An Analysis of Emergency Supplies Management and Countermeasures

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Abstract. Disasters have occurred frequently in China in recent years. In large-scale emergency rescue work, the management of emergency supplies management is a precondition for emergency logistics. Without such material support, it is difficult to prevent and mitigate the effects of disasters smoothly. This paper analyzes the issues in emergency supplies management in China and proposes practical guiding opinions.

Introduction

Creating a peaceful and stable overall social environment is not only a common aspiration of the people but also the foundation for economic development. However, China has witnessed frequent natural disasters and major sudden incidents in recent years, which have caused huge loss to the country’s economy and public security. Emergency supplies support is an important material foundation for the process of disaster resistance and alleviation. Regular production and everyday life cannot be restored in disaster areas without emergency supplies. Analysis and research on emergency supplies management and improvements on an operational level therefore have substantial practical value in material support for public security.

I. Issues in Emergency Supplies Management

Emergency supplies are a special type of supplies, because when a disaster occurs, various types of supplies in a significant quantity have to be transported to the disaster area as quickly as possible. Therefore, managing emergency supplies is much harder than managing ordinary supplies. In recent years, there have been a number of problems in China’s management of supplies during disasters:

1.1 Imperfect regulations and systems

The emergency supplies management articles in China’s National Emergency Plan for Food, the National Emergency Plan for Pharmaceutical Reserves, the National “Eleventh Five-Year Plan” for General Disaster Alleviation, and National Emergency Plan for Natural Disaster Relief and so on mostly involve emergency supplies stockpiling and no special laws and regulations have been established. Therefore, there is no legal means available to guarantee emergency supplies management.

1.2 The backwardness of the information system

China’s informatization industry is still at a very early stage, and there is still a long way to go in the informatization management of emergency supplies. There are issues with the majority of the technical information in databases including the database of emergency relief supplies, and the disaster database, such as a lack of standardization, databases not being connected to the Internet, slow data transmission and even errors. The defects in information sharing have hindered the development of the emergency supplies management system to a great extent. The level of informatization of the emergency supplies management cannot be compared with that of the common supplies management system, which is supported by commercial investment. The
backward information system often makes it impossible for users to carry out analysis quickly and make decisions in the event of a disaster based on supply and demand and depending on accurate information from the databases, therefore the efficiency of the supply and rescue efforts is strongly affected.

1.3 Budget shortage

The operating costs arising from emergency supplies management mainly include the cost of purchasing and storing the supplies. Currently, these costs are borne jointly by the central and provincial government. There are no related laws that define the criteria for the budget, therefore it is difficult to develop a uniform standard for the different levels of government. The central government allocates funds for the cost of managing the supplies storage system according to the inventory level, which means the budget is not fixed and it is difficult to guarantee the expenditure related to emergency supplies management. The government at different levels has too many problems to cope with during planning to build warehouses and purchase supplies.

1.4 A single method of storage

In terms of emergency supplies storage, the most common problems include supply shortages and a single method of storage. However, the government at different levels mostly uses physical storage, which can guarantee the timeliness and stability of the logistics system for disaster relief. Continuous and effective provision of emergency supplies is not available for long-term demand in the case of a prolonged disaster. The defects of the physical storage have been exposed in the major disasters that have occurred in recent years.

II. Countermeasures to Improve the Emergency Supplies Management System

In consideration of the above conditions, the authors propose the following countermeasures:

2.1 Improve the relevant legal mechanism

The policy guarantee of the emergency supplies management system should be raised to a legal level. Related laws and regulations should be established and improved as soon as possible to provide policy support for procurement, storage, transport, release, and coordination in emergency logistics on a legal level. Special related institutions should be designed to manage emergency disaster relief materials of all categories, in order to avoid any risks in the vertical management. The members of these institutions include a series of provincial and municipal departments such as civil administration, legal, environmental protection, health, public security, armed police, and the fire department.

2.2 Design and develop a special management system

The current commercial logistics system is very well developed, and has very complete information. It mainly benefits from the computer software services provided by mature business information platforms. Like the commercial logistics system, the successful operation of the emergency supplies management system requires an advanced modern software platform for emergency supplies informatization. The platform should be confidential and secure.

2.3 Optimize the structure of stockpiles

In terms of the structure of stockpiled resources, we should allocate supplies to storage warehouses based on a series of factors such as geographical distribution, local transport, regional economic conditions, population and the risk of disasters. We should also plan the network for allocation of disaster relief supplies and scientifically and rationally in order to balance the structure of stockpiled resources.
2.4 Strengthen procurement management and improve the system response speed

During the procurement and stockpiling of emergency supplies, procurement should be in accordance with the proportions of supplies, such as the proportion between gauze, disinfectant fluid and medicine. The coordination of external proportions should also be considered, such as the proportion of medical supplies and medical equipment. Attention should be paid to the structural demand for different types of supplies. Different types of supplies correspond to different disaster types. In past emergency work, the misalignment between supplies and the type of disaster or the irrational allocation of supplies types has often led to a surplus or shortage of supplies. Thus, we should prepare procurement plans in advance and stockpile supplies rationally to deal with various types of disasters as part of daily materials management. If such a system is put into place, we will be able to meet the demand for supplies in the disaster area as soon as possible when sending supplies to the disaster area.

2.5 Supplement physical stockpiles using corporate stockpiles

Governments at different levels can cooperate with enterprises and supplement their physical stockpile using corporate stockpiles (production capacity reserves). In the case of a disaster, emergency plans can be initiated immediately to command the enterprises to produce emergency supplies. The combination of physical stockpiles and production capacity would not only save storage space but also guarantee the quality of the materials and shorten storage times. It would also indirectly expand the space and inventory of the physical stockpile.

Conclusion

In conclusion, there is a certain gap between the capabilities of the emergency supplies management system and the supporting system in China and the level of the systems in developed countries. To guarantee the safety of people’s lives and property, as well as social stability and prosperity, we should keep up with the times, continue to carry out research and improve the systems in place.

References
