

The Changing Course, Evolutionary Mechanism and Advancing Path of the Construction of Emergency Plan System

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Abstract

Emergency plan is an important tool for the government to deal with public emergencies effectively. In the face of the practical failure of emergency plan application and the frequent occurrence of emergencies, the construction of emergency plan system should be further strengthened. This paper combs the development process of the construction of the emergency plan system, analyzes the evolution mechanism of its changes from the external dynamic mechanism, the internal dynamic mechanism and the direct dynamic mechanism, and on this basis, puts forward the development path of the emergency plan system construction. It is found that the construction of emergency plan system has gone through three stages: forming, deepening and adjusting. And its development force is composed of institutional situation, path dependence and key nodes.

Keywords

Emergency planning system, public emergencies, emergency management.

1. Introduction

According to the China Statistical Yearbook, there were 113 environmental emergencies, 5659 geological disasters, 27 earthquakes of $M \geq 5$ and 709 forest fires in 2022. The direct economic losses caused by drought, flood, geological disasters, typhoons and low temperature freezing damage reached 238.65 billion yuan, 112.678 million people were affected, and 256409 road traffic accidents occurred. In addition, safety accidents and public health incidents occur from time to time, which threatens the safety of residents and the stability of social and economic order. As an important tool of public emergency management, the construction and improvement of emergency plan is of great significance to promote the modernization of emergency management system and improve the ability of emergency response. However, there are many biases in the actual implementation of emergency plan. For example, the guiding concept despises prevention, the structural lack of plan system, the empty content of plan, and the lag of dynamic management^[1]; The contents of the plan are macro and abstract, and all kinds of plans are the same^[2]; The hierarchical design is not clear and the function orientation is not clear^[3]. The root causes of execution deviation include technical factors and non-technical factors. Improving the preparation technology of research plans based on the perspective of safety science is helpful to improve the quality of individual emergency plans, but it can not solve the structural problems of emergency plans. Therefore, it is very necessary to find out the basic principles and motivation mechanism of the construction and operation of emergency plans.

2. Changing Course of Emergency Plan System Construction

2.1. From Nothing to Something: the Forming Stage of Emergency Plan System Construction

The struggle against SARS has caused the party and the government to reflect deeply on the emergency management ability and directly promote the construction of the emergency

management system. Among them, the emergency plan is the first to spread out as the starting point of the emergency management system. In April 2004, the State Council issued a framework guide for emergency plans of departments and units under the State Council, which clearly requires all departments and units to modify the plans in accordance with the principle of "hierarchical management, hierarchical response and the combination of strips and blocks, and to establish the hierarchical relationship between the plans to ensure the rationality and efficiency of the emergency plans." According to the real situation, the State Council compiles the general principles of action for four types of emergencies, and the layout of the emergency plan system between horizontal departments is carried out. Then, in May, the General Office of the State Council issued the overall emergency plan framework of the provincial government, which is similar to the first-level framework of the emergency plan of departments and units, adding the content of publicity, training and exercises, but the secondary framework is quite different. This similarity is helpful to achieve the goal of cross-departmental and cross-domain collaborative response to public emergencies, and to ensure the consistency and coordination of provincial governments in emergency management. The overall emergency plan framework at the provincial level places more emphasis on the coordination, support and guarantee of emergencies at the macro level, and adheres to the principle of "hierarchical management, hierarchical response, combination of strips and blocks, and territorial management". The provincial overall emergency plan is the core pillar of the national emergency plan system, and it is the basis to guide the provincial departments and lower governments to draw up the emergency plan. Relying on the administrative hierarchy, it has become the vertical structure of the emergency plan system.

The 2005 government work report pointed out that the provincial overall emergency plan and 105 special and departmental emergency plans have been completed, while speeding up the organization to formulate the national overall emergency plan. In January 2006, the National Emergency Plan for Public Emergencies was issued. The law defines the composition of the national emergency plan system, and points out that the national overall emergency plan is the general outline of the emergency plan system, which provides a unified basic framework and principles for other emergency plans, so that governments and departments at all levels can have more efficient cooperation and coordination in emergency management. So far, the emergency plan system has realized "from nothing to existence". The basic framework of the emergency plan system, which is led by the overall plan and combined horizontally and vertically, has been formed, and it is in line with the relationship between the administrative structure of China.

