Considerations on Improving the Comprehensive Management of Urban Emergency Responses and Mitigation of Disasters

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Abstract. In China, the comprehensive management system for emergency responses and the mitigation of disasters in urban areas in the true sense started from the 1990s. The urban disaster emergency response mechanism has been attracting an increasing amount of attention from relevant provincial and municipal security departments since the “Ten-Year National Event Regarding the Reduction and Mitigation of Disasters” initiated by the UN. The research and design of emergency strategies for domestic and overseas public security crises has topped the agenda of general urban security assurance, particularly after the “9.11” attacks. On the basis of practical experience in everyday security in combination with on-site investigations, this paper offers suggestions for improving the general management of emergency reduction and the mitigation of disasters in urban areas in China.

1. Introduction

With the deepening economic reform in China in recent years, urban construction has been increasing day by day. Numerous high-rise buildings and various urban facilities have sprung up like spring shoots in large and medium-sized cities. However, there are no relevant security precautions in place, and the rescue forces in all fields feel at a loss when a disaster occurs. The astonishing fire in a high-rise building in Jing’an District, Shanghai was a typical example. At present, no academic institution has clearly defined urban disasters and no system is able to categorize them clearly. Based on common sense, it is easy for us to conclude that the number of casualties and loss of property will be higher in disasters in cities that are more prosperous, have a larger population density and have a higher degree of modernization. A disaster may cause a chain reaction and aggravate a dangerous situation in a city due to the complexity of its urban constructions. For example, a fire can causes explosions of gas pipelines and a rainstorm can cause flooding and leakage from damaged power lines. In view of such a complex disaster reduction and mitigation environment, it can be said that urban disasters almost cover all disaster types. In which case, how can the general management of emergency reduction in urban areas and the mitigation of disasters keep up with the pace of urban development and construction, advance with the times, and be deepened and improved? The authors will discuss their ideas in the following paper, in order to stimulate discuss.

2. An Analysis of Urban Disasters in China

According to the Policy Outline of Comprehensive Disaster Prevention Technology for Urban Buildings published by Ministry of Housing and Urban-Rural Development of the People’s Republic of China, fires, floods, meteorological disasters, and earthquakes are classified as urban disasters. However, the spread of the “SARS” virus across China in 2003 and the terrorist incidents of 2013 and 2014 changed people’s understanding of modern urban disasters. These tragedies remind us that disasters in modern cities are not only limited to natural disasters and accidents due to human error, but may also include the spread of viruses, terrorist attacks, and new types of
Each city in China has its own unique characteristics due to differences in the geographical and cultural environment. For example, extreme meteorological disasters are the major type of disaster in Beijing; typhoons and storm surges in Tianjin; earthquakes in Chongqing; and terrorist attacks in south Xinjiang.

Considering the above conditions, we should establish the concept of “public security in the overall context, taking into account the characteristics of particular cities” for the general management of disaster reduction and mitigation. We should abandon the bad habits of routine management and parochialism. Relevant departments and administrative staff should develop appropriate and comprehensive measures for the reduction and mitigation of disasters, move away from the traditional parochial understanding of public security, and extend the scope of the concept of public security based on the characteristics of disaster reduction and mitigation and the geological characteristics of individual cities.

3. Strategies for Improving the Comprehensive Reduction and Mitigation of Disasters in Urban Areas

As a public good promoted by the government, the comprehensive management of disaster reduction and mitigation in urban areas requires the establishment of promotional channels and social networks. While promoting the public product, the government also needs to speed up the industrialization of disaster reduction and mitigation in urban areas. In order to reform the management system for urban public security in China in an innovative way, we should first aim to solve such problems as decentralized management, the lack of communication between administrative departments relevant to disasters, and the difficulties in scheduling and coordination. The authors propose the following strategies for improving the management of the general urban disaster reduction and mitigation system:

3.1 The development of complete emergency plans

The scope, range and diffusion rates of the major urban disasters that have occurred frequently in China in recent years have been far beyond people’s common understanding. When major disasters and social crises occur, the subsequent rescue and resistance efforts are often remedial and passive. In terms of the management of disaster reduction and mitigation, we should focus on disaster prevention and raise the level of disaster prevention from the administrative department level to a city level. In order to develop such a “disaster prevention capacity at a city level”, relevant departments and leaders should practically implement a coordination mechanism for disaster reduction and mitigation, establish a set of urban emergency plans with local environmental characteristics, increase the speed of responses and strengthen operations in their daily work. In case of a disaster, relevant leaders would quickly initiate the pre-arranged plans for disaster reduction and mitigation and coordinate disaster prevention and relief and urban restoration efforts.

The following issues will have to be taken into consideration in the development of emergency plans:

(1) Rational planning, highlighting priorities, timeliness and local characteristics. The development of plans should ensure different modules do not become independent and repetitious and consider the timeliness of disaster prevention and relief in combination with the local characteristics.

