standing Fire Advisory Council
ULBs	Urban Local Bodies
FC	Finance Commission
GIS	Geographic Information System
HAM	
NCT	National Capital Territory
UT	Union Territory
CISF	Central Industrial Security Force
IOC	Indian Oil Corporation
GIA	Grants-in-Aid
ToR	Terms of Reference
NDMA	National Disaster Management Authority
13 th FC	13 th Finance omission
GST	
UIDs	
Sq.KM	Square Kilometer
13 th FCR	13 th Finance Commission Report

GLOSSARY

1. NDMA
2. Finance Commission
3. Conditionality
4. Compliance Mechanism
5. Urban Local Bodies
6. Local Bodies
7. General performance Grant
8. General basic grant
9. Projected Divisible Pool
10. Special Area Performance Grant
11. Special Area Basic Grant

12. TETRA System: TETRA (Terrestrial Trunked Radio) is a set of s Telecommunications that describes a common mobile radio communications infrastructure. This infrastructure is targeted primarily at the mobile radio needs of public safety groups (such as police and fire departments), utility companies, and other enterprises that provide voice and data communications services.

13. Model Fire Bill
14. Capacity Building
15. Training

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Executive Summary

Methodology

In order to organize a conscious, planned and a determined effort in all the States to improve the fire fighting capabilities in the country, prevent unacceptable deaths and huge loss of property, NDMA felt that, definite guidelines were needed in terms of setting up of Fire Stations, their scaling, type of equipment, Training of manpower. The NDMA was involved in constant dialogue at various levels for providing adequate funds. While definite steps for funding have been worked out, how the funding process should be operationalise and what should be the minimum standard for the Fire Services are being laid down through these guidelines.

For preparing this guideline a Core Group was constituted by the NDMA consisting of members of the SFAC, ministry of Home Affairs, other experts of the country and different stakeholders. The first meeting of the core group was conducted on 22nd of March, 2010. Various issues on Fire and Emergency Services were discussed. It was decided to prepare a draft guideline on the basis of issues discussed. A smaller group from amongst the members of the core group was selected to prepare the draft under the supervision and guidance of Member, NDMA, Shri J.K. Sinha. A number of meeting of the smaller group were held and matters discussed.

The report of the 13th Finance Commission had also been released. It was felt necessary to again call a meeting of the larger core group, discuss the implications of the recommendations and make every one aware of it. Prof. Ravindra Prasad Advisor, Centre for Energy, Environment, Urban Governance and Infrastructure Development, Administrative Staff College of India (ASCI) Hyderabad-500082 was called to make a presentation on the subject. The second meeting was held on 9th September, 2010 and all the issues concerned with the Fire Services were again

discussed in the background of the 13th Finance Commission Report were studied and a chapter for the operationalisation of the recommendations has been added.

The final draft was reviewed by the members of NDMA and circulated to all concerned for their comments. The suggestions and comments received were duly integrated in the guidelines.

These guidelines have been limited to the scaling of the fire stations and their equipment, the type of equipment, the manpower required and their training. It will provide direction and guidance to the Central and State governments and the ULBs on the above issues. These guidelines are so designed that it will help them considerably improve the firefighting capabilities of the country, fully utilize the allocations made by the 13th FC and will be enable them to meet the remaining deficiencies through placement of a comprehensive demand before the Planning Commission of India through the State Plan.

Structure of the Guidelines

These Guidelines consist of eight chapters, the details of which are as follows:

Chapter 1 on Fire Services In India and its Present Status provides a brief history of the evolution of fire services in India, the increasing trend of fire incidents, shortcomings in the Fire Services, basic norms for setting of Fire Stations and the overall shortages of Fire stations, equipment and Fire personnel in the country. The slow pace of growth of Fire Services in India, pointing out the glaring deficiencies even in the recent Fire Incidents, have been enumerated.

Chapter 2 on Emergent needs and Recent Initiatives - deals with the various immediate needs of the Fire Services in the country like need for a comprehensive plan for revamping of the Fire Services for the entire State, need for provincialisation and a complete administrative structure for Fire Services, need for making it a multi hazard response unit, need for creating required infrastructure, etc. While dealing with recent initiatives taken, this Chapter also deals with a complete strategy for improvement of Fire Services in the whole country.

Chapter 3 on recommendations of 13th Finance Commission gives complete gist of the recommendations made by the 13th FC regarding Fire Services in the country. It deals with the various direct Grants in Aid made to different States and also the allocations made to the ULBs with directions for spending on Fire Services in

their jurisdiction. The conditionalities laid down for the drawal of Performance Grant has also been dealt with in detail **in this chapter**.

Chapter 4 on Operationalization of the Thirteen Finance Commission Recommendations deals with a complete set of actions that need to be taken for the purpose.

Chapter 5 on Fire Hazard Response and Mitigation Plan has been **formulated** specially because it is one of the nine conditions that need to be fulfilled by the States, in order to be eligible for **drawing Performance Grant**. **Alongwith other steps as enumerated in the 13th FC report**, if this plan is not prepared for million plus (2001) cities and notified in the State Gazette, the State will not be able to draw the performance grant they are entitled to. A complete detail of the **Plan** has been given so that the State may easily prepare their plan **and get it notified**.

Chapter 6 on Training deals with levels of training required right from the entry level basic training to in-service promotional and other specialized training. This also deals with the training of Fireman, Leading Fireman, Driver, basic training for officers including in-service promotional training course for different levels **and training in other disaster management duties**.

Chapter 7 on Scaling of Fire Stations, Equipment and Manpower deals with equipment required for different type of fire hazards, norms for setting up fire stations, response time, etc. It also deals with the requirement of special equipment and its **location as per** vulnerability analysis.

Chapter 8 deals with **Summary of Action Points**

1

FIRE SERVICES IN INDIA AND ITS PRESENT STATUS

1.1. Evolution of fire services in India

The development of Fire Services in India to a large extent was influenced by India's political and historical association with Britain. Regular Fire Services in India originated in Bombay & Calcutta. The great Fire of Bombay occurred in 1803 and the first nucleus of Fire service took shape, with police being entrusted fire fighting jobs. In 1822, the Fire Service in Calcutta was organized under the Calcutta Police. In 1855, the Bombay Fire Brigade was officially formed and formally placed under the Police as a part-time function. In 1864, it was placed jointly with the Government and Municipal Corporation. In 1872, the Calcutta Fire Brigade came to be, financed by the Calcutta Municipal Corporation. By the Municipal Act 1872 and 1878, Insurance Companies were made to contribute towards the maintenance of the Fire Brigades. In 1888, through the Bombay Municipal Corporation Act, protection against Fire became obligatory for the Bombay Municipal Corporation. The Madras city fire brigade was established in 1908 by the Municipal Corporation of Madras after a devastating fire in the city. Delhi is believed to have had a Fire Brigade in 1867, but the organized form of Fire Station is claimed to have started in 1896 and was under the Municipal Corporation. Presently, Delhi has its own Fire Service Act, under the Government of the National Capital Territory (NCT) of Delhi since 10th November, 1994.

While in Britain a National Fire Service was started during the Second World War, no such National Fire Service was formed in India. As a sequel to the Second World War however, a need was felt to organize and improve the fire brigade service in India and hence, some new fire brigades were setup. The concept of Auxiliary Fire Services in the Civil Defence was also introduced, but it never took concrete shape in

the country. The Fire Brigades in India, remained heterogeneous in character and majority of them continued to remain ill-equipped and differently organized.

1.2. Present status

1.2.1. Fire services in India come under the 12th Schedule of constitution vide Article 243W dealing with Municipal functions. Needless to say, it is a State subject. Presently, Fire prevention and Fire Fighting Services are organized by the concerned States and Union Territories (UTs) and ULBs. MHA, Gol renders technical advice to the States and UTs and Central Ministries on Fire Protection, Fire Prevention and Fire Legislation.

1.2.2. In view of the short comings in the fire services in different States of the country and the need to up-grade it, the Gol in 1956, formed a Standing Fire Advisory Committee (SFAC) under the MHA. The mandate of the committee was to examine the technical problems relating to Fire Services and to advise the Gol for speedy development and upgradation of Fire Services all over the country. This Committee was renamed as Standing Fire Advisory Council (SFAC) during the year 1980. This committee has representation from each State Fire Service, as well as the representation from Ministry of; Home, Defence, Transport, Communication and Bureau of Indian Standards.

1.2.3. Fire Services in Gujarat, Chhattisgarh, Punjab, Maharashtra, Himachal Pradesh, Haryana and Madhya Pradesh are under the respective concerned Municipal Corporations. In other remaining States it is under the Home Department. While some States have enacted their own Fire Act, some others have not. It is but natural that there is no standardization with regard to the scaling of equipment, the type of equipment and the training of manpower of Fire and Emergency Services. In each State it has grown according to the initiatives taken by the State Governments and the funds provided for the Fire Services. Presently, the only Fire Services which is fully committed to the common public are the Municipal and State Fire Services. However, the Airport Authority, big Industrial Establishments, CISF and Armed Forces, also have their own Fire Services and many a times, in case of need, rush to aid the local Fire Services.

1.2.4. The State Fire Services have their own organisational structure, administrative setup, funding mechanism, training facilities and equipment. Somehow the Fire services in India have not got the attention it needs and deserves. There has been very little determined effort to re-vamp it with a comprehensive developmental plan and adequate funds.

1.3. Increasing trend of fire incidents in India¹

The incidents of death due to accidental fire in the country are quite alarming. Data collected in 2007 show that there were a total of 20,772 deaths in comparison to 19,222 deaths in the year 2006. The trend is increasing and the States need to take immediate action for revamping their Fire Services. ¹

1.3.1. Some of the major fire incidents that occurred in India in the past four decades are as follows

- i. An explosion in a rail transport of fire work products led to the deaths of 42 people in Allahabad on 31st January, 1974;
- ii. A total of 78 people died and 88 were injured due to fire in a cinema hall in Tuticorin, Tamil Nadu on 29th July, 1979;
- iii. Similarly, explosion in a firework factory in Mettupatti killed 32 workers, including women and children in 1981;
- iv. Two separate incidents of firework disasters in Tharia and Ludhiana accounted for 25 and 40 deaths respectively in 1992;
- v. Explosion at a firecracker factory in Rohtak, Haryana resulted in a death toll of 23 people, which included 13 women, 6 children and 4 men on 24th May, 1995;
- vi. Over 500 people were dead and 300 injured due a fire in a school function in Dabwali, Haryana on 23rd December, 1995;
- vii. A fire at a cinema theater in Delhi killed more than 60 people and injured hundreds in 1995;

¹ Source – www.ncrb.nic.in

- viii. An accidental fire in the Brihadeswara temple in Thanjavur district of Tamil Nadu resulted in more than 60 deaths and 250 were injured in the stampede to escape on 9th June, 1997;
- ix. At least 204 people died due to a fire in a religious discourse at Baripada, Orissa in February 1997;
- x. At least 45 people were killed (16 women and eight children were among the dead) and 16 seriously injured in Sonapat, Haryana, when a fire began after sparks from some high-tension wires over the market fell over a firecracker shop and an adjoining clothes store. Around 25 stores, some of them selling plastic wares, were completely gutted on 7th November, 1999;
- xi. At least 17 people were killed and 27 injured (five in critical conditions) when two gas cylinders in a van carrying fireworks exploded, bringing down several houses nearby at Athur near Salem. Those dead included seven men, five women and five children. 15 houses on either side of the street came down in the explosion, trapping and killing the people inside them. Crackers, stored in one of the buildings, were being loaded into the van, which was already carrying two gas cylinders. The van was gutted in the fire in November 2002;
- xii. A blast occurred in Srikakulam, Andhra Pradesh as explosives stored unauthorised by a cracker manufacturer in China Bazar area caught fire. The incident killed 13 and seriously injured 13 others. Several other nearby houses have been badly damaged. This was an illegal factory and they had no license for manufacturing firecrackers on 4th November, 2004;
- xiii. A fire breakout in a school at Kumbakonam resulted in the death of 93 primary school children on 16th July 2004;
- xiv. Several hundreds of tsunami survivors at Nagapattinam, Tamil Nadu are homeless again after fire gutted their temporary shelters. The blaze was started by fireworks being used to celebrate Diwali. The 90 families affected were re-housed in a local hall on 1st November, 2005;
- xv. Fire engulfed three illegal firecracker factories in Khusropur village (22 miles east of the State capital Patna, eastern State of Bihar) which accounted for at least 35 deaths and injured at least 50 people. The factories were being run from three houses in the village. The fire was sparked by an electrical short circuit and quickly spread to the flammable material stored in the factories on 15th September, 2005;

- xvi. Fire in a fireworks plant in Tamil Nadu killed 10 and seriously injured 19. The fire was caused by an explosion at a stack of 'rockets' being dried, against rules, under trees. Extremely hot climate and friction had triggered the explosion, the resultant fire spread instantly to the shed where 'packed rockets' had been stored and from there, it spread to other sheds on 22/2/2006; and
- xvii. Fire breakout in a trade fair in Meerut, Uttar Pradesh killed more than 57 people and injured thousands on 10th April, 2006.