2.2. From Something to More: the Deepening Stage of Emergency Plan System Construction

In 2007 and 2008, the government put forward the requirements of strengthening emergency management and deepening the construction of emergency plan system. On the one hand, the emergency plan system accelerates to extend to the grass-roots units. In June 2006, the State Council's opinions on strengthening Emergency Management in an all-round way put forward that the goal during the Eleventh five-year Plan period is to build an emergency plan system covering all regions, industries, and units. The extension of the emergency plan system to the micro unit indicates the change of the goal in the development stage. The opinions provide clear goals and directions for departments and units at all levels throughout the country, and require increasing investment in emergency management at the grass-roots level, making substantial progress in the construction of emergency plans in various regions, industries, and units, and strengthening the ability to respond to various emergencies, so as to improve the overall safety level of the country and ensure the safety of people's lives and property. In February 2007, the opinions on strengthening the Emergency Management of Enterprises put forward a specific

and clear timetable and tasks for the emergency plan of enterprises, and demanded that the preparation of the emergency plan should be completed in an all-round way before the end of the year, and the basis of the emergency plan system should be firmly established. In July, the opinions of the General Office of the State Council on strengthening Emergency Management at the Grass-roots level proposed to basically establish a "horizontal to edge, vertical to bottom" emergency plan system within three years, and expand the coverage of the emergency plan system. Street, township, community, village and all kinds of enterprises and institutions and other grass-roots organizations as the first response to emergencies, its plan requires to ensure a clear definition of the responsibilities and responsibilities of each participant, maintain simplicity and clarity, and at the same time have strong maneuverability. In August, the 11th five-year Plan for Comprehensive disaster reduction pointed out that the disaster emergency plan system at the grass-roots level is one of the weak links in the work of disaster reduction. In order to enhance the emergency response capacity at the grass-roots level, in 2009, the opinions of the General Office of the State Council on strengthening the Construction of the Grass-roots Emergency response team increased the guarantee of funds for the construction of the grass-roots emergency team, improved the operating mechanism of the grass-roots emergency team, and established and improved the relevant emergency plans. In 2011, the National Comprehensive disaster Prevention and Mitigation Plan still emphasizes the building of capacity for disaster prevention and mitigation at the grass-roots level, improves and compiles emergency plans for rural roads, street towns, urban and rural communities, and improves the emergency plan system at all levels to ensure disaster prevention, mitigation and disaster relief.

On the other hand, the development of emergency management system promotes the deepening of the construction of emergency plan system. In 2006, the General Office of the State Council set up the Emergency Management Office, the main responsibilities include the preparation, approval and coordination of the emergency plan system. This change of emergency system has strengthened the organizational guarantee force of the construction and management of emergency plan system, and strengthened the response ability of plan system to public emergencies. In August 2007, the standing Committee of the National people's Congress adopted the Emergency response Law, which stipulates the main body of the emergency plan system and its responsibilities and obligations, and provides legitimacy for the formulation and implementation of the emergency plan. Although the introduction of the law obviously lags behind the construction of the emergency plan system, from the causality of the time series, the large-scale emergency plan construction and the emergency legal system construction are misplaced, showing the characteristics of "legislative lag, plan first", but the formation of this characteristic has its realistic rationality, the implementation of the Emergency response Law requires the improvement of the emergency plan content and the improvement of the emergency plan system. In the practical and theoretical sense, it has promoted the construction and development of emergency plan system.

