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## Research on the emergency management capabilities of Chinese communities

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### ABSTRACT

Community is the frontier in which emergency can be prevented and disposed. This paper summarizes the research development concerning the emergency management capabilities of Chinese and foreign communities, analyzes the present situation and existing problems in the training of the emergency capabilities of Chinese communities, and also presents solutions to enhancing the training of the emergency capabilities of Chinese communities.

### KEYWORDS

Community; Emergency; Crisis; Emergency management capabilities.



## THE NECESSITY OF ENHANCING THE COMMUNITY EMERGENCY MANAGEMENT

To enhance the emergency management capabilities of communities is an objective requirement for constructing a harmonious society; living and working in peace and contentment is the most basic premise for social development; life safety and property safety is the most fundamental right for all citizens. With regard to the construction of a harmonious society, to build a sound community emergency management system is a foundation engineering which helps to prevent crises before they emerge and forge a safety shield for society. In the wake of economic and social transformation, unit man has gradually become social man, or community man. With the total number increasing greatly and the structure becoming more complex, floating population has entered communities. Meanwhile, functions such as social management, social service and social security have been shifted from governments and places of work to communities, so communities become the focus of various social conflicts and problems in the period of transformation. Only when community work is properly handled, can we solve various problems to the hilt at the initial stage, thus making society remain resilient and harmonious.

Community is the frontier where public incidents are disposed, and is also the subject to suffer all kinds of accidents. After a calamity occurred, community is responsible for early rescue. Prior to professional rescue departments, community will organize residents to save themselves and each other. In all, community assumes the major responsibility for on-site assistance.

Community also plays a role in social mobilization in emergency management. While preparing for emergency, community will call on residents to take part in community analysis, formulation of contingency plan, and checking of potential risks, etc. while disposing emergency, community will mobilize social forces to participate, organize residents to evacuate, protect residents on the scene and provide residents with basic life support.

Community serves as the base to publicize emergency knowledge and cultivate residents' awareness of emergency. Community, as a connection between external organizations of society and residents, is responsible for delivering emergency messages, which should be timely, complete and exact, and so governments and professional departments can make right decisions and also residents can make full preparations for emergency.

It is a practical need of community residents to enhance emergency management. At present, looking forward to a community environment which is peaceful, orderly, safe and stable, has become the common requirement of all the residents. To satisfy the needs, enhance the community emergency management, as well as establish safe communities is a "Project of Popular Feelings" representing the basic interest for all residents.

## THE RESEARCH STATUS AND TENDENCY

Since our country has stepped into a new stage of profound social change, public security has been attached more importance. According to *Decisions on some issues of comprehensive and profound reform by the Central Committee of CPC*, the public security system should be perfected in the aspects of food safety, safety production, comprehensive management of social order, etc. *Overall National Public Emergency Plan* also requires that the construction of public emergency management ability should be enhanced in towns and communities in order to play their role in public emergency.

With regard to the study of emergency ability, foreign research centers on establishing the index system of emergency ability evaluation. In the late 1990's in America, the National Association of Emergency Management and the Federal Emergency Management Agency made a joint study and formulated an index system-Capability Assessment for Readiness, CAR for short-especially used to evaluate the management ability of conflict events in states, districts and islands. In 2000, the Federal Emergency Management Agency made a revision on this evaluation system. The evaluation elements of the 2000 edition included the following 13 contents: laws and regulations, hazard identification and defense evaluation, disaster management, resource management, plan, guidance, control and coordination, communication and early warning, action and program, logistics and facilities, training and drilling, public education and information dissemination, as well as fund and management. Japan, in 2002, also set up items to evaluate the emergency prevention ability, which include the following 9 evaluation elements: mastery and evaluation of crisis, measures on risk mitigation, system reorganization, intelligence contact system, guarantee and management of facilities and grain reserves, plan of emergency reaction and post-disaster reconstruction, flow of intelligence among residents, education and training, as well as maintenance and promotion of emergency action level. In the aspect of emergency management, in 1989, the First WTO Accidents and Injuries Assembly put forward the concept of "Safe Community", and established the core idea of "effectively controlling and preventing accidental injuries and safeguarding everybody's right of being healthy and safe", as well as the international certification standard and the establishment index of "Safe Community". The international certification standard of "Safe Community" is: an organization of inter-departmental corporation responsible for safety promotion; staff who can work stably and are innovative and of different genders and ages, as well as an injury prevention plan aimed at various environment and conditions; a prevention program aimed at high-risk people and environment as well as improving the safety level of vulnerable groups; a system to record the frequency and reason of the occurrence of injuries; an approach to evaluate the safety promotion project, working process and effect of change; taking an active part in activities in relation to safe community network locally and internationally; the index of "Safe Community" includes the following 9 items: transportation, workplace, public place, wade, school, old people, children, household and sport.

