

# ***SHOCK RESPONSIVE SOCIAL PROTECTION SYSTEM IN CHINA***

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# CONTENT

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- Part I: Basic principles on Shock Responsive Social Protection
- Part II: Digitized Systems for Rapid Response
- Part III: Multi-Level Financing and Coordination

# PART I: BASIC PRINCIPLES ON SHOCK RESPONSIVE SOCIAL PROTECTION

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- Focuses on the disaster relief and other work carried out at the national and regional level when major and extremely serious natural disasters occur.
- Establish and improve the natural disaster relief system and operational mechanisms, enhance the legalization, standardization, and modernization level of disaster relief work, improve the capabilities in disaster prevention, mitigation, relief, and disaster response support, minimize casualties and property losses to the greatest extent, ensure the basic livelihoods of affected populations, and safeguard social stability in affected areas.

# PART I: BASIC PRINCIPLES ON SHOCK RESPONSIVE SOCIAL PROTECTION

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- Adhere to putting people and life first, and effectively ensure that safeguarding people's lives and property
- Adhere to unified command, comprehensive coordination, graded responsibility, and territorial management
- Adhere to the leadership of Party committees, government responsibility, social participation, and public self-rescue, giving full play to the roles of grassroots mass self-governing organizations and public welfare social organizations;
- Adhere to safety first and prevention as the priority, promote the integration of disaster prevention, rescue, and relief efforts, achieve efficient and orderly coordination, and strengthen the whole-process management of disaster prevention, resistance, and relief.

## PART II: DIGITIZED SYSTEMS FOR RAPID RESPONSE

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- China's information system for dealing with natural disasters significantly improves the efficiency and accuracy of disaster response by integrating data resources from multiple departments, enhancing monitoring and early warning capabilities, and optimizing information release channels.
- These systems achieve real-time data sharing and efficient utilization, providing strong support for disaster warning and emergency response.



## PART II: DIGITIZED SYSTEMS

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- 1. National Emergency Early Warning Information Release System
- 2. Comprehensive Monitoring and Early Warning System for Natural Disasters
- 3. National Basic Database for Natural Disaster Risks
- 4. National Geological Disaster Database
- 5. Information Network for the First National Natural Disaster Comprehensive Risk Census

# 1. NATIONAL EMERGENCY EARLY WARNING INFORMATION RELEASE SYSTEM

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- Built and improved by the Public Meteorological Service Center of the China Meteorological Administration, it has warning release functions at national, provincial, municipal and county levels.
- The average delivery time to the public is 4 minutes and 16 seconds, with a coverage rate of 98.82%. In 2024, a total of 454,000 warning messages were issued nationwide, covering 220 types of warning information from 22 departments.
- The system achieves second-level mandatory reminder of warnings through the "flash message" matrix service model and is connected with the national emergency broadcast system. 1.23 million emergency broadcast terminals in 18 provinces (autonomous regions and municipalities directly under the Central Government) can broadcast meteorological disaster warning information in real time.

# 1. NATIONAL EMERGENCY EARLY WARNING INFORMATION RELEASE SYSTEM

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- Effectively enhances the public's ability to cope with emergencies, reducing casualties and property damage.
- The release of warning information has shifted from "data access" to "integration into scenarios". For the first time, the system integrates and processes agricultural machinery location data and provides warning services through channels such as the national agricultural machinery operation command and dispatch platform, targeting new agricultural business entities and agricultural department managers.



## 2. COMPREHENSIVE MONITORING AND EARLY WARNING SYSTEM FOR NATURAL DISASTERS

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- Constructed according to the "14th Five-Year Plan" for National Comprehensive Disaster Prevention and Mitigation, it integrates monitoring modules for six major disasters including earthquake, geology, meteorology, drought and flood, ocean, and forest and grassland fire.
- The system integrates multi-source monitoring data from meteorology, geology, hydrology, etc., and uses intelligent algorithms to quickly analyze and accurately predict the occurrence time, intensity and impact range of disasters such as typhoons, earthquakes, and floods.