2.3. From More to Better: the Adjusting Stage of Emergency Plan System Construction

In October 2013, the General Office of the State Council issued the measures for the Management of Emergency Preparedness plans, which include nine parts: classification, compilation, approval and filing of emergency plans, openness, drills, evaluation and revision, training, propaganda and education, organizational security, and so on. The measures make detailed provisions on the management of emergency plans and enhance the accuracy and practicality of the contingency plan system. The emergency plan system follows the principle of "unified planning, classified guidance, hierarchical responsibility and dynamic management". In the emergency plan system of China, the secondary emergency plan system is formed

between the plans with inherent connection, such as the emergency plan system of safety production, the emergency plan system of earthquake disaster, and so on.

The construction and management of emergency plan system is becoming more institutionalized and standardized, and at the same time, with the rise of emergency management to the national strategic level, more attention is paid to the overall adjustment. Although emergency management has long appeared in the national comprehensive disaster prevention and mitigation planning, production safety planning and other emergency management related strategies, but the specific planning for emergency management began in 2017. The 13th five-year Plan for the Construction of the National Emergency response system puts forward the goal of the construction of the emergency plan system: the management is more standardized, the pertinence and maneuverability are further improved. To further improve the emergency plan system, including four aspects of action guidelines, one is to comprehensively carry out emergency plan evaluation and revision, and strengthen the preparation and management of special early warning of major public emergencies and cross-regional joint emergency plan. The second is to plan and formulate guidelines for the preparation of emergency plans, with the aim of providing clear guidance for all kinds of emergency plans at all levels in order to standardize the preparation process and carry out effective evaluation. Third, promote the digital application of emergency plan, make full use of big data, Internet and other information technology to enhance the preventive and disposal effect of emergency plan. Fourth, improve the emergency plan exercise mechanism, at least one comprehensive emergency plan exercise to promote the coupling between all kinds of plans at all levels. By the 14th five-year Plan period, the planning period of the national emergency system basically formed the pattern of all kinds of disasters and major emergencies. The planning did not further set the development requirements for the construction of the emergency plan system, but only put forward to strengthen the guarantee of the emergency plan to fully deal with the catastrophe, and pay more attention to the coordination between the emergency plan and the emergency mechanism, and continue to promote the preparation of the joint emergency plan. However, the objective demand of strengthening disaster preparedness guarantee actually puts forward higher requirements for the standardization construction of emergency plan system: revising the management method of emergency plan to adapt to the current risks and threats, at the same time further improving the emergency plan evaluation management and emergency exercise evaluation management, improving the efficiency of dealing with emergencies, and reducing the impact of potential disaster risk on life and property.

3. Evolutionary Mechanism of Emergency Plan System Construction

3.1. External Dynamic Mechanism: The Institutional Context of Government Governance

After years of development, the construction of emergency plan system in China has formed a relatively complete emergency plan system. The evolution of emergency plan system in different stages is driven by the institutional situation. Its evolution trajectory is not a simple linear progress, but an intermittent and balanced development process.

In the 21st century, the institutional situation of public emergencies has undergone profound changes at many levels. In the formative stage of the construction of emergency plan system, our country is facing the key period of economic structure adjustment, the economic system reform is moving towards marketization and globalization, and the annual growth of gross domestic product (GDP) continues to improve. With the rapid development of economy, non-traditional risks appear, and once these risks become public emergencies, they are usually very powerful. At the same time, these public emergencies have a negative effect on economic

development. China's accession to the WTO has enabled China to gain wider international market access, promote export trade and international cooperation, and provide a new impetus for China's development, but at the same time, it has also been exposed to a more complex risk environment, highlighting the necessity of building an emergency plan system. At the same time, earthquakes, fires, low temperature freezing damage, flood and other natural disasters occur frequently in China, and the risks are characterized by multi-source and complexity. In 2003, the scientific concept of development put forward that this concept requires the comprehensive consideration of various factors and coordination of resources in risk control and emergency response, in order to achieve global and harmonious development, emphasizing not only to solve the immediate problems, but also to consider the sustainability of society, economy and environment. In contrast, the emergency plan should strengthen the relationship and overall construction, and promote the formation of the emergency plan system.