1.3.2. In Independent India, the Standing Fire Advisory Committee has been deliberating extensively and regularly making various recommendations to the Government for the **improvement of Fire Services**. The SFAC had recommended the re-organisation of Fire & Emergency Services in India way back in 1956 and also recommended a uniform Fire Service Legislation in all the States. The SFAC had also prepared a **Model Fire Service Bill** and the same was circulated to all the State Governments by the MHA, Gol, Letter No. 28/03/56-ER-II, dated 17/10/1958. For convenience of the stakeholders, a copy of Model Fire Service Bill is being enclosed in **Annexure - 1**

1.4. Shortcomings in the present system

During their regular deliberations, the SFAC have noticed the following shortcomings in the Fire Services in India :

Lack of:

- Unified Fire Services in some of the States;
- proper organisational structure, recruitment, training and Career Progression of its personnel;
- adequate modern equipment and their scaling, Authorisation & Standardization;
- appropriate and adequate funding;
- Training Institutions;
- Infrastructural facilities – Fire Stations and accommodation of personnel;
- vulnerability analysis;
- Public Awareness (DOs & DON'Ts), mock **exercises** and evacuation drills; and
- uniform Fire Safety Legislation in some of the States.

1.5. SFAC Norms for Setting up Fire Stations

The SFAC has also laid down norms for setting up of fire stations. The criterions for setting them up are as follows.

- Response time (5 Minutes in Urban Areas and 20 Minutes in Rural Areas);
- The area to be covered (10 Sq KMs in Urban Areas and 50 Sq. KMs for Rural Areas);
- The scale of population to be served; and
- The number of minimum standard equipment that may be needed and manpower required for its operation.

1.6. Overall Shortage in the Country

On the basis of the laid down norms, the existing deficiencies as regards manpower, fire fighting vehicles and personnel are as follows.

- i) Fire stations – 97.54%;
- ii) Fire Fighting & Rescue Vehicles – 80.04%; and
- iii) Fire personnel – 96.28%.

1.7 Slow pace of growth of Fire Services

Though deliberations by the SFAC for improving the Fire Services in the country have been done regularly and the deficiencies have been clearly identified, the improvement on the ground level has been too little and much delayed. The result is that adequate measures could not be taken, even in recent fire incidents, such as:

- Kolkata - Bada Bazaar – dated 12.01.2008, 2500 shops were gutted, property worth Crores destroyed and fire could not be controlled and put out for days; Scarcity of adequate water to put out the fire was also felt.
- Jaipur – IOC Depot – dated 30.10.2009, 12 people were killed, 200 injured, half a million people evacuated from the neighborhood. The fire could not be controlled for over a week because nothing was available to put out the oil fire. It stopped only when the fire burnt itself out.
- Kolkata – Park Street – dated 23.03.2010, 26 people were killed (some even jumped to death). Hydraulic ladder could not reach in time, because of traffic congestion. It was stationed in a garage in Behala area far from the down town and business hub of Kolkata with many high rise buildings.

2

EMERGENT NEEDS AND RECENT INITIATIVES

2.1. Need for conscious and planned effort

Unless there is a conscious and planned effort in all the States, the situation is not likely to improve and an unacceptable number of deaths along with huge loss of property will continue to occur. There is an urgent need therefore, to start a planned and determined move towards revamping the fire services in India, in order to prevent such **unwarranted** deaths and loss of property.

2.2. Need for preparation of a comprehensive plan for the State

The First Step for every State is to prepare a complete plan for the entire State. On the basis of their own vulnerabilities, shortcomings and the norms laid down by the SFAC, they should workout the number of Fire Stations required in the State and how the funds can be made available for the same.

2.3. Need for provincialisation and Formation of State level Fire and Emergency Service

The Government of India had already approved the provincialisation of Fire Services in India with uniform Fire legislation in all the States (**refer compendium VII. – I Chapter...**). But, even this has not been done everywhere. Due to lack of provincialisation in some States the different Fire Brigades in various Municipal Areas are not under one command and thus there are problems in mobilizing them in grave emergencies. Compartmentalization under different municipal corporations also inhibits the career progression of the Fire Service personnel which is definitely not good for their morale and motivation. Being heterogeneous there is also lack of **standardized** Equipment and proper Training in the service. A provincialised Fire & Emergency Services must be under the command and control of a professional fire fighter.

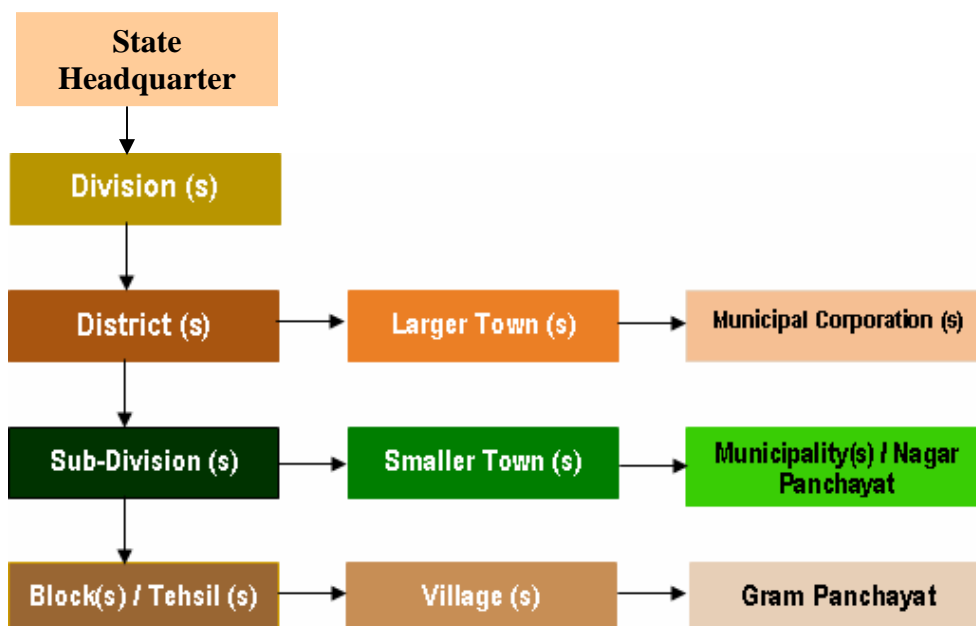
The State Government should consider forming a State Level Fire and Emergency Services by clubbing all the Municipal Fire Services. This will provide for inter ULB transfers on promotion and make mobilization of resources easier during emergencies. While making a uniform Fire and Emergency Services in the State, the Govt. shall also introduce a State level Uniform Fire Protection Legislation which will make provisions for Legal or Penal actions against defaulters and culprits.

2.4. Legal Regime and Revenue generation for improving and maintaining fire services

The legal regime to prevent fire hazard should provide mandatory clearance for all new high-rise buildings, residential clusters, colonies, business centres, malls, etc. The State Governments and ULBs should charge a token fee for inspecting and giving fire clearances. Penalties should also be charged for violation of Rules. The tax thus collected could be used for improvement and up keep of fire services.

2.5. Need for a Proper Administrative Structure of Fire and Emergency Services

For introducing and standardizing a proper supervisory structure for the Fire Services in the country the existing Administrative Structure of the country, needs to be kept in mind. For convenience and understanding of the proposed supervisory structure for the Fire Services is shown in Fig. 1. It shows the existing Administrative Structure in the State in relation to the Towns and Villages, ULBs and PRIs.



2.6. Improving outreach to Rural Areas

For a greater outreach of the Fire Services even to the rural areas equipping the Thesil / Block / PRI level would have been ideal, but it is absolutely necessary that Fire Stations should be at least established right from the State Headquarters to the District and sub-divisional headquarters. **The State Govt. may put up Fire Posts even at the block level, depending upon the vulnerabilities and past history. This could be done through the various Gram Panchayat Developmental Schemes and Funds.**

2.7. Director of Fire Services at the State Level

Keeping a proper span of control in mind, for adequate supervision of the Fire and Emergency Services, there should be a Director at the State level for the State Fire Services with adequate personnel to assist him in the discharge of his duties. **He should be a professional firefighter.**

2.8. Supervisory Levels of Fire Services in accordance with the Administrative Structure of the State

For closer supervision of the Fire and Emergency Services in the subordinate formation of the State, the Districts may need to be sub-grouped and placed under a supervisor. The State Government may find it convenient to have a group of Districts in line with the Administrative Revenue Divisions of the State and place the corresponding cluster of Districts under a suitable Senior Fire Officer as supervisor in the Divisional Towns of the State. The Divisional towns are generally larger towns and would **itself** be having a number of Fire Stations **in the town**. A supervisor at this level will help in effective supervision and control not only in **divisional towns but also other districts in that division.**

2.9. Fire Chief at the District Level

The District Fire Service should be headed by a District Chief Fire Officer. The Fire Station should be under a Fire Station Officer with adequate Assistant Fire Officers for shift duties. Depending on the number of Fire Station existing in the District and keeping ideal span of control in mind, adequate number of supervisory officer should be placed under the District Chief Fire Officer. For other administrative duties like

disciplinary matters, accounting, repair & maintenance work and general upkeep of the campus, etc. appropriate staff should also be provided. Designations, Ranks, Pay Scales, etc. are not being mentioned, as they may differ from State to State. It is however, emphasized that adequate supervisory staff and manpower (as shown in Fig.2) is definitely required not only for maintaining effective supervision but also for a proper career progression in the services. The State Government may discuss the issues with the State Fire Services Chief and provide adequate supervision.