Our country has also made a lot of progress in the study of emergency ability. In 1999, Liu Yan, Kang Zhongyuan, Zhao Hanzhang and so on studied the comprehensive evaluation index system of disaster reduction management ability in our cities, and established the city risk evaluation index, vulnerability evaluation index as well as bearing capacity (prediction ability, disaster prevention and resistance ability and ability of disaster relief and restoration evaluation index. In 2001, Zhang Fenghua and Xie lili, in terms of earthquake disaster alleviation, put forward the index system to evaluate the seismic risk analysis ability, the monitoring and forecasting ability, the seismic defense ability in municipal engineering, the capacity of political, economic and cultural resources in cities, the ability of non-engineering defense in the city, and the ability of emergency aid and restoration. In 2003, Wang Shaoyu published an article entitled *Construction of Urban Disaster Emergency Management Ability*, in which he defined the term “Construction of Emergency Capability”, and put forward the basic goals of constructing emergency capability. Taiwan Judicial Person Fire Center Foundation also presented a research report on “the performance evaluation of disaster prevention”, that is emergency capability assessment. The report also put forward the evaluation standards of emergency capability, including 7 elements: mastery of risk assessment, plan and policy, establishment of responsible system, guarantee and management of related disaster relief equipment and emergency reserve fund, emergency response plan, information transmission and education & training among the public, as well as post-disaster reconstruction. In 2004, Vice Chairman of the Central Committee of China Democratic League, Zhang Meiyong proposed some suggestions on the evaluation of disaster emergency implementation capability. According to the experience of foreign disaster emergency management as well as the national conditions in our country, she suggested that the specific contents of the emergency capability evaluation should include: capacity of disaster monitoring and early warning, effectiveness of social control, reaction capacity of residents, engineering defense capacity, disaster rescue capacity and resource guarantee capacity. In 2005, Deng Yunfeng, Zheng Shuangzhong and so on put forward the systematic framework of the evaluation of city emergency capability, which includes 18 elements: legal foundation, management organization, command center, professional group, full-time team and volunteers, risk analysis, monitoring and early warning, command and coordination, disaster relief and prevention, disposition in the later period, guarantee of communication and information, decision support, equipment and facilities, financial support, training, drilling, publicity and education, as well as emergency plan. Qian Yongbo and Tang Chuan, from the systematic theory perspective, classified the evaluation of city disaster emergency capability by using the AHP (Analytical Hierarchy Process). Moreover, in view of the characteristics of urban disaster eradication, they established 6 evaluation indexes of first grade including urban disaster monitoring and early warning ability, urban disaster defense ability, urban residents’ emergency response ability, government departments’ quick response ability, emergency rescue ability and emergency resources guarantee ability, and they also established an evaluation index system of urban disaster emergency management capability including 23 evaluation indexes of second grade. *Public Crisis Management Capability*, written by Wu Jiang, systematically introduces theories and methods concerning crisis management. Focused on the present situation and experience of dealing with various public crises and emergency by our government, the book studies the measures in the main fields of public crisis, analyzes typical cases as to how foreign governments deal with public crisis and presents the political outline to enhance the public crisis management in our country. In 2006, Chi Nana, basing on AHP and considering the intrinsic features of the emergency process, selected 21 indexes, confirmed the weight of each index and established an evaluation index system of urban disaster emergency management capability. In 2007, Yang Qing and Tian Yiyi, etc. put forward an evaluation system of comprehensive urban disaster emergency management capability on the basis of process management. This system contains 3 branch systems: the evaluation system of early warning ability before disasters, the evaluation system of emergency ability during disasters and restoration ability after disasters, in addition to 12 subsystems, and moreover they made empirical analysis on government departments’ emergency response ability by using comprehensive evaluation form. Chen Wentao established 4 indexes of first grade including monitoring and early warning ability, emergency preparation ability, ability of early disposition and assistance disposition, and restoration ability, together with 26 evaluation index systems of second grade of community disaster emergency capability. In 2008, Zhao Ling and Tang Minkang, on the basis of systematic theories, presented 8 evaluation indexes of first grade including law and regulations, risk analysis, defense capacity, ability of resource guarantee, monitoring and emergency ability, emergency rescue ability, ability of residents’ emergency responses and stage of restoration, as well as 24 evaluation indexes of second grade. In 2009, Sun Ningning put forward 3 indexes of first grade including ability of basic guarantee, crisis management ability and rehabilitation ability, as well as 19 evaluation index systems of second grade of urban public emergency capability. Zhang Chengfu and Tang Jun, in *Evaluation of Government Crisis Management Ability—Research on Knowledge Framework and Index System*, proposed that government’s capability of emergency management should cover the following elements: ability of law and authority, ability of risk identification and assessment, ability of crisis mitigation, ability of resource management, ability of emergency management planning, ability of command, control and coordination, ability of communication and early warning, ability of program and execution, ability of logistics and facilities, training ability, ability of practice, assessment and adjustment, ability of crisis communication and public education, and ability of emergency finance. Anyhow, the research on community emergency capability is still on the first stage, and papers and monograph published are not in great number. Wang Liu, in *Construction of Management Ability of Public Crisis in Urban Communities*, put forward countermeasures to improve the ability of community crisis management on the basis of increasing government’s promotion and support, enhancing the planning of community crisis management and shaping good community emergency culture. Ma Yingnan, in *Analysis of the Present Situation of Community Emergency Management and Research on Countermeasures*, put forward countermeasures on community emergency management: straighten out community management system and define emergency duties; make preparations for community emergency management;