In the deepening stage of the construction of emergency plan system, China has experienced major public emergencies such as the international financial crisis and Wenchuan earthquake, which has posed new challenges to the government's emergency response capacity, and the transformation of economic growth mode has been slow. The imbalance of population distribution, resource supply and regional development has led to different needs to deal with emergencies. Among the issues of concern to the masses, there are still some shortcomings in social life, production safety, social security, democracy and legal system, and many risk factors and variables interact with each other, resulting in the emergence of emergencies is difficult to predict and control, and the threat of dealing with emergencies has been increasingly emphasized. Since the 18th National Congress of the Communist Party of China (CPC), socialism with Chinese characteristics has entered a new era. The profound changes in the development situation have put forward new requirements for the governance ability and level of the government. These realistic factors continue to promote the deepening of the construction of the emergency plan system.

In the adjustment stage of the construction of the emergency plan system, the economic and social development of our country presents dynamic changes, modernization and globalization develop deeply, the infrastructure is constantly improved, and the overall social situation remains relatively stable. However, there are also a series of risk trends in this process. With the arrival of the new normal, the mode of economic development is still extensive, unbalanced, uncoordinated, unsustainable problems have become the hotbed of emergency brewing. At the same time, the deterioration of the ecological environment has not yet been fundamentally reversed, the accelerated aging of the population and the frequent occurrence of major security accidents have brought new challenges to the stability and sustainable development of the country. Risks, disasters, crises escalate to new risks, catastrophe and cross-border crises^[5] In particular, the frequency of major emergencies increases, and the complexity of the real situation promotes the standardization and institutionalization of the emergency plan system. The proposal of the overall national security concept and the people-centered persistence point out the goal and direction of the construction of the emergency plan system, and promote the optimization and adjustment of the emergency plan system.

At present, China is turning to the stage of high quality development, and the change of government governance system has put forward a comprehensive and complex demand for the construction of emergency plan system. More comprehensive and efficient strategies are needed to meet the diversified challenges at the political, economic, social and international levels. The emergency plan system is still constantly updated to adapt to the goal of national security, stability and sustainable development.

3.2. Internal Dynamic Mechanism: Path Dependence of System Construction

Before the occurrence of severe acute respiratory syndrome (SARS) in 2003, some government agencies had formulated relevant emergency plans and coping norms according to practical experience and needs, but the number of emergency plans was very small. Before 2004, there were only 194 emergency plans in the department of the State Council^[4] And the distribution scattered, the convergence between the plans is weak, driven by specific realistic needs, mainly concentrated in earthquake disasters, production safety and other fields, existing in a small number of government agencies, did not form a unified linkage as a whole. The overall emergency plan of the state and the provincial level has completed the outline of the vertical structure of the emergency plan system, and the emergency clustering of departments and special emergency plans has been divided into horizontal structures, which promotes the formation of the Chinese emergency plan system with the combination of horizontal and vertical, and realizes the realization of "from nothing to existence". However, the basic framework of the emergency plan system is rough, the scope of the overall emergency plan guidance is too broad, and there are large errors in the actual operation, which tends to be a kind of directional guide. It is difficult to deal with multi-type and multi-level public emergencies and promote the deepening of the emergency plan system.

In the deepening stage of the construction of the emergency plan system, the coverage of the emergency plan system is expanded, from the central government to the grass-roots level to fill the risk gap, the society and enterprises participate fully, form a more dense network, strengthen the prevention and preparation function of the emergency plan system, take the emergency plan as the medium, promote the emergency management port to move forward, and control the risk in the place where it occurs. At the same time, the development of emergency management legal system, system, mechanism and emergency management system can promote the integration of emergency plan and practice, and enhance its maneuverability. Based on the demonstration function of the basic framework of the emergency plan system based on the combination of horizontal and vertical, the number of emergency plans has increased significantly. The 13th five-year Plan for the construction of the emergency system points out that during the 12th five-year Plan period, the number of emergency plans has further increased, and more than 5.5 million emergency plans have been compiled and revised, basically realizing that the emergency plan system covers "horizontal to the end, vertical to edge," and the emergency plan system is more perfect. In the deepening stage, the "from at most" stage has been realized, but the increase in quantity has not solved the difficult problem of connecting between the plans, and has driven the emergency plan system to strengthen the management and adjust the internal structure.