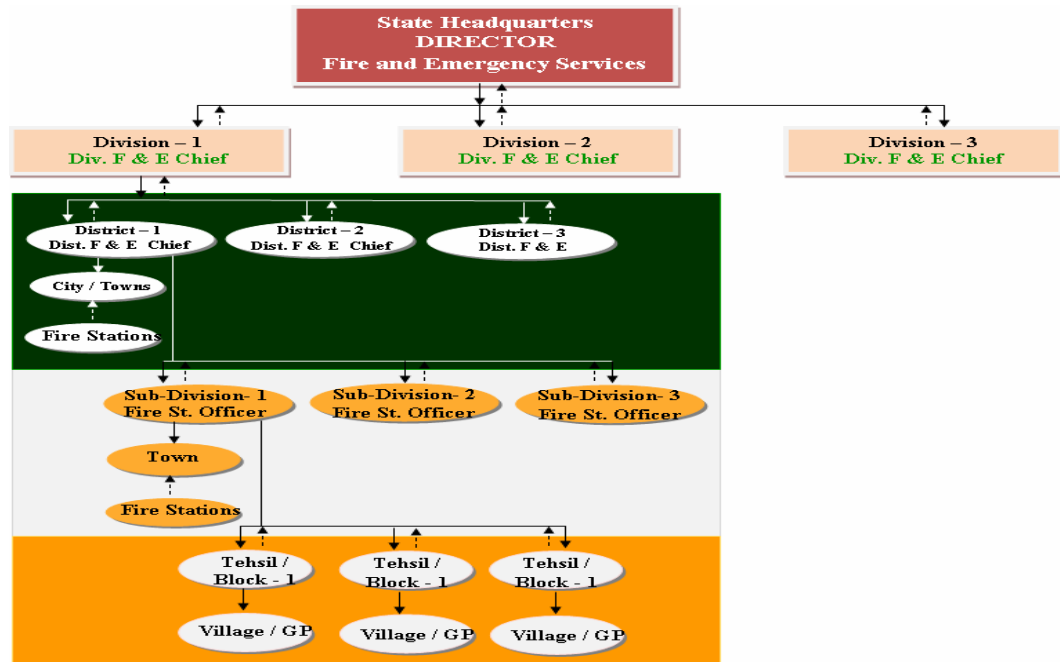


Figure -2. Administrative Structure of the Fire and Emergency Services of the State

The Director Fire & Emergency Services at State level will be the senior most supervisor of the State.

The Divisional Fire & Emergency Services Chief (Div. F&E Chief) will supervise the Fire Services of all the Districts in the Division.

The District Fire & Emergency Chief (Dist F&E Chief) will supervise all the Fire Stations in the District and Sub-Division.

The Sub-Divisional Fire Service Officer will attend to Fire not only in the Sub-Division Town but also supervise all the Tehsils / Blocks in the Sub-Division, wherever and whenever firefighting facilities are placed there.

2.10. Need for creating basic infrastructure

- New fire stations and their buildings will need to be setup as per norms and vulnerabilities. Designs for buildings may vary according to the size of the Fire Station. For convenience the basic requirement for setting up of a Fire Station is being given in **Annexure - 2**
- Water scarcity is another important requirement that needs to be solved. It is necessary to ensure that sufficient water is readily available for fire fighting. For this purpose all available natural resources of water may need to be surveyed and tapped. Considering the growing water shortages all over the country, rain water harvesting may also be considered wherever possible and required. Storage tanks should be constructed at suitable locations within the towns and other vulnerable areas for use in emergencies. Design for tanks and water reservoir may be prepared by the engineers of State Public Works Department as per the local conditions. Fire Hydrants existing in the town also need to be checked and ensured that they are functional. The state may think of setting up such infrastructure under the different developmental programs of the district and if possible also integrate with the Jawahar Rojagar Yojana for this purpose.

2.11. Need for making the fire services a multi-hazard response unit

Constitutionally preventing and Fighting fire hazards is a municipal function in India. However, both the National Disaster Management Act, 2005 (Section 41) and the National Disaster Management Policy, 2007 (para 3.2.9) require the local bodies (i.e., Panchayati Raj Institutions (PRI), Municipalities, District and Cantonment Boards, Town Planning Authorities) which control and manage civic services to ensure capacity building of their officers and employees for managing disasters. Thus it is logical and proper to make Fire Services into a multi hazard response unit, well equipped and trained to respond to other local disasters. This will ensure availability of multi-hazard response unit at numerous locations.

2.12. Other Emergent Needs

The list of emergent needs in India connected with Fire Services would not be complete without mentioning the need to involve the community in Fire Safety and Response activity and the need for research and development in the field of Fire Fighting Equipment and such Technologies.

2.12.1 Community participation

Helping out each other, if one can, in times of disaster is a very human and natural behavior. It has been regularly witnessed in India, that the community turns up in large numbers to help out the victims whenever disasters have occurred. World over, fighting against common fire hazard, is a joint community effort. Most of the firefighting capabilities in the developed western world belong to the community. Community members get themselves trained in fire fighting techniques, feel proud to be a fire fighter, wear that uniform and help the community to fight the hazard. They even take leave from their regular jobs and work as volunteers. Desire to be able to help and self interest of the community are the motivating factor.

2.12.2. In India however, organized volunteerism in fire fighting and other disaster management has not fully developed. Community Based Disaster Management (CBDM) has a lot of potential, significance and importance. There is an urgent need to develop and improve it. The important thing is to provide a catalyst, which can organize it.

2.12.3. The NDMA has been striving hard in capacity development for disaster management by training of the community through NDRF, Mock Exercises and Awareness Generation Programmes. What is required is to provide a proper platform which would keep the community organized and trained on a regular / permanent basis, to enable them to respond in an effective and organized manner.

2.12.4. The Civil Defence Organisation can easily perform this catalytic function. The NDMA has already submitted a complete revamping report for the Civil Defence in the country. If it is implemented comprehensively, the Civil Defence can become an important agency for organizing people to fight fire. It already has an "Auxiliary Fire Services" wing.

2.12.5. The Fire Service Organisations in the States and in the Districts could also function as an additional catalyst. They could join hands with the Civil Defence set up or can even independently propagate the concept of volunteerism in Fire Fighting and developing capabilities.

2.12.6. Since, some capital expenditure would be involved in the form of procuring small, simple fire tenders and other such equipment, the PRIs (Gram Panchayat) can procure them from the Panchayat Development Funds after discussing and analyzing vulnerabilities of the Panchayat with the District Fire Chief. It could be located in the Gram Panchayat premises and could be easily utilized by the local community members in cases of fire. Today every rural area has enough competent person who can drive tractors, operate pumps and threshers, etc. All that is required at the Panchayat level, is training the volunteers to handle the firefighting equipment, learn techniques of fire fighting and observe precautionary measures. This could be easily organized by the District and Sub-Divisional Fire Services. They could also teach them important aspects of maintenance of equipments, etc. For firefighting especially in rural areas if at the Gram Panchayat Level, teams are organized, trained and equipped, they would at least be able to contain many fires, which generally turn into conflagrations and cause heavy damages both in terms of lives and properties. It has been often witnessed that the time taken by the fire fighters to reach the rural areas is generally, longer than desired, by which time most of the damages are already done. The Gram Panchayat Premises could function as a Rural Fire Post. An enlightened Gram Panchayat will easily appreciate the significance and since it will be in their own self interest and safety they would eagerly go forward in this direction. District Magistrates need to motivate and enlighten the Mukhiya of Gram Panchayat. The 13th Finance Commission has given adequate funds for capacity building in Disaster Management. **(Annexure -3)** The Gram Panchayat Fire post can also be developed into a multi hazard response unit.

2.13. Research and development

Technology has a very important role and its' availability helps the responders in a big way when disasters strike. Things that cannot be done manually, are easily attainable with the use of proper technologies. Unfortunately in India, as far as fire hazard is

concerned, most of the modern, useful and effective technologies are imported. The main reason is that, there is no research and development efforts in this specific area in our country. This makes the equipment prohibitively costly. It would be very useful, if the DRDO and other research organisations are able to utilize its expertise and capabilities and do some developmental work in this area and bring out some small equipments use the technology similar to “Mist Technology” and other such innovative technologies. It would make them easily available at a cheaper cost. The private sector could also be encouraged to invest in research and development in this area. The public-private collaboration could also be thought of.

2.14. Recent Initiatives

2.14.1. As mandated, the NDMA took up the alarming and unacceptable inadequacies in Fire Equipment, Manpower, Training and Financial Crunch in the Fire Services in the country at various levels.

2.14.2. The matter was placed before the NDMA meeting chaired by the Prime Minister of India on 18th January, 2010, where the Chairman of the Planning Commission of India was also present. It was then decided that the Planning Commission would advise the State Governments during the process of drawing up their Annual Plans to prioritise and attend to the upgradation of the Fire Services and removal of existing deficiencies.

2.14.3. For revamping the Fire Services and removal of the glaring deficiencies in the Fire Services all over the country, the NDMA had **remained** in constant dialogues with the 13th FC. They have fully appreciated this problem and taken necessary steps. The details of the 13th Finance Commission recommendations and its' operationalisation is discussed in chapter-3.

2.14.5. With a planned infusion of funds through the above twin pronged approach with the Planning Commission and the 13th Finance Commission of India, initiated by the NDMA, the establishment of a Uniform Fire Service with adequate fire stations, adequate strength with a well thought out career progression of its' personnel, appropriate equipment and proper training in rescue techniques and adequate legal provisions, the fire fighting capabilities in the country will have a tremendous improvement. The Fire Services in India will become more efficient and effective.

2.15. Strategy and Action plan

Although the operationalisation of the 13th FC Recommendations and revamping of the Fire Services in India is discussed in detail in chapter-3, it would be appropriate to place the overall strategy for accessing funds both for Urban and Rural Fire Services as per requirements of the State. In order to ensure that a comprehensive and focused up-gradation of the fire services takes place all over the country, a well thought out strategy assumes great significance and needs to be followed meticulously so that every step and action taken fits into the larger comprehensive plan and fulfills the requirement of the country so as to make it more resilient and prepared.

The following measures need to be taken:

- a) Planning and working out the total (Urban & Rural) requirements of the State, based on the norms laid down by the SFAC (refer para 1.5.) and local vulnerabilities;
- b) Add up all the existing facilities and equipment already available and reduce them from the overall requirement calculated. Care should be taken that old items which need to be condemned should not be treated as assets;
- c) The total requirement of the State Government so calculated should be **categorized** into Urban and Rural categories;
- d) The funds provided by the 13th Finance Commission for the Fire Services through the ULBs should be fully utilized for the Urban Areas only. It should

also be understood that they will be available in a phased manner, as enumerated in the 13th FC Report. The revamping plan of the State should be in a similar corresponding phased manner for the urban areas only;

- e) It should further be ensured that the funds under the Special Performance Grant should **also** be **fully** accessed by ensuring compliance of all the nine conditions laid down by the 13th FC in its' report for accessing this category funds. The State Government should ensure that all the conditions are fulfilled. The States which do not comply will not get any funds under this head and the total money available will be distributed among the States which have complied with it. It should be kept in mind that under this head, there is a sum of about 8000 Crores available for the whole country. For convenience Table – 1 showing details of State wise approximate allocation of Basic Grants and Performance Grants made by the 13th Finance Commission and calculated as per para 10.147 of 13th FC is as follows.

Table - 1

State-wise Allocation of 13th Finance Commission Grants Urban Local Bodies			
States	Basic Grant	Performance Grant	Total
Andhra Pradesh	1254.59	664.23	1919.82
Arunachal Pradesh	20.83	11.03	31.86
Assam	165.64	87.69	253.33
Bihar	475.44	251.73	727.17
Chhattisgarh	272.68	144.38	417.06
Goa	53.39	28.26	81.65
Gujarat	851.16	450.65	1301.81
Haryana	283.88	150.29	434.17
Himachal Pradesh	53.52	28.33	81.85
Jammu & Kashmir	133.51	70.68	204.19
Jharkhand	278.34	147.35	425.69
Karnataka	1302.51	689.55	1992.06
Derala	474.91	251.46	726.37
Madhya Pradesh	976.81	517.24	1494.05
Maharashtra	2077.73	1099.99	3177.72
Manipur	53.57	28.36	81.93
Meghalaya	52.43	27.78	80.21
Mizoram	61.40	32.51	93.91
Nagaland	50.17	26.56	76.73
Orissa	324.52	171.82	496.34
Punjab	411.35	217.78	629.13
Rajasthan	780.86	413.40	1194.26
Sikkim	1.69	0.90	2.59
Tamil Nadu	1550.98	821.12	2372.1
Tripura	36.64	19.40	56.04
Uttar Pradesh	1930.59	1022.14	2952.73
Uttarakhand	124.46	65.89	190.35
West Bengal	1056.28	559.22	1615.5
Total	15109.88	7999.74	23110.62

Compiled on the basis of para 10.147 of 13th FC Report. There may be marginal variation in the final figures.