(2) Overall planning and all-round consideration, seamless coupling, rational deployment and meticulous design. The plan should be designed so that it includes a forecast and early warning system and explicit stipulations of functions, responsibilities and coordination between disaster relief institutions at different levels. The emergency system should also include a disaster situation information system, information integration system, and an information communication system for the detailed arrangements of work division, distribution, scheduling, and overall planning in various disaster relief institutions and rescue teams.

(3) Design of a system based on the locality, clear-cut assignment of responsibilities and proper implementation. A risk assessment should be performed for the natural, geographical and cultural
environment of the city after the development of a set of general emergency plans for urban disasters. Any other possible disasters can also be incorporated into the existing emergency plans. Appropriate departments responsible for the possible disasters within the scope of the risk assessment should be defined to strengthen the capacity of cities to prevent and mitigate disasters.

3.2 Improve the system for disaster reduction and mitigation

The core of the crisis management system development model for comprehensive disaster reduction and mitigation is a fully integrated model. It embodies the sense of crisis management, a scientific comprehensive disaster reduction and mitigation system, and crisis management level and commanding ability. It is a basic capability for city administrators, and it also reflects their sense of responsibility. There are three principles: the management of the overall crisis situation, the management of overall crisis process, and the integration of crisis management.

In consideration of the above three principles, the authors recommended that all cities in China assign responsibilities, coordinate and integrate the crisis management system and relevant institutions. Government institutions at all levels, from the State Council, to provincial and municipal institutions, to grassroots institutions, should have a complete set of strategies for general disaster reduction and mitigation.

The complete strategic mechanism for disaster reduction and mitigation includes: management of disaster reduction and mitigation, policies, planning; risk assessment for various disasters and hazards; an early-warning system, communication, organization, strategies, and coordination for sudden disasters; everyday prevention, safety education, disaster resistance drills and training. Considering the diversity and particular features of different cities, we should define the specific functions of different governmental institutions and the integration of the crisis management system based on unified leadership and coordination for the division of work responsibilities.

3.3 The key to building a mechanism

The core of the mechanism of general disaster reduction and mitigation is a coordinated operation model that optimizes various modules of the management system, taking into accounts both the overall situation and individual details. For example, while building the mechanism, the comprehensive management of disaster reduction and mitigation in urban areas is incorporated into the daily management module and disaster management is incorporated into administrative management. In addition, emergency responses and timeliness are also among the most important parts of the disaster reduction and mitigation mechanism. The mechanism must allow for rapid responses, orderly coordination and efficient operation.

The key to building a mechanism is detailed management to increase efficiency. The mechanism should be deepened and improved continuously as long as a city has disaster risks. The management of disaster reduction and mitigation and the professional management of disasters should be coordinated. Further recruitment should not be allowed in the name of building the mechanism. It is possible to appoint existing personnel to other jobs in order to improve the mechanism and manage personnel effectively. For example, security personnel in industrial and mining enterprises can be trained for disaster management. Enterprise security personnel can help with to handle emergencies, as part of the comprehensive disaster reduction and mitigation mechanism. They not only understand the conditions of the local industrial and mining enterprises but also have professional skills to deal with disasters. Of course, we should perfect the mechanism depending on the actual conditions of each city. We should adhere to the principles of “high efficiency, sensitivity and preparation in advance”. When conducting field research, we should adhere to the principles of “integrating resources and gradual improvement”.

3.4 Improving the legal system for comprehensive disaster reduction and mitigation

The legal system related to disasters in urban areas mainly deals with the following issues: supervising governmental functional departments at various levels in the development and implementation of plans, supporting relevant departments in allocating resources and materials, guaranteeing the safety of citizens’ lives and property during disasters with the law, maintaining
orderly management order during disasters, and restoring normal life. It is thus clear that perfect public emergency laws are the foundation for the comprehensive disaster reduction and mitigation system in urban areas. Laws on the reduction and mitigation of disasters should be coordinated. Governmental functional departments at different levels should continuously improve disaster relief laws based on proposals, such as the *State of Emergency Law*, *the State, Fundamental Law on General Reduction and Mitigation of Disasters*, the *Law of Disaster Relief* and the *Law of Urban Disaster Prevention*. Then, individual legal systems can be sorted out according to practical experience in dealing with disasters and through coordination with the national legislature.

4. Conclusion

In conclusion, the comprehensive management of disaster reduction and mitigation in urban areas in China should be continuously modified, expanded and improved in terms of emergency planning, system building, mechanism building and legal system building. In doing so, the public security functions of the government can keep up with developments over time and economic development, thereby guaranteeing the safety of people’s lives and property and establishing stable, safe, and harmonious social services.

References


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