In the adjustment stage of the construction of emergency plan system, from quantitative attention to structural optimization. In practice, the government constantly improves and improves the management mechanism and working procedures of the emergency plan system, optimizes the emergency plan system structure based on the strategic development vision, emphasizes the practicability of the emergency plan and the standardization of the emergency plan system, and strengthens the construction of the emergency plan system in an all-round way. In the deepening stage, "from more to better" is realized, and the emergency plan system follows the emergency management system to a strategic height, but its linkage with the emergency management mechanism is invalid, the digital emergency plan is disabled, and the grass-roots emergency plan is inactivated, and other problems still need to be adjusted and updated.

3.3. Direct Dynamic Mechanism: the Key Node of Event Mutation

The response to SARS (SARA) crisis has become an important practice of emergency management in China, and has an important impact on the construction of emergency plan

system in China. The theory of risk society has made it clear that industrial development and technological progress make modern society in an environment full of all kinds of complex risks. SARS crisis has further exposed many loopholes in government emergency management. Although the SARS epidemic is such a major harmful public health event is relatively rare, but China in dealing with plague and other long-term, periodic, historical health events in response to the risk awareness of emergencies, emergency prevention and preparation work has been ignored, and at the beginning of the SARS epidemic information transmission and reception stagnation, the lack of government emergency response capacity, the lack of emergency coordination mechanism and other issues restrict the efficient management of the crisis. Therefore, the central government and the government are determined to make emergency management a priority on the government's agenda, make up for the shortcomings in the practice of emergency management, and formally launch the construction of the emergency plan system. In November 2003, the General Office of the State Council set up a special working group on the emergency plan, formulated the national overall emergency plan, and coordinated the preparation of the emergency plan^[6]. Therefore, SARS crisis is the key node of emergency plan system construction, and it is the direct driving force to promote the construction of emergency plan system.

The release of the National General Emergency Plan for Public Emergencies means that the emergency plan system has taken shape. Through the systematic planning and preparation of all kinds of emergencies, the overall emergency plan can take effective measures in advance to reduce the probability and degree of disaster occurrence and achieve the goal of disaster prevention and disaster reduction. The overall national emergency plan defines the reserve and allocation mechanisms for all types of resources to ensure the rapid and orderly mobilization of the necessary material, human and financial resources in emergency situations and to improve the efficiency of the use of resources. The national overall emergency plan emphasizes the coordinated combat among the government, enterprises, social organizations and the public, which is conducive to improving the comprehensive disaster resistance of the whole society, maintaining social stability and improving the level of social governance. As soon as the national overall emergency plan was released, China's emergency plan system had a "leader", and its construction and operation entered a new stage of development.

The measures for the Management of Emergency plans mark the standardization and institutionalization of the management of emergency plans in China. First of all, this method clarifies the responsibilities and obligations of government departments and units at all levels in emergency plan planning, preparation, examination and approval, issuance, exercise, revision, training, publicity and education, and provides a basis for interdepartmental emergency response, helps to improve the timeliness and accuracy of emergency response, and avoids cooperation difficulties caused by inconsistent emergency plans. Secondly, the whole process management of emergency plan is carried out to ensure that emergency plan has a high degree of effectiveness and reliability in the process of design, implementation and maintenance, can respond to emergencies in time, reduce losses and effects, effectively improve the effectiveness of emergency plans, and improve the efficiency and coordination ability of emergency response. Finally, this method requires government departments and units at all levels to strengthen the revision and improvement of emergency plans, reflect the new situation and new situation in a timely manner, and form a PDCA cycle. This policy emphasizes the quality management of the emergency plan system, promotes the continuous innovation and improvement of the emergency plan construction, and improves the pertinence and practicability of the emergency plan. It is of great significance to deal with new threats and new situations, and significantly enhances the adaptability and adaptability of China's emergency plan construction.