- f) For remainder of the total requirement as calculated earlier (both Urban and Rural) proposal should be simultaneously planned to be placed in the State Five Year Plan and demand made before the Planning Commission of India, for sanction.

*For the purpose of preparing the plan and calculating the required funds a suggestive minimum scaling of equipment has been discussed in Chapter-7. The approximate price of equipment concerned is enclosed in **Annexure – 2**. The manpower required for each equipment has been given separately in Chapter-7. The cost involved in pay & allowances for the manpower should be worked out according to the existing pay scales in the concerned State/ULB.*

Through the above strategy the revamping of both the Urban and Rural Fire Services can take place in a phased but definite manner.

3

RECOMMENDATIONS OF THE 13TH FINANCE COMMISSION

3.1. Gist of the important and relevant 13th Finance Commission Report regarding Fire Services are as follows.

3.1.2.4. The 13th FCR, Para 10.145 of Chapter-10: Keeping these factors in mind, we recommend that grants be given to local bodies as detailed in Table 10.4 as shown in table - 2.

Table - 2

Table 10.4 of 13th FC - Recommended Grants for Local Bodies (Rs. crore)

Year	BE 2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2010-15
Percentage of the previous years' divisible pool to be given to all States as grant under Article 275 of the Constitution-General Basic Grant and Total Special Areas Grant		1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
General Performance Grants			0.50%	1.00%	1.00%	1.00%	0.78%
Aggregate Grants to Local Bodies		1.50%	2.00%	2.50%	2.50%	2.50%	2.28%
Projected (Rs crore) Divisible Pool: 2009-14	545463	636183	746179	880156	1038188	1224595	3846169*
General Basic Grant and Total Special Areas Grant		8182	9543	11193	13202	15573	57693
General Basic Grant		8022	9303	10873	12883	15253	56335
General Performance Grant		0	3181	7462	8802	10382	29826
General Basic Grant & General Performance Grant		8022	12484	18335	21685	25635	86161
Total Special Areas Grant		160	239	319	319	319	1357
Special Areas Basic Grant		160	160	160	160	160	798
Special Areas Performance Grant		0	80	160	160	160	559
Aggregate Grants to Local Bodies		8182	12724	18654	22004	25955	87519

* Period 2009-10 to 2013-14. Totals may not tally due to rounding off.

3.1.1. Para10.161: For the years 2011-2012, 2012-13, 2013-14 and 2014-15, a State Government will be eligible to draw down its share of the general performance grant shown in Annex 10.15b only if it takes the following nine conditions I, ...ii, ...iii,.....

Condition No. (ix) “All Municipal Corporations with a population of more than 1 million (2001 census) must put in place a Fire Hazard Response and Mitigation Plan for their respective jurisdictions. Publication of these plans in the respective State Government gazettes will demonstrate compliance with this condition.”

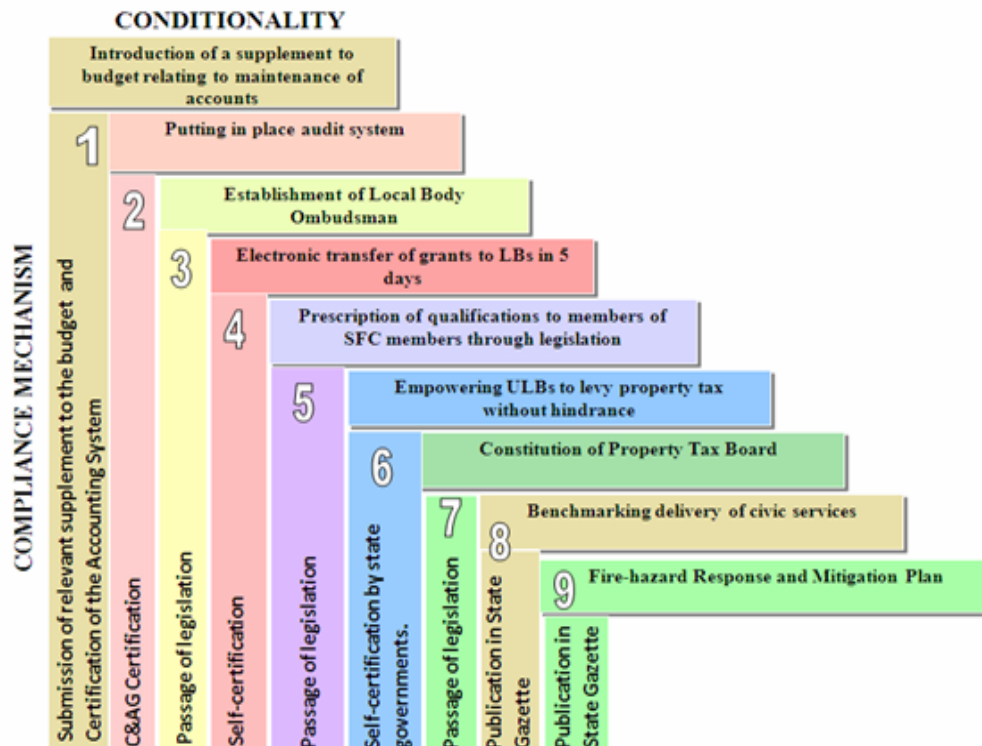


Figure. 3 – Nine

conditions and the compliance

These conditions as shown in Fig. 3. must be met by the end of a fiscal year (31 March) for the State to be eligible to draw down its performance grant for the succeeding fiscal year.

3.1.2. Revamping Fire and Emergency Services

3.1.2.1. Para 10.171: The National Disaster Management Authority (NDMA) has drawn the Commission’s attention to the dismal State of fire services in the country. NDMA has estimated the deficiency of the services in the country as under:

i)	Fire Stations -	97.54%
ii)	Fire Fighting & Rescue Vehicles -	80.04%
iii)	Fire Personnel -	96.28%

3.1.2.2. Para 10.172: NDMA argued for allocation of grants worth Rs. 7,000 crore to the States to meet these shortages. We accept the need to restructure fire and emergency services across the urban and rural areas of the country and recognise that the stipulation in Para 10.161(ix) is merely a first step. Though this is an important area, we are not imposing an expenditure conditionality on local bodies in view of our approach to conditionality outlined in Para 10.166. **We recommend that a portion of the grants provided by us to the urban local bodies be spent on revamping of the Fire Services within their respective jurisdictions. These bodies could provide financial support to the State Fire Services Department towards this objective. In this process, they could draw upon the expertise of State agencies and the National Disaster Management Agency, as required.**

3.1.2.3. Para 11.38 of Chapter-11, The NDMA has focused especially on the current State of fire services in the country and has argued for the upgradation of fire-preparedness and provision of a grant of Rs. 7000 crore to the State Governments for this purpose. We have considered this issue in our chapter on local bodies.

3.1.2.5. Para 12.8: Grants for local bodies in line with Para 4(iii) of the ToR and for disaster management in terms of Para 8 of the ToR have been dealt with at length in chapters 10 and 11, respectively. These grants also flow to the States under Article 275 of the Constitution. We have listed these grants in Table 12.1 of this section in order to be comprehensive. The grants-in-aid of the revenues of States, as recommended by us for the award period 2011-15, are shown in Table – 3.

Table - 3

SL	Table 12.1 of the 13th FC - Grants-in-Aid to States	(Rs. crore)
i	Local Bodies	87519
ii	Disaster Relief (including for capacity building)	26373
iii	Post-devolution Non-plan Revenue Deficit	51800
iv	Performance Incentive	1500
v	Elementary Education	24068
vi	Environment	15000
	(a) Protection of Forests	5000
	(b) Renewable Energy	5000
	(c) Water Sector Management	5000
vii	Improving Outcomes	14446
	(a) Reduction in Infant Mortality Rates	5000
	(b) Improvement in Supply of Justice	5000
	(c) Incentive for Issuing UIDs	2989
	(d) District Innovation Fund	616
	(e) Improvement of Statistical Systems at State and District Level	616
	(f) Employee and Pension Data base	225
viii	Maintenance of Roads and Bridges	19930
ix	State-specific	27945
x	Implementation of model GST	50000
	Total	318581

3.1.2.6. Para 12.117: The State-wise details of grants-in-aid recommended for needs that are specific to each State are given below.

3.1.2.6.1. Para 12.123 (**Andhra Pradesh**): The State has represented for an allocation to strengthen Fire and Emergency Services by providing essential equipment to convert the service into a multi-hazard response unit. We recommend a grant of **Rs. 17 crore** on this account.

3.1.2.6.2. Para 12.171 (**Haryana**): With rapid industrialization of many parts of Haryana, the fire service department has to be upgraded and adequately equipped to face emergencies. We allocate an amount of **Rs. 100 crore** for this.

3.1.2.6.3. Para 12.245 (**Mizoram**): In response to the State Government's memorandum, we recommend an amount of **Rs. 20 crore** for building new fire stations to revamp the fire and emergency services in the State.

3.1.2.6.4. Para 12.261 (**Orissa**): The State memorandum has highlighted the enormous gap in provision of fire services in the State, based on which, we recommend an amount of **Rs. 150 crore** for this purpose. The State should ensure that part of this fund is utilized to upgrade the fire service training institution and to provide training to fire service personnel.

3.1.2.6.6. Para 12.299 (**Tripura**): As requested by the State Government, we recommend **Rs. 15 crore** for construction of the headquarters of fire services in the State.

3.1.2.6.5. Para 12.301 (**Uttar Pradesh (Varanasi)**): The city of Varanasi is a centre of national and international importance for pilgrims and tourists and thus, needs support to improve its infrastructure. Funds have been requested separately to strengthen fire services in the State. We propose a grant of **Rs. 20 crore** to upgrade the fire and emergency services in Varanasi.

3.1.2.6.4. Para 12.319 (**West Bengal**): Having converted the West Bengal Fire Service Department into the West Bengal Fire and Emergency Department in view of new challenges, the State Government has requested a grant for its upgradation and strengthening. We recommend a grant of **Rs. 150 crore** to fill the infrastructure and equipment gaps in the Department.