## 2. COMPREHENSIVE MONITORING AND EARLY WARNING SYSTEM FOR NATURAL DISASTERS

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- Utilizes technologies such as satellite remote sensing, big data, cloud computing, and the Internet of Things.
- The system integrates data from emergency management, fire control, meteorology, natural resources, flood control, and earthquake departments in a "one-map" mode to strengthen and improve the natural disaster monitoring and early warning system.
- the Ministry of Emergency Management: The system has functions such as monitoring data management, risk and hidden danger management, emergency resource management, and monitoring and analysis visualization, and can achieve threshold-exceeding alarms for monitoring data in the entire area.

### 3. NATIONAL COMPREHENSIVE RISK DATABASE FOR NATURAL DISASTERS

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- Based on the results of the first national comprehensive risk census of natural disasters, it draws risk maps and prevention and control zoning maps of natural disasters at different scales.
- The database consists of 1 national comprehensive library, 10 national industry libraries, and 31 provincial databases, basically achieving "unified technical standards, classified and graded management, vertical and horizontal interconnection, and joint construction and sharing".

### 3. NATIONAL COMPREHENSIVE RISK DATABASE FOR NATURAL DISASTERS

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- Provides data support for disaster risk assessment and management. The database includes data on 23 types of disaster-causing factors, 27 types of disaster-bearing bodies, and results of disaster risk assessment, risk zoning, and prevention and control zoning. The national comprehensive library has stored more than 1.7 billion pieces of various risk data.
- The database is oriented towards "serving business", builds standardized service capabilities, conveniently connects relevant business systems, and provides data result services to support emergency rescue decision-making.



## 4. NATIONAL GEOLOGICAL DISASTER DATABASE

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- China Institute of Geological Environment Monitoring
- Achieves interconnection with 25 provincial platforms, promoting the horizontal connection and integration of data on geological disaster investigation and evaluation, monitoring and early warning, and engineering management.

## 4. NATIONAL GEOLOGICAL DISASTER DATABASE

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- The database provides strong data support for geological disaster prevention and control management and enhances the informatization level of geological disaster prevention and control management.
- Through data integration and sharing, it realizes the refinement and scientification of geological disaster prevention and control management and provides a strong basis for geological disaster prevention and control decision-making.

## 5. INFORMATION NETWORK FOR THE FIRST NATIONAL NATURAL DISASTER COMPREHENSIVE RISK CENSUS

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- Hosted by the Office of the Leading Group for the First National Comprehensive Risk Census of Natural Disasters of the State Council, it releases the dynamics of the census work and interprets relevant documents.
- The website is an information release platform for the census work, providing timely and accurate census information for the public and relevant departments.
- Provides interactive Q&A services.
- Through online Q&A and expert consultation, it answers questions about the census work for the public and relevant departments, enhancing the transparency and public participation of the census work.

## 6. ACHIEVEMENTS

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- These systems provide strong support for disaster prevention and mitigation, ensuring the safety of people's lives and property.
- Through scientific monitoring and early warning and effective emergency management, the losses caused by natural disasters are minimized, and the overall capacity for natural disaster prevention in China is enhanced.



## 6. ACHIEVEMENTS

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- **Development of Information Sharing and Public Participation Platforms:**
- Information sharing platforms have been built to facilitate information exchange between government departments and between the government and society.
- On the one hand, the government promptly releases disaster warnings, rescue progress, and disaster situation information to the public to protect public 知情权 (the right to know).
- On the other hand, the public is encouraged to report disaster information and provide rescue clues through these platforms, enhancing the enthusiasm of social forces in disaster response. For example, in some regions, mobile apps have been developed, allowing the public to upload photos and videos of disaster situations through the apps, helping the government promptly grasp disaster dynamics.

## 7. HOW CAN WARNING MESSAGES BE ENSURED TO BE DELIVERED TO ALL THE PUBLIC IN A TIMELY MANNER?

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- According to the severity of the disaster, warnings are issued at different levels such as red, orange, yellow, and blue. The red warning indicates extremely high risk and requires emergency measures.
- The meteorological department cooperates with the Telecommunications Administration to integrate resources and build a green channel for SMS by using technologies such as multi-source heterogeneous data stream correlation analysis, increasing the average sending rate of warning SMS to 5000-8000 messages per second.
- In 2024, the public coverage rate of national meteorological warning information reached 99.12%, and meteorological warning information can be delivered to the public within 3 to 8 minutes.
- SMS Precise Targeted Release: By using technologies such as big data and cloud computing, location-based targeted release is realized, and warning SMS are sent to users in specific areas.