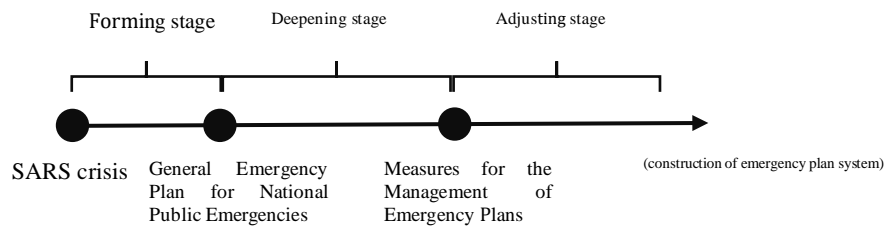


Fig. 1 Key nodes in the construction of emergency plan system
(source: author self-made)

4. Advancing Path for Emergency Plan System Construction

4.1. Effective Linkage with Emergency Management Mechanism

Emergency plan is that the organization compiles a set of quick response, reasonable division of labor and orderly implementation guide in advance for a certain kind of problems or situations. Its core idea is to deal with non-deterministic emergencies with deterministic planning schemes, and to transform emergency management into conventional management^[7]. Emergency mechanism is a set of institutionalized and procedural methods and measures, which embodies the external forms of government emergency management, such as organizational structure, division of responsibilities and so on. Its core function is to make full use of resources and capabilities through scientific organization and coordination, so as to better prevent and respond to emergencies.^[8]. The coordination between emergency plan and emergency mechanism is the unity of plan and action, which is helpful to improve the response efficiency and coordination ability of governments and related institutions at all levels in the face of emergencies, and further strengthen the resilience and flexibility of the whole emergency management system. Joint emergency plan is an important way to effectively link emergency plan with emergency management mechanism and enhance the maneuverability and practicality of emergency plan.

4.2. Digital Application of Emergency Plan

Digitization is one of the important directions of government construction and its own development, and it is also the future choice of emergency plan system construction. The digitization of emergency plan is to digitize the compilation, release and implementation of emergency plan by means of advanced information technology, and to manage and maintain the emergency plan scientifically. In practice, COVID-19 's epidemic prevention and control scheme uses QR code management, itinerary monitoring and other new technical means to accurately capture the spread of the virus. These ways have an impact on the traditional emergency response style. With the application and development of information science and technology, more direct and effective technologies can be used in the process of monitoring, early warning, prevention and preparation, response and response, recovery and reconstruction of emergencies. And form a standard in the emergency plan, digital technology has become a new driving force to promote the construction of the emergency plan system.

4.3. Continuous Activation of Grass-roots Emergency Plans

The emergency plan system is a comprehensive and hierarchical organizational structure, including the national level to the local and grass-roots level of the plan at all levels, forming a hierarchical progressive, organic convergence of the whole. The grass-roots emergency plan is

the most basic link in the progressive system of this level, which directly serves the streets, villages, communities, enterprises, organs and other grass-roots units, undertakes the primary task of implementation and implementation in the emergency plan system, and has a relatively independent executive power, which is the basis of the coordination of the overall strength of the emergency plan system. Grass-roots level is the first line of defense to deal with emergencies. When emergencies occur, they organize and coordinate the strength and resources of their units to carry out preliminary rescue and response work. Therefore, the quality and implementation ability of grass-roots emergency plans are directly related to the initial response effect of emergencies. However, in practice, there are still some shortcomings in the grass-roots emergency plan, such as the quality of the preparation of the plan is not high, the tendency of homogenization is prominent, the actual implementation effect is not as good as expected, and the allocation of resources is not suitable^[9]. In the emergency plan system, the plans at all levels are refined step by step, and the superior plans provide broad and strategic guidance, while the grass-roots emergency plans need to refine the instructions of the superiors at the practical operational level and translate them into practical actions. Therefore, the emergency plans at the grass-roots level must be specific and detailed, and the index data of the daily situation and the risk factors of the emergency must be taken into account. In order to ensure that in the actual situation of the unit in the region can respond to emergencies quickly and effectively.

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