Note : for editorChange para nos..... of whole chapter

Table 12.6: Grants-in-Aid for State-specific Needs

(Rs. crore)

State	2010-11	2011-12	2012-13	2013-14	2014-15	2010-15
1	2	3	4	5	6	7
Andhra Pradesh	20.00	312.50	312.50	312.50	312.50	1270.00
Arunachal Pradesh	0.00	75.00	75.00	75.00	75.00	300.00
Assam	0.00	150.00	150.00	150.00	150.00	600.00
Bihar	0.00	461.25	461.25	461.25	461.25	1845.00
Chhattisgarh	0.00	320.25	320.25	320.25	320.25	1281.00
Goa	0.00	50.00	50.00	50.00	50.00	200.00
Gujarat	0.00	325.00	325.00	325.00	325.00	1300.00
Haryana	0.00	250.00	250.00	250.00	250.00	1000.00
Himachal Pradesh	0.00	87.50	87.50	87.50	87.50	350.00
Jammu & Kashmir	1000.00	87.50	87.50	87.50	87.50	1350.00
Jharkhand	0.00	356.25	356.25	356.25	356.25	1425.00
Karnataka	0.00	325.00	325.00	325.00	325.00	1300.00
Kerala	0.00	375.00	375.00	375.00	375.00	1500.00
Madhya Pradesh	0.00	307.75	307.75	307.75	307.75	1231.00
Maharashtra	0.00	308.75	308.75	308.75	308.75	1235.00
Manipur	0.00	75.25	75.25	75.25	75.25	301.00
Meghalaya	0.00	62.50	62.50	62.50	62.50	250.00
Mizoram	0.00	62.50	62.50	62.50	62.50	250.00
Nagaland	0.00	62.50	62.50	62.50	62.50	250.00
Orissa	0.00	436.25	436.25	436.25	436.25	1745.00
Punjab	30.00	362.50	362.50	362.50	362.50	1480.00
Rajasthan	0.00	300.00	300.00	300.00	300.00	1200.00
Sikkim	0.00	100.00	100.00	100.00	100.00	400.00
Tamil Nadu	0.00	325.00	325.00	325.00	325.00	1300.00
Tripura	0.00	125.00	125.00	125.00	125.00	500.00
Uttar Pradesh	0.00	419.75	419.75	419.75	419.75	1679.00
Uttarakhand	0.00	175.00	175.00	175.00	175.00	700.00
West Bengal	0.00	425.75	425.75	425.75	425.75	1703.00
Total States	1050.00	6723.75	6723.75	6723.75	6723.75	27945.00

3.2. It is obvious that the 13th FC have considered the importance and need to re-vamp the fire services in the country. While they have allocated amounts as Grants in Aid directly to States which had submitted specific proposals before it, taking note of the constitutional position that fire services are Municipal functions they have more than doubled the grants (both Basic Grant & Performance Grant) to the local bodies in comparison to the allocations made by the 12th Finance Commission and simultaneously recommended that the local bodies should spend money on Fire Services. It is now for the state government and local bodies to see and ensure that the glaring deficiencies in the fire services are removed and the community is provided with better cover and safety against fire hazards.

4

OPERATIONALISATION OF THE 13TH FINANCE COMMISSION RECOMMENDATIONS

4.1. Strategy

It can be observed from the recommendations, that the 13th Finance Commission has noted with concern the very high level of deficiencies in the Fire Services of the country. Recognizing the criticality of the Fire Services, they have clearly underpinned the need to restructure and revamp the Fire Services. Apart from the Fire Disasters the commission has taken cognizance of other disasters in general and has recommended substantial grants to the States for Disaster Training and related Capacity Building (Para 11.102 of 13th FC Report). State-wise allocations for capacity building for effective disaster response is being given at Annexure-3

For the operationalisation of the 13th FC recommendations in the correct spirit a clear and comprehensive line of action needs to be decided right from the beginning by both the Central and State Governments along with the ULBs.

The FC has made two complimentary recommendations:

- a. *Para 10.161 (ix) of the Report - All Municipal Corporations with a population of more than one million (2001 census) must put in place a fire hazard response and mitigation plan for their respective jurisdictions. The plans for Municipal Corporation areas should be published in the State Gazette as a measure of compliance; and*

[This is a mandatory recommendation and is one of the nine conditions stipulated by the Commission, for drawing the Performance Grant. The State governments can access funds under Performance Grant only if they comply with the nine conditions including putting in place a Fire Hazard Response Plan for million plus cities.] (List of the concerned million plus cities placed at Annexure - 4 for convenience).

- b. *Para 10.172 of the Report* - The 13th FC **has recommended** that a portion of the grant allocated by the commission to the Urban Local Bodies may be spent on the revamping the Fire Services in their jurisdiction. The ULBs may extend financial support to State Fire Services Department in this effort.

[This provision enables coverage of Urban Areas other than the million plus cities as well.]

For operationalising the first recommendation of the 13th FC i.e., preparation of fire hazard response and mitigation plan in all million plus cities, the responsibility seems to have been entrusted to the Municipal Corporations **though they are expected to seek expertise from the State Fire Services or the NDMA**. Once the plan is prepared, the Municipal Corporations need to get the plans published in the State Gazette.

4.4. 4.4. Accountability

Since Fire Services are under the Home Departments in some States and under the ULBs in others, a broader question is who will be responsible for the preparation and then the implementation of Fire Hazard Response and Mitigation Plans as well as the revamping of Fire Services. Since the funds of the ULBs are to be used for the Fire services there will be no problem in such States where it is under the ULBs. The problem will arise in those States where the Fire Services are under the Home Department. In such States coordination and convergence between the Urban and Home Department will be necessary. For the implementation of the plan a mechanism of coordination and convergence between the two departments will have to be formulated. The State Governments need to decide this issue right from the beginning. Broadly the questions that need to be addressed include:

- Who should prepare the plan – ULB or the Fire Services Department ?
- If it should be Fire Services Department because of their expertise, what should be the role of ULB in the process? It is important in States where Fire Services are not with the ULBs.
- What relations are required between ULB and City Fire Services Agency to put the process in place, prepare the plan and implement it?
- Who is accountable for implementation of the plan?
- What could be the mechanisms for monitoring and evaluation?

Note – The State Government need to issue clear cut direction on the above raised points.

In the absence of proper guidelines, the Municipal Corporations may prepare plans as they think right and fit. However this would lead to disproportionate and unbalanced growth of fire services in different States and ULBs. It is vital that the NDMA, which is responsible for laying down policies, plans and formulation of guidelines for Disaster Management, including Fire Hazards, should formulate guidelines for the preparation of Fire Hazard Response and Mitigation Plan for all Urban and Rural Areas. The NDMA believes that, the Fire Response Plan should incorporate directions for similar plan and basic facilities in all large apartment complex, malls, commercial buildings, educational institutions etc. in the concerned jurisdictions and the same should be publicized and be enforceable. Suitable legal provisions are therefore required to be put in place by the State Governments, if they do not already exist. This would, apart from creating awareness among the public, also equip them to respond and be prepared to face fire hazards. In order to standardize the Fire hazard response and mitigation plan a comprehensive and suggestive plan has been discussed in chapter -5 for reference.

These guidelines would motivate, help and guide the Municipal Corporations and State Governments to work out detailed standardized plans for their respective jurisdictions. The State Governments will however have to decide who will prepare these plans – Municipal Corporations or the State Government Fire Services. In some States, the Fire Services are under the Home Department while in some others it is with the Municipal Corporations (ULBs). The Finance Commission vide para 10.172 of its' report has clearly stated that for the preparation of these guidelines the expertise of the Fire Service Department or the National Disaster Management Authority, may be used.

4.5. Consultative Process

The State Govt. may need to issue directions to the concerned Municipal Authorities in this connection. Some consultation with the concerned Municipal Corporation may also be required, especially when the funds of the ULBs are being used for revamping of the Fire Services It may not be out of place to mention here that the accountability of all agencies working within the town to the “city council” is also one of the mandatory conditions under the JLNURM launched in 2005. All State Governments have accepted this condition and also indicated timelines for compliance. The local

bodies should have a role in the planning process concerning the city. Therefore, Fire Hazard Response and Mitigation Plan for a city with 1 million plus population should be finalized in a consultative process **through discussion with the “council” or a presentation on the plan before them.** This will enhance community participation in the revamping of the Fire Services.

4.5.1. The second recommendation of the 13th FC is vital. It is necessary that the State Governments and the **Corporations should ensure allocation of a portion of grants for Fire Services as suggested by the 13th FC, in a timely manner.** This may be done in two ways:

- a. The ULBs in the States should be advised by the State Governments to allocate a minimum percentage of the grants received by them under 13th FC and use them to strengthen the Fire Services in the city as per the plan prepared. This would involve one allotment to the ULBs by the State Governments and then another allotment by the ULBs to the Fire Service Department; **or**
- b. Alternatively, the State Government could apportion a percentage of the 13th FC grants received for the ULBs at the State level itself before allocating them to the concerned ULBs. The fund so segregated may be utilized through Fire Service Department to strengthen and revamp the Fire Services in the **Urban areas** as per a plan prepared for the purpose. The ULBs may be kept informed of the amount of funds so spent from their overall allocations.

4.5.2. It is felt that under the given financial status of the ULBs, different interests may like to divert the funds for other usages and thus allocations for revamping the Fire Services, as suggested by the FC may not be done in a timely and **comprehensive manner.** It is therefore, desirable, that the allocation should take place at State level itself. It should be clearly understood that the 13th Finance Commission has increased the allocation of amount to the Urban Local Bodies (ULBs) considerably in comparison to the allocation made by the 12th Finance Commission. It has mainly been done because of the requirement of adequate funds for revamping of the Fire Services in the country. Even a ten percent

allocation would work out to be a substantial amount and would enable and initiate the process of revamping and strengthening the Fire Services to the bare minimum level in the country as a whole.

4.3. Quantum of allocation required both for the Urban and Rural Fire Services

Another important aspect is the quantum of allocation required. The NDMA, therefore, through these guidelines is fixing the basic minimum standard for each Fire Station so that they can function with a modicum of efficiency to begin with. The State Government with the help of Fire Service Departments in their States can calculate the money required for different equipment with the necessary man-power for the upgradation of their Fire Station. The type of minimum equipment required would depend on the respective vulnerabilities. Approximate cost of equipment is being placed at **Annexure-5** The expenditure on manpower will have to be calculated as per the pay scales of the State/ ULB concerned. The State should then accordingly allocate the fund segregated from the grants to the ULBs for the revamping of Fire Service in Urban Areas.

Funds available from ULBs may not be adequate to fully meet even the overall urban area requirement as per the norms. To meet the short fall of necessary funds, a comprehensive Plan both for the **Urban and Rural Areas**, should be prepared for the remaining deficiencies and taken up in the State Plan for approval and allocation by the Planning Commission of India.

5

FIRE HAZARD RESPONSE AND MITIGATION PLAN

5.1. Fire Hazard Response and Mitigation Plan

5.1.1 As mentioned earlier, one of the mandatory recommendations of the 13th Finance Commission is the preparation of a Fire Hazards Response and Mitigation Plan and its publication in the State Gazette. The 13th FC has also directed that for the revamping and strengthening of Fire Services and for preparing and maintaining Fire Hazard Response and Mitigation Plan, the local bodies can draw expertise in the area from the State Level Fire agencies as well as the National Disaster Management Authority.

5.1.2. Fire Service setup **in any area** is mainly based on Population, Response Time and Risk Hazard Analysis. In the absence of Risk Hazard Analysis, it would be improper to decide on the specific and special equipment required at a particular Fire Station. It should be based on a correct assessment of the possible and potential extent of damage if the Fire and Emergency Services do not have the concerned special equipment. **There are however, a certain set of equipment, which each Fire Station should mandatorily have.** The Plan also needs to be constantly reviewed on the basis of growing hazards and thus needs to be dynamic.

In the cities with population of more than one million, the type of hazard may be termed as either High or Moderate. In the areas of High Fire Risk the scale and type of Fire Station and additional fire fighting and rescue equipment should be determined by an actual survey of the area by Fire experts.

A general scale of equipment based on Population, Area and Traffic congestion is however, being laid down in these guidelines. To cater to the

requirements of Fire Cover for both High and Moderate type Fire Hazards in the city a suggestive list of Special Equipment have been mentioned. They are optional and their requirement depends on the possibility and existence of the type of hazard that may require the use of such equipment. Area-wise norms laid down for setting up Fire Stations is one Fire Station in every 10 Sq. km. It is also laid down that the Fire Party should reach the incident site within 5 minutes in Urban densely populated areas and 20 minutes in Rural areas. Thus, in some Towns or Cities, more than one Fire Station may be needed.