## 7. HOW CAN WARNING MESSAGES BE ENSURED TO BE DELIVERED TO ALL THE PUBLIC IN A TIMELY MANNER?

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- **7.1 SMS Release:** The meteorological department cooperates with telecommunications operators to send warning SMS to the public through the SMS platform. For example, operators such as China Mobile, China Unicom, and China Telecom can achieve rapid full-network push.
- **7.2 New Media Release:** Utilize new media platforms such as Weibo, WeChat, and APPs to release warning information. For example, the "Shanghai Know Weather" APP can push local meteorological warnings.
- **7.3 Broadcast and Television:** Release Broadcast and television media broadcast warning information in a timely manner as required, and can interrupt normal programs in emergencies. For example, TV stations can insert heavy rain warning subtitles into programs.
- **7.4 Emergency Broadcast Application:** Emergency broadcasts are widely distributed, covering villages, and play warning information through methods such as loudspeakers. In some ethnic minority villages, emergency broadcasts are aired in a “Mandarin + ethnic minority language or dialect” format to overcome language barriers.

# 7. CHALLENGES

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- **7.1 Data Security and Privacy Protection Issues**

As digital systems are widely adopted, a large amount of disaster data and personal information flow through these systems, posing challenges to data security and privacy protection.

- For example, risks such as data breaches and malicious tampering may occur. Therefore, it is necessary to strengthen data security management, establish sound security mechanisms such as data encryption and access control, and ensure the security and privacy of data.



# 7. CHALLENGES

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- **7.2 System Compatibility and Stability Needs Enhancement**

During the construction of digital systems in different departments, inconsistent standards may exist, resulting in poor compatibility between systems.

- In disaster emergency responses, issues such as delayed data sharing and unstable system operations may arise. In the future, it will be essential to unify the construction standards for digital systems, strengthen system compatibility testing and maintenance, and ensure that systems can operate stably at critical moments.

# PART III: MULTI-LEVEL FINANCING AND COORDINATION

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## 1. Division of Government Responsibilities in China's Response to Natural Disasters

- The division of responsibilities in China's response to natural disasters is mainly based on relevant laws, regulations, and policy documents, clarifying the duties of the central and local governments and relevant departments.
- *The work of natural disaster relief is implemented under the administrative leadership responsibility system of people's governments at all levels.*


# 1. DIVISION OF GOVERNMENT RESPONSIBILITIES IN CHINA'S RESPONSE TO NATURAL DISASTERS

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## 1.1 Responsibilities of the Central Government

- National Committee for Disaster Prevention, Mitigation, and Relief: It is responsible for the unified leadership and comprehensive coordination of national disaster prevention and mitigation efforts. It formulates relevant policies and measures, and organizes the development and implementation of national disaster prevention and mitigation plans.
- Ministry of Emergency Management: It is responsible for organizing, guiding, and coordinating the emergency response to sudden incidents, including production safety accidents and natural disasters.

### Other Departments:

- The Ministry of Public Security is responsible for coordinating the response to major sudden incidents related to social security.
  - The National Health Commission is responsible for emergency medical response.
  - The Ministry of Ecology and Environment is responsible for coordinating the emergency response to sudden environmental incidents.
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# 1. DIVISION OF GOVERNMENT RESPONSIBILITIES IN CHINA'S RESPONSE TO NATURAL DISASTERS

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## 1.2 Responsibilities of Local Governments

- **Provincial and Lower-level Governments:** Following the principle of local management, they are responsible for disaster prevention and emergency rescue within their administrative regions. Local people's governments at or above the county level establish emergency command institutions for sudden incidents, led by the principal officials of the Party committee and the government, to unify the command and coordination of local emergency response efforts.
- **Townships (Streets) and Grassroots Organizations:** They improve the emergency management organizational system, clarify dedicated working forces, refine emergency response plans, and organize and coordinate the response to sudden incidents in their regions.





## **2. MAIN LAWS AND REGULATIONS FOR CHINA'S RESPONSE TO NATURAL DISASTERS**

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China has established a relatively comprehensive legal system for disaster prevention and mitigation. The following are some of the key laws and regulations.

These laws, regulations, and policy documents provide a solid legal basis and clear division of responsibilities for China's response to natural disasters, ensuring the efficient and orderly conduct of disaster prevention and mitigation efforts.