Covering the rural areas against the fire hazard has become a serious problem. Creating Fire Fighting capabilities right up to the Block and Gram Panchayat level may be ideal, but going up at least to the Sub-Divisional level everywhere in the country is absolutely necessary in order to provide even the most minimal cover against fire hazard to the Rural Areas. Presently in case of a fire in the villages, the assistance available is possibly only at the district level. Unfortunately in most cases help is able to reach only when the fire is over and the maximum damage is already done.

The recommended scale in these guidelines is prepared with the assumption that there are no facilities / Fire Services and infrastructure available in the city and the State. Thus they shall have to reduce the availability, fix the deficiencies and then calculate the requirement of the funds for the required equipment. It should also be noted that the suggested scale and type of equipment may be different for the North Eastern States and other Hilly States like Himachal Pradesh and Uttrakhand. The same will also be true for Island districts and Union Territories of Andamans & Lakshwadeep.

For the other parts of the country, the specification of equipment, buildings, communication, etc. is only suggestive and bare minimum. The State Governments and ULBs may decide to obtain special equipment on the basis of possible requirement and can also adopt more advanced specifications of design for the appliances, etc. if the required funds are available. The procurement of equipment should not be in any case below the suggested specifications and scale.

The key to proper response in disasters lies equally in a good communication set up. The Fire Services need to have all possible connectivity like Telephone, Telefax, Computerised Voice Logger, GIS, HAM Radio, Static and Mobile Wireless Sets (like tetra system) and Satellite based communication. All supervisory and response location (Central Control Room, Division Fire Stations and Area Fire Station) should be linked. **It should also be linked to the District Emergency Operation Centre (EOC).**

All toll free emergency numbers existing in the State like the Police, Fire, Emergency Operation Centre, Medical Support, etc. should also be linked up, so that if there is any fire incident, the information not only reaches the fire station but also the EOC of the District Administration and the nearest Police Station to attend to any law and order situation as well **and** the hospital and emergency services to reach the spot and attend to any casualty and transportation of injured. For such coordination the NDMA Guidelines on Incident Response System(IRS) **and guidelines on the National Disaster Management Information and Communication System (NDMICS)** shall be followed.

Apart from capabilities to fight fire, Fire Stations **should not only have** equipment for Rescue, Medical First Response (First Aid, Ambulance, etc.) as well as trained manpower for performing **during fire hazards, but also to respond to other disasters.** In view of the present day scenario it would be appropriate to equip them in order to be a multi-hazard response unit and capable of responding to Nuclear, Biological and Chemical emergencies also. Specialized equipment required for such emergencies should be kept in a centrally located fire station where its' requirement is probable or from where it can be mobilized easily when required. Vulnerability Analysis, will help to decide, what equipment should be provided and where it should be located. **Training of the Fire Fighter should include training to respond to other probable hazards also. The subjects for training has been dealt with in Chapter-6.** A suggestive list of other specialized equipment is discussed in detail in Chapter-7.

A legal regime should be available so as to ensure the implementation of the plan and to make it effective. Fire clearance (NOC) from the Fire Service Department should be made mandatory for all occupancies as per State Building bye-laws and the

National Building Code. Provision should also be available for right of way for Fire Tenders and proper parking locations for the Fire Services at busy vulnerable locations. If the occupancies do not fulfill the fire safety requirements like proper escape / evacuation routes and own suitable fire safety equipment there should be provision for sealing of such occupancies **and also penalizing them**. This will ensure that Fire Safety Norms are followed and enforced at all places.

The plan should include a calendar of activities for Mass Awareness **and inspection of firefighting facilities and equipment** especially in schools, busy shopping malls, high rise buildings and residential clusters, to reduce the Fire Accidents.

For the convenience of the Stakeholders, a broad outline of the Plan and its' various components are being put together as follows.

a. Background of the city

- City overview – Population, density, land use, type of buildings, roads and accessibility;
- Infrastructure, health care system, economy and industrial locations, schools, and educational institutions, land use, etc. Classify the vulnerable assets, people, housing and critical infrastructure; and
- Resources and institutions – public and private that can help and support the response system.

b. Planning process, Response and Mitigation Strategy

- Goals, objectives and potential actions should be clearly spelt out in the plan;
- Identify hazards by collecting historical hazard information (both natural and man-made);
- Risk and vulnerability assessment – identification of city specific hazard and assessment of risks involved (vulnerability analysis); and

- Assess own assets and capabilities – (administrative, financial, technical, regulatory, legal) and determine how **the ULBs / Fire Services need to address the requirements.**

c. Identification of resources –

- Identify Role of the Government departments, existing Institutions, expert agencies, NGOs, **etc. along with their** capacity assessment;
- Identify key stakeholders in the community and surrounding areas;
- Organize resources – identify hazard mitigation teams, agencies, community members;
- Decide stages / steps for implementation of plan – key stages, actors, public participation - training and capacity building, Public outreach & sensitization plan, involvement and participation of the community and role of ward committee and area SABHAS, etc.;
- Review and incorporation of future developmental plans of the city and other information;
- Preventive actions – property and natural resources protection techniques and strategies, appropriate equipment and facilities of their own at large colonies and high rise buildings, like water, fire extinguishers, escape routes, etc., public information and awareness plans and actions required;
- Potential impacts and damages – social, economical and environmental; and
- Use of GIS for planning.

Evaluation and monitoring

For making the Plan dynamic, integration of the community, continuous evaluation and monitoring is necessary. In towns interaction with the Municipal Council and in villages with the PRIs will prove very helpful. The plans should be discussed with them and suggestions obtained should be incorporated from time to time. Surprise Mock Exercises for Fire Emergencies will greatly help in evaluating and monitoring of the Plan.

5.2. BASIC COMPONENTS AND DETAILS OF FIRE HAZARDS RESPONSE AND MITIGATION PLAN

A basic format of the Fire Hazard Response and Mitigation plan is being provided below for convenience which may be prepared on the basis of details discussed above.

This is mandatory for 1 million plus cities 2001 census.

Detail of the City / Area whose plan is being made
1. Name of City
2. Population of City:
3. Area of City (In Sq.Kms.) :
4. Density of Population in the City :
5. Vulnerability Analysis of the city : (Mention all the relevant possible hazards)
6. Name of the Authority maintaining Fire & Emergency Services i.e. State Fire & Emergency Service/ Local Self Government such as Municipal Corporation / Municipal Council with its detailed Address, District & Pin-code
7. Deficiencies on the basis of the SFAC norms. a) One fire engine for 50,000 population; b) One fire station for 10 sq. Km Urban area; c) One fire station for 50 sq. Km Rural area; and d) Response time maximum 5 minutes in Urban Area and 20 minutes in Rural area.
8. State Level Nodal Authority for Fire Services (in case Fire Services is not provincialised)
9. Head of Fire & Emergency Service : <ul style="list-style-type: none">▪ Name:▪ Designation:▪ Address with Pin code:▪ Telephone No. (with STD Code):▪ Fax No.:▪ Mobile No.:▪ E-Mail:
10. Details of the Emergency Operation Centre (DDMA)of the concerned city : <ul style="list-style-type: none">▪ Address with Pin code:

<ul style="list-style-type: none"> ▪ Telephone No. (with STD Code): ▪ Fax No.: ▪ E Mail:
11. Whether Fire & Emergency service is governed by Any Fire Act or other Act and Rules, if not, how you are going to enforce preventive steps ?
12. Calendar for the fire safety training and awareness programme for the public. This should be so designed as to cover majority of the population in the vulnerable area of jurisdiction.
13. Plan and calendar of evacuation drills/ mock drills in vital installations/ industrial plants/ Government buildings / schools and critical infrastructure like hospitals, etc.
B : Risk Assessment, Incident Prevention & Mitigation of City : (Risk Evaluation and Control Plan)
14. Plan for compulsory Fire Hazard evaluation of all types of buildings old and new .
15. Plan for enforcement of Fire Approvals as per the Provisions contained in National Building Code 2005 for new constructions.
16. Plan how data of all fire approvals are maintained in the headquarters or at the central data setup.
17. Plan for introducing and enforcing Development Control Rules of the city for new development projects.

18. The details of Potential Fire Risk in the City

SL.	particulars	Nos.	
		Residential	Non-Residential
1.	Buildings		
	Upto 15 Meters		
	15 to upto 24 Meters		
	Above 24 to upto 36 Meters		
	Above 36 to upto 45 Meters		
	Above 45 to upto 60 Meters		
	Above 60 to upto 75 Meters		
	Above 75 to upto 100 Meters		
	Above 100 to upto 150 Meters		
	Above 150 Meters above.		
2.	Industrial Area / Chemical Zone		

3.	Cinema Halls/ Malls/ Drama Theatres		
4.	Public Gathering Places		
5.	Hazards storage		
6.	Pilgrims Area (Floating Population)		
7.	Exhibition/ Public Function Grounds where permission for erecting pendals for circus or any other religious / social functions are granted.		
8.	Other (Please give details)		

Note:- All building should be sub-classified on the basis of following classification as per Part 4 of NBC 2005:

<p>A) Residential Buildings</p> <ul style="list-style-type: none"> a) Lodging or Rooming Houses b) One or Two Family private Dwelling c) Dormitories d) Apartment Houses (Flat) e) Hotels f) Hotels (Starred)
<p>B) Educational Buildings</p> <ul style="list-style-type: none"> a) School upto Senior Secondary Level b) All Other Training Institutes
<p>C) Institutional Buildings</p> <ul style="list-style-type: none"> a) Hospitals & Sanatoria b) Custodial Institutions c) Penal & Mental Institutions
<p>D) Group D Assembly Buildings</p> <p>E) Group E Business Buildings</p> <p>F) Group F Mercantile Buildings</p> <p>G) Group G Industrial Buildings</p> <p>H) Group H Storage Buildings</p> <p>I) Group J Hazardous Buildings</p>

19. Road Map of the City with the following details :

- a) Any major National Highway passing through City
- b) Any State Highway passing through City
- c) Any Tunnels in the City
- d) Major Bridges in the City
- e) Accident prone patches
- f) Roads in Hilly Areas or Hilly/Mountain Area in the City or near City
- g) and other related information

20. Railway Network

- a) Mail/Express Train main stations
- b) Local Train stations
- c) Metro train stations
- d) Underground Metro stations
- e) Sky Bus
- f) Mono Rail

21. Airport

- a) Domestic
- b) International
- c) Cargo
- d) Helipad
- e) Air force Airbase

22. Sea / River Port

- a) Passenger Jetties
- b) Container Jetties
- c) Bulk Material Handling Jetties
- d) Petroleum Products Handling Jetties
- e) Chemical & Hazardous Goods Handling Jetties
- f) Fishing Jetties
- g) Ship Breaking Areas
- h) Ship Building Docks
- i) Naval Base

23. Vital Installations in the City

- a) Secretariat
- b) Legislation Assembly
- c) Bank Headquarters

<ul style="list-style-type: none"> d) Headquarters of major Government and Semi Government Organisations e) Atomic Power Station f) Chemical Factories g) Fertiliser Plants h) Major Hazardous Units i) Cross Country Pipelines j) Petroleum Oil Companies like Refinery, Bulk Storages Depot, k) Petroleum & Flammable Gas, LPG filling Stations l) Domestic Gas Pipe Network m) Cylinder Gas Storage-outlets n) and such other points
24. Temporary Structures such as Exhibition Halls, Circus tent, Pendants erected for religious activities.
25. Dilapidated & Unsafe Buildings in the City.
26. Unorganised Houses like Jhuggi Zopadi & Slum Area.
27. Details of other hazards that exist in the city and plans for response and mitigation accordingly. Hazards like Geological, Metrological, Biological, Human Caused, International and Technological.
<p>A. Geological Hazards Associated with City :</p> <ul style="list-style-type: none"> a) Earthquake b) Tsunami c) Landslide, Mudslide, Subsidence d) Glacier, Iceberg
<p>B. Meteorological Hazards Associated with City :</p> <ul style="list-style-type: none"> a) Flood, Flash Flood, Tidal Surge b) Drought c) Fire (Forest, range, urban, wild land d) Snow, Ice, Hail, Avalanche e) Windstorm, tropical, cyclone, hurricane, tornado, water spout, dust/ sand storm. f) Extreme temperatures (Heat, cold) g) Lightning strikes h) Famine i) Geomagnetic storm

C. Biological Hazards Associated With City :

- a) Emerging diseases that impact human or animal (Swine flu, Malaria, Birds flu, Plague, Smallpox , Anthrax, Foot & Mouth Disease.
- b) Animal or Insect infestation or damage.

D. Human Caused events such as the following :-

Accidental

- i. Hazardous material (explosive, flammable liquid, flammable gas, flammable solid, oxidizers, poison, radiological, corrosive) spill or release.
- ii. Explosion / fire
- iii. Transportation accident
- iv. Building / structure collapse
- v. Energy / power/ / utility failure
- vi. Fuel/ resource shortage
- vii. Air/ water pollution, contamination
- viii. Water control structure/ dam/ lever failure
- ix. Financial issues (economical depression, inflation, financial system collapse)
- x. Communication system interruptions
- xi. Misinformation
- xii. and any other

Intentional

(assessments of the following threats and plan of the action to meet the situation arising out of)

- i. Terrorism (explosive, chemical, biological, radiological, nuclear, cyber)
- ii. Sabotage
- iii. Civil disturbance, public unrest, mass hysteria, riot
- iv. Enemy attack, war
- v. Insurrection
- vi. Strike or labour dispute
- vii. Disinformation
- viii. Criminal activity (vandalism, arson, theft, fraud, embezzlement , data theft)
- ix. Electromagnetic pulse
- x. Physical or information security breach
- xi. Workplace violence

<ul style="list-style-type: none"> xii. Product defect or contamination xiii. Harassment xiv. Discrimination xv. And any other
<p>Possibility of Technological Caused events that can be unrelated to natural or human caused events, such as:</p> <ul style="list-style-type: none"> a) Central computer, mainframe, software, or application (internal / external) b) Ancillary support equipment c) Telecommunications d) Energy / power / utility. e) And any other

28. Collect details and Analyses of Fire & Rescue Calls of the last five years to Draw a Probability of Hazards.

SL.		Year	Year	Year	Year	Year
1.	Total No. of Fire & Rescue Calls					
	a) No. of Fire Calls					
	b) No. Rescue Calls					
	c) No. of Gas Leaks					
	d) Building Collapse					
	e) Hazards Material calls					
	f) Animal Rescue Calls					
	g) Other calls					
2.	No. of Lives Saved					
3.	No. of Lives Lost					
4.	No. of Injured					
5.	Property Saved (Rs. In Lakhs)					
6.	Property Lost (Rs. In Lakhs)					

29. Analysis of probable timing of Incidents

SL.		Year	Year	Year	Year	Year
A	Nos. of Fire/Rescue Calls received from 7000 hrs to 1900					
B	Nos. of Fire/Rescue Calls received from 1900 hrs to 7000					

C Planning, Resource Management & Incident Management

(Mutual Aid/ Assistance, Emergency Response and Operations, Developing and Implementing emergency response plan & procedures)

30. Disaster Management Plan of the city and the responsibilities of the fire services there in.

31. Plan for availing Mutual Aid with any Central or other State Government Authority for conducting fire & rescue operations. Please provide details

32. Collect all on site and off site Disaster Management Plans for all vital installations, buildings and industrial plants in the jurisdiction and the role of Fire Services in them.

33. Addresses of Fire Stations which can be requested to help.

SL.	Name of Fire Station	Type of Construction of Fire Station i.e. RCC/Metal Shade/Temporary Shade	Address	Telephone No.	Fax No.

34. Details of Fire and Rescue Appliances made available in Fire Stations

SL.	Name of Fire Station	Number of Water Tenders	Number of Rescue Tenders	Number of Ladders i.e. TTL/ ALP's	Other fire or rescue Appliances

35. Summary of Fire and Emergency Service

SL.	Type of Vehicles	Nos.	
7.	Number of Fire Stations		
8.	Water Tenders		
9.	Rescue Tenders		
10.	Advance Emergency Rescue Tenders		
11.	Flood & Rescue Tenders		
12.	Hazmat Vans		
13.	Turn Table Ladders		
14.	Hydraulic Platforms		
15.	DCP Tenders		
16.	Foam Tenders		
17.	Smoke Blowers		
18.	Control Post Vans		
19.	Water Tankers		
20.	Ambulances		
21.	Cars		
22.	Jeeps		
23.	High Pressure Portable Pumps		
24.	Portable Pumps		
25.	Breathing Apparatus Sets		
26.	Flood rescue boats		
27.	Life jackets		
28.	Details of others Appliances & Equipment		

29. Detailed address and telephone numbers if any of all the personnel in the Fire Station.

30. Plan for day to day training requirements of the station personnel like training ground, drill tower, etc.

39. Details of Officers & Staff attached to Fire & Emergency Service (Right from the State HQ to the Local Fire Station) :

SL.	Designation	Name	Office Address	Contact Details
1.				Telephone (O): Telephone (R): Mobile No.: Fax No.: E Mail:
2.				Telephone (O): Telephone (R): Mobile No.: Fax No.: E Mail:
3.				Telephone (O): Telephone (R): Mobile No.: Fax No.: E Mail:
4.				Telephone (O): Telephone (R): Mobile No.: Fax No.: E Mail:
5.	Others (Specify designation)			Telephone (O): Telephone (R): Mobile No.: Fax No.: E Mail:

D. Communication, Early Warning, Operational Procedures and Decision Support System (DSS)

This should have details of the type of communication available – Wireless, (UHF / VHF), Internet, Tie up with local radio stations, TV and cable channels, Mobile phone service providers, Global Positioning System (GPS), Geographical Information System (GIS) and standard Operating Procedures (SOPs) as prescribed from time to time.

Capacity Building

Capacity building for disaster management has been identified by the 13th FC as a critical area and allocated substantial funds to States under this head. These funds should be utilized for training fire personnel also.

6.1. Training of Fireman in Fire & Emergency Services

The role of Fireman in Fire & Emergency Services is to extinguish fire, rescue trapped persons, provide medical first aid and also respond to the various accidents in man-made and natural disasters. The roles cannot be performed well until and unless sufficient training is imparted to the fire service personnel. The type of training, duration etc. will depend upon the level of entry.

6.1.1. Levels of entry

Broadly there are two entry levels in Fire & Emergency Services in India; 1) Fire Man Level and 2) Sub Officer (Asstt. Station Officer). In Some States possibly because of non-provisionalisation of the service and non-availability of adequate officers, they are also recruited at higher levels like Station Officers, Divisional Officers and Chief Fire Officers.

6.2. Basic training of Fireman/Leading Fireman/Driver

The minimum educational qualification for recruitment as a fireman / leading Fireman / Driver is 10th class / **Matric Pass** with Driving License for Heavy Vehicles and 6 months Fireman training as professional qualification. The person should not be more than 25 years of age. The basic professional training **course is of 6 months** duration. The details of curriculum and training programme for Fireman and Leading Fireman are placed in **Annexure - 6 and 7** .

A Training Centre for all new entrants and for organizing in-service / promotional courses is absolutely necessary in every State. The State

Government/ULB shall provide adequate infrastructure and facilities at the Training Centre like the **classrooms, training equipment** and accommodation. In case of shortage of faculty, the State Government/ ULB may use the services of experienced and retired Fire Service Officers. It is learnt that the smaller States of North Eastern Region of India, might find it difficult to set up good training centre in each NE State. The North East Council may like to set up a Regional Fire Training Centre at some suitable location in NE Region like North Eastern Police Academy (NEPA) in Meghalaya.

The bare minimum list of equipment required for a training centre is given in **Annexure - 29**. The State Governments and ULBs may like to add modern simulators for different fire **emergencies. Simulators** can give close to live experience while undergoing training **and is very useful for good training of recruits**.

6.4. Basic Training for Officers

The basic training for officers is for 6 months and is conducted at the National Fire Service College, Nagpur, Maharashtra. The details of curriculum and training programmes for Sub-Officers course is given in **Annexure- 8**.

6.5. In-service Promotional Training Courses

Every Fireman/Fire **Officer is required** to undergo mandatory in-service promotional training courses in order to be promoted to the next higher rank. The abstract of in service / promotional courses is shown in table – 4 are as follows.

Table - 4

SL	PROMOTION		TRAINING REQUIRED
	RANK FROM	PROMOTION TO	
1.	Fire Man	Leading Fireman	Leading Fireman Course
2.	Leading Fireman	Sub-Officers	Sub-Officers Course
3.	Sub-Officer	Station Officer	Station Officers Course
4.	Station Officer	Asstt. Div. Officer	Divisional Officers Course
5.	Asstt. Div. Officer	Divisional Officers	

The detailed syllabus of above In-service / promotional courses is given in following Annexures are shown in table – 5.

Table - 5

SL	Syllabus	Annexure
1.	Fire Man	Annexure – 6
2.	Leading Fireman	Annexure – 7
3.	Sub-Officer	Annexure - 8
4.	Station Officer	Annexure - 9
5.	Divisonal Officer	Annexure - 10

6.6. Other specialized training courses for multi-hazard tasking

It has been observed that the Fire Services because of their expertise in Rescue and First Aid are regularly called in for other emergencies and disaster situations as well. Hence, in order to provide effective and efficient response in other disasters (man-made and natural), they must be well trained to perform in all such possible situations. It is important that they undergo training in different emergencies and must be sensitized accordingly.

Following are some of the other important specialized courses in which a fireman or officer is required to be trained are shown in table – 6 are follows.

Table – 6

SL	Courses	Curriculum
i	Medical First Responder Course	Annexure - 11
ii	Basic Disaster Response Course	Annexure - 12
iii	General Search & Rescue Course	Annexure - 13
iv	Advance Search & Rescue Course	Annexure - 14
v	Fire Fighting First Responder Course	Annexure - 15
vi	Hazardous Material Emergency First Responder course	Annexure - 16
vii	Weapon of Mass Destruction Course	Annexure - 17
viii	Flood Rescue for First Responder Course	Annexure - 18
ix	Collapsed structure – Search & Rescue Course	Annexure - 19
x	Chemical Disaster First Responder Course	Annexure - 20
xi	Biological Incident First Responder Course	Annexure - 21
xii	Flood / Cyclone Disaster Response Course	Annexure - 22
xiii	Earthquake Disaster Response Course	Annexure - 23
xv	Emergency Response to Rail Transport Accident	Annexure - 24
xiv	TOT in Radiological & Nuclear Emergencies	Annexure - 25
xvi	Breathing Apparatus Course	Annexure - 26
xvii	Fire Prevention Course	Annexure – 27

A suggestive list of basic equipments required for fire training Institution is placed at **Annexure-28**

It would be pertinent to point out that the 13th Finance Commission has also made adequate provisions for Capacity **Building in Disaster** Response (para 11.102 of FC Report). The State government/ULB may use the fund available under this head for training of Fire & Emergency personnel also along with SDRF **and community, etc.**

7

SCALING OF FIRE STATIONS, EQUIPMENT AND MANPOWER

7.1. Norms for setting up Fire Stations

The SFAC of the GoI has clearly laid down the norms for setting up of Fire Stations based on Response Time, Risks, Population and Area to be covered. The details of the norms are as follows.