### **2.1 Law of the People's Republic of China on Emergency Response to Sudden Incidents**

- This law clarifies the powers and responsibilities of the government in responding to natural disasters and stipulates the warning, emergency response, and post-incident recovery and reconstruction of sudden incidents.



## **2. MAIN LAWS AND REGULATIONS FOR CHINA'S RESPONSE TO NATURAL DISASTERS**

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### **2.2 Regulations on Natural Disaster Relief**

- These regulations specify the organizational command system, emergency response mechanisms, and relief measures for natural disaster relief. For example, people's governments at or above the county level are required to establish natural disaster relief material reserves and plan for the establishment of emergency shelters.

### **2.3 National Natural Disaster Relief Emergency Plan**

- This plan establishes and improves the natural disaster relief system and operational mechanisms, clarifying the organizational command system, warning and response mechanisms, and emergency response measures for disaster relief.



## 2. MAIN LAWS AND REGULATIONS FOR CHINA'S RESPONSE TO NATURAL DISASTERS

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### 2.4 Special Laws and Regulations

- Law of the People's Republic of China on Flood Control: It regulates flood control activities and ensures flood safety.
- Law of the People's Republic of China on Seismic Disaster Prevention and Mitigation: It clarifies the leadership mechanisms, publicity and education, and emergency rescue for seismic disaster prevention and mitigation.
- Law of the People's Republic of China on Meteorology: It regulates the defense against meteorological disasters.
- Regulations on the Prevention and Control of Geological Disasters: It regulates the organizational management, monitoring and early warning, and emergency rescue for geological disaster prevention and control.
- Interim Measures for Social Assistance, Ministry of Civil Affairs

# 3. MULTI-LEVEL FINANCING

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## 3.1 Government Financial Investment

- Central and local governments incorporate natural disaster relief funds into their fiscal budgets, allocating special funds annually for emergency disaster relief, livelihood assistance to affected populations, and post-disaster recovery and reconstruction.
- According to the *14th Five-Year National Plan for Comprehensive Disaster Prevention and Mitigation*, fiscal investment has been continuously increased to improve fund usage efficiency. For example, after major natural disasters, the central government rapidly disburses disaster relief funds to support rescue and reconstruction efforts in affected areas. Meanwhile, local governments provide matching funds to ensure the smooth implementation of disaster relief work.



# 3. MULTI-LEVEL FINANCING

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## 3.2 Introduction of Insurance Mechanisms

- China actively promotes the development of natural disaster insurance, leveraging the resource advantages of the insurance industry to develop insurance products tailored for natural disasters such as earthquakes, geological hazards, meteorological disasters, floods and droughts, marine disasters, and forest and grassland fires.
- Enterprises and residents are encouraged to purchase natural disaster insurance to enhance society's overall disaster risk resilience.
- For instance, in rural areas, rural housing insurance has been implemented to protect farmers' homes. After disasters, insurance companies promptly settle claims to help farmers rebuild their houses.

# 3. MULTI-LEVEL FINANCING

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## 3.3 Social Donations and Charitable Relief

- China has established a sound mechanism for social donations and charitable relief, encouraging social organizations, enterprises, and individuals to participate in natural disaster relief through donations of funds and materials.
- The government strengthens the management and guidance of social donations to ensure that donated materials and funds are used rationally and efficiently in disaster-affected areas. Meanwhile, the operations of charitable organizations are regulated to enhance the transparency and public trust of charitable relief.
- For example, after major disasters, charitable organizations such as the Red Cross Society and Charity Federation quickly launch fundraising campaigns to widely mobilize social funds and materials for disaster-stricken communities.

# 3. MULTI-LEVEL FINANCING

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## 3.4 Interdepartmental Coordination and International Cooperation

- Domestically, coordination and collaboration among multiple departments such as civil affairs, finance, and development reform have been strengthened to form a joint effort. During disaster responses, departments work together to raise funds, allocate materials, and organize rescue operations according to their respective responsibilities.
- Internationally, China actively engages in cooperation and exchanges with other countries and international organizations. For example, during cross-border natural disasters, it shares disaster information and conducts joint rescue operations with neighboring countries. Additionally, China participates in international disaster prevention and mitigation assistance projects, sharing its experience and technology to enhance its influence in global disaster management.