7.1.1. Fire Stations

- i) Fire Risks have been classified into A, B, C and D Categories. A is high vulnerability, B is Medium vulnerability, C is low vulnerability and D is for Rural Areas.
- ii) Fire Service response time is maximum 5 minutes in Urban area and 20 minutes in Rural area;
- iii) **One Fire Station per 10 Sq. K.M. area in Urban area and 50 Sq. KM for Rural Areas.**
- iv) Location of Fire Station in Island Districts and UTs will have to be based on vulnerability analysis and set up strategically. These will have to be independently capable of responding to their specific Fire Hazards **need**.
- v) **The ordinary norms of Fire Station for every 10 Sq. kms for Urban Areas and every 50 Kms for Rural areas including 5 minutes response time in urban areas and 20 minutes for rural areas will not work in Hill Areas.** The distances between habitations are unusually great in comparison to plain areas and there is also scarcity of water. The Fire Service department will have to analyze the local requirements and place Fire Stations accordingly. Equipment and infrastructure should **also** be so decided as to make the fire stations functional

and effective. Special equipment for such areas is also being listed and marked accordingly.

- vi) Details of land and building requirement for fire stations of different size is given in **Annexure - 2**

7.1.2. Scaling of Equipment

A Fire Station would ordinarily need the following equipment as shown in table – 7 and 8.

Table - 7

SL	EQUIPMENT	AUTH. NOS.
1.	Water Tender	Scale of Water Tender is shown below
2.	Rescue Tender with required equipment	01 No.
3.	Ambulance	01 No.
4.	Mini Water Tender	01 Nos. (Hill areas may have more as required)
5.	Motor Cycle based Water Mist Technology equipped Fire Party	Motor Cycle-02 Nos
6.	Small Vehicle based Water Mist Technology equipped Fire Party	Small Vehicle – 01 No.
7.	Water Bowser – Detachable (10,000 – 20,000 Ltrs.)	01 engine and two or more detachable tanks as required.
8.	Break down Van	01 No.
<i>Note – All vehicular equipments must have communication facilities.</i>		

7.1.3. Water Tender Based on Population

Table - 8

SL	POPULATION	WATER TENDERS
1.	50,000	01 No.
2.	1,00,000	02 Nos.
3.	3,00,000	06 Nos.
4.	* Additional 1 lacs.	01 Nos.

- ii) There should be one Fire Tender per 50,000 to 3 lakh population. One additional Fire Tender per one lakh of additional population or a fraction thereof plus a reserve of 20% of the total Water Tenders. In industrial cities and areas of high fire risk, the scale and other equipment should be determined on the basis of actual survey of the area to be protected.
- iii) One Rescue Tender per 3 to 10 lakhs population while it should be augmented by additional rescue tender for every additional 10 lakhs population;

- iv) In view of the traffic congestion and high density of population in most of the town fire parties on Motor Cycles / small vehicles equipped with Water Mist Technology should be readily available in order to reach the incident site within minutes and start firefighting activities. The bigger tenders may follow as required.
- v) Apart from the above basic appliances, the following personal protective equipment as shown in table – 9 are also equally important.

Table – 9

SL	Personal Equipment
i	Helmet
ii	Water bottle with sling
iii	Eye Protection
iv	Ear Protection
v	Safety steel-toe boots
vi	Safety Whistle
vii	Knee pads
viii	Work gloves
ix	Overalls
x	Personal Safety Line (sash cord) 15” length
xi	Gum boot
xii	Fire Entry Suits
xiii	Fire proximity Suits
xiv	Fire Approach Suits

7.1.4. Special Equipment/appliances

- v) Special vehicles and appliances like Turn Table Ladder, Hydraulic Platform, Emergency Tender/Advanced Rescue Tender, Extra Heavy Water Tender, Hose laying Tender, Lighting Van, Control Post Van, Canteen Van, Mobile Workshop for repair of Fire Appliances, Mobile Workshop for Telecom and other rescue equipment etc. may also be needed in different Fire Stations. Decision regarding these equipment however depends on the possibility of their requirement and the vulnerability of the area. It depends on the type of buildings existing, commercial, Industrial and business establishments, etc. The local Fire Services Chief should assess the requirement and decide accordingly.

- vi) Wherever special requirement exist, the scaling of special equipment at a Fire Station is shown in table – 10 as follows.

Table - 10

SL	EQUIPMENT	SPECIFICATION	AUTH. NOS.
i	Turn Table Ladder	Height of Ladder should depend on the highest building in the Fire Station Area.	01 Nos.
ii	Hydraulic Platform	Height of the Platform should depend on the highest building in the Fire Station Area.	01Nos.
iii	Hazmat Van	-	As per vulnerability.
iv	Advance Rescue/ Emergency Tenders	-	01 Nos.
v	Hose Laying Tenders	-	02 Nos.
vi	Lighting Van	-	02 Nos.
vii	Control Post Van	-	01 Nos.
viii	Canteen Van	-	01 Nos.
ix	Mobile Workshop for repair of Fire Appliances	-	01 Nos.
x	Mobile Workshop for telecommunication equipment	-	01 Nos.
xi	Disaster Management Equipment Van	-	01 Nos.
xii	High Capacity Pumps	-	02 Nos.
xiii	Special Personal Protective Equipment for NBC disasters.		As per vulnerability

- vii) The above Special Equipment may be optional for Fire Stations on the basis of vulnerability analysis of the concerned area.
- viii) **The Main Fire Station at the State Fire Services headquarters, the Main Fire Station at the Divisional Fire Service headquarters and Main Fire Station at the District HQ should have all the above specialized equipment.**
- ix) A list of Other Specialised equipments required for Rescue Operations for Fire and Other Diasasters/ Emergencies is placed at **Annexure - 30**

7.2. Special scaling and type of equipment for hill States (North east, Uttrakhand and Himachal Pradesh)

Fire Tenders and other such heavy equipment find it very difficult to move in Hill Areas. The above scaling will not be proper for them. The solution lies in having small vehicle mounted Mini water Tenders, high capacity portable pumps with adequate hose pipe and other specialized equipment according to local vulnerabilities. More small vehicles mounted Mist Technology Fire Parties would be useful.

Adequate availability of water at vulnerable locations is a serious problem and is another important requirement. Water needs to be transported long distances. The only solution appears to be having adequate number of detachable super tankers (10 to 20 thousands liters capacity) which can be carried to strategic locations where it is needed. Detachable tenders are being recommended because the tankers can be left behind and the engine can go back to bring more detachable tankers. The tanker left at the location will function as a mother tanker from which the smaller fire tenders attending to the fire incidents can quickly re-fill and rush back to the site of fire.

Another important suggestion could be building large storage tanks wherever water is available and other rain water harvesting tanks at suitable places, so that when the emergency arises, water can be drawn from them. The Tank should be built and secured under the supervision of the fire services department, so that it is not pilfered

7.3. Special scaling and type of equipment for Island Districts and UTs

In Island districts and UTs, the Fire Hazard will have to be assessed and accordingly suitable independent firefighting equipment has to be located in each Island. Floating high capacity pumps may have to be located at the strategic places with adequate hose pipes. Adequate equipment should be selected and placed in order to make the Islands independently capable of responding to Fire and other emergencies as per their vulnerabilities. Local police, other services and municipal officers need to be trained to handle such available equipment and respond to fire hazard.

7.4. Man Power for various types of Appliances

Table - 11

SL	NAME OF APPLIANCE	Asst. Station Officer	Leading Fireman	Fire Man Driver	Total
1	Turn Table Ladder	1	1	2	4
2	Hydraulic Platform	1	1	2	4
3	Hazmat Van	1	1	6	8
4	Advance Rescue/ Emergency Tenders	1	1	6	8
5	Water Bowser - Detachable	1	1	2	4
6	Hose Laying Tenders	1	1	2	4
7	Lighting Van	1	1	2	4
8	Control Post Van	1	1	2	4
9	Canteen Van	-	-	2	2
10	Mobile Workshop for repair of Fire Appliances (Technical Personnel)	1	1	2	4
11	Mobile Workshop for telecommunication equipment (Technical Personnel)	1	1	2	4
12	Breakdown Van	-	1	2	3
13	Disaster Management Equipment Van	1	1	6	8
14	High Capacity Pumps	1	1	2	4
15	Water Tender	1	1	6	8
16	Rescue Tender with required equipment	1	1	6	8
17	Ambulance	-	-	2	2
18	Mini Water Tender	-	-	2	2
19	Motor Cycle Based Fire Party	-	01	01	2
20	Small vehicle based Water Mist Technology equipped Fire party	01	01	02	4

7.5. Manpower Requirements at Station Level

The manpower requirements for fire stations will vary according to the types of fire fighting appliances to be manned, the number of fire engines at the station, the duty system - continuous or shift duty and the extent of other duties, inspection of hydrant and water resources, type of communication system etc. Based on above factors, the following manpower at Fire Station is recommended:

7.5.1. Station Officers and Sub-Officers

The scale of Station Officers and Sub-Officers at Stations should be as under.

Table – 12

SL	Size of Station	Strength of Officers
i	1 Pump Station	1 Station Officer or 1 Asst. Station Officer
ii	2 Pumps Station	1 Stn. Officer & 1 Asst. Station Officer
iii	3 Pumps Station	1 Stn. Officer & 2 Asst. Station Officer
iv	4 Pumps Station	2 Stn. Officers & 2 Asst. Station Officer
v	5 Pumps Station	2 Stn. Officers & 3 Asst. Station Officer
vi	6 Pumps Station	2 Stn. Officers & 4 Asst. Station Officer

7.5.2. Leading Fireman

There should be one Leading Fireman per fire appliance and one for station and outdoor duties at all times.

7.5.3. Firemen Driver

The scale of Firemen Driver will be six per fire appliance apart from one fireman for fire-alarm duties, two firemen for hydrant and water resources inspection and one fireman for dispatch duties per station.

7.5.4. Watch Room Operators

Four watch room operators for each station to be provided, one to be on duty for every 8 hours and the fourth man to be spared for relief-work.

7.5.5. Clerks

Where the station functions as an independent unit and has its own cash and store work, one clerk may be provided.

The scale of Firemen Driver will be six per fire appliance apart from one fireman for fire-alarm duties, two firemen for hydrant and water resources inspection and one fireman for dispatch duties per station.

7.5.6. Sweepers

This class of employees should be provided at the scale of one per 5000 Sq. Ft. of covered area and one per 7000 Sq. Ft. of open area, subject to a minimum of one at each station.

7.5.7. Gardeners

One gardener for every half acre of land required to be maintained as a garden. At places having more than one station where headquarters of city fire brigades exists, the staff required should vary from place to place depending on the strength of the crew.

7.5.8. Control Room Staff

The ULB and State Government need to provide adequate manpower for the 24X7 functioning of the Control Room.

7.6. Reserve Staff

Adequate reserve staff for all the above categories is absolutely necessary in view of shift duties, leave, training and illness, etc. This is also necessary to enable officers to avail 24 hours off after every 48 hours on duty. The ULBs/State Government may discuss with the ULB/State Fire Services Chief and shall provide adequate reserve staff as per the norms prevalent in the ULBs/State concerned.

8

SUMMARY OF ACTION POINTS

LIST OF PARTICIPANTS

CONTACT US