# 4. CHINA'S SOCIAL ASSISTANCE FRAMEWORK

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According to the relevant provisions of the **Interim Measures for Social Assistance** the main content of disaster relief is as follows:

## 4.1 Basic Principles of Disaster Relief

- **Territorial Management and Graded Responsibility:** The principle of territorial management and graded responsibility is implemented in disaster relief efforts for natural disasters. The primary responsibility of local governments in disaster relief is clearly defined.

## 4.2 Specific Measures for Disaster Relief

- **Establishment of Disaster Relief Material Reserves:** People's governments at or above the prefecture-level city and counties in areas prone to frequent and severe natural disasters shall establish disaster relief material reserves based on the characteristics of natural disasters, the number of residents, and their distribution. This ensures the emergency supply of relief materials after a natural disaster occurs.



# 4. CHINA'S SOCIAL ASSISTANCE FRAMEWORK

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## 4.3 Emergency Relief:

- After a natural disaster occurs, people's governments at or above the county level or the comprehensive coordination institutions for disaster relief emergency response under the people's governments shall, according to the situation, urgently evacuate, relocate, and resettle affected persons in a timely manner.
- They shall also provide necessary emergency relief, including food, drinking water, clothing, heating, temporary shelter, and medical and epidemic prevention services, to the affected persons.

## 5. ACHIEVEMENTS

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- Taking the 2024 super typhoon "Mojave" as an example.
- In the disaster response, the government finance quickly activated the emergency response mechanism. The central government urgently allocated 270 million yuan in disaster relief funds to Hainan and Guangdong on September 7, focusing on the resettlement of affected people, the repair of damaged sea dikes and the emergency repair of power facilities.
- Local finances invested more than 1 billion yuan in supporting funds, and established a 24-hour "green channel" for fund allocation in hard-hit areas such as Wenchang in Hainan and Xuwen in Guangdong to ensure that emergency funds reached the grassroots within 48 hours.

## 5. ACHIEVEMENTS

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- The insurance industry responded quickly.
- The People's Insurance Group of China launched a "second-level loss assessment" mechanism in Hainan. Using satellite remote sensing and mapping technologies, it completed the first batch of 50 million yuan in compensation within 72 hours, covering 32,000 mu of crops and 18,000 rural houses.
- As of 15 days after the disaster, the entire industry had accumulated 860 million yuan in compensation, of which agricultural insurance compensation accounted for more than 40%, effectively alleviating the post-disaster reconstruction pressure of farmers.

## 5. ACHIEVEMENTS

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- At the inter-departmental coordination level, the National Flood Control and Drought Relief Headquarters activated a level-II emergency response for flood and typhoon control.
- The Ministry of Emergency Management coordinated 16 departments including fire rescue, maritime affairs, and health to establish an "hourly consultation" mechanism: the civil affairs department set up 560 centralized resettlement sites to ensure the basic living of 123,000 relocated people; the transportation department opened a "green channel for disaster relief materials" with a daily transportation capacity of over 800 tons; the power department deployed 12,000 repair teams to restore power in 98% of affected areas within 72 hours



## 5. ACHIEVEMENTS

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- In terms of international cooperation, the China Meteorological Administration activated the "Northwest Pacific Typhoon Joint Defense Mechanism" with neighboring countries such as the Philippines and Vietnam, sharing real-time data on typhoon path predictions and wave monitoring, and providing satellite cloud image analysis technical support at the request of Vietnam.

# 6. LESSONS LEARNED

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## 6.1 Underutilization of Insurance Role

- Although natural disaster insurance has been continuously developing, its overall coverage remains limited, and awareness of insurance participation among some individuals and enterprises is low.
- In some disasters, the speed and amount of claim settlements have not fully met the needs of affected communities and businesses. In the future, it will be necessary to strengthen insurance promotion efforts, improve the targeting and appeal of insurance products, and refine claim settlement mechanisms to fully leverage insurance's role in disaster financing.

# 6. LESSONS LEARNED

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## 6.2 Need for Optimizing Social Donation Management

- During social donation drives following large-scale disasters, issues such as mismatches between the types and quantities of donated materials and actual needs, as well as uneven distribution of donations, may arise.
- It is essential to further improve the social donation management mechanism, strengthen needs assessment and allocation management of donated materials and funds, and ensure that donated resources are precisely allocated to the areas most in need.

THANK YOU!

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