promote emergency management on the basis of the present management; shape community emergency culture; enhance the construction of emergency capability of community volunteer teams. *Practice of Emergency Management—Theory and Strategy guidance* proposes that the way to improve community emergency capability is to construct communities of disaster mitigation. The National Mitigation Committee Office has formulated Standards of National Comprehensive Model Community of Disaster Mitigation, defining the essential conditions and basic elements of national comprehensive model community of disaster mitigation.

## PROBLEMS EXISTING IN THE CONSTRUCTION OF EMERGENCY CAPABILITY IN CHINESE COMMUNITIES

Although some achievement has been made in the emergency management in Chinese communities, there still exist the following problems:

### **Community residents' weak awareness of safety emergency**

After the hit of SARS and May 12 Earthquake, by publicizing and teaching emergency, the emergency awareness of residents in grassroots communities has been enhanced. However, some leaders in grassroots communities failed to attach due importance to emergency management, and so their work is not very efficient. Many residents are not so conscious of the potential risk and they even think there's no need to prevent small disasters and there's no use preventing big disasters, so they failed to pay attention to, not to mention support or participate in community emergency management.

### **Defects in the working mechanism of community emergency management**

Party committees of the higher level, together with different government departments are now taking community emergency management seriously. Apart from improving emergency management system, civil administration departments are responsible for "communities of disaster prevention and relief", safety supervision departments are concerned with the construction of "safe community", and comprehensive management departments of politics and law are working hard on the construction of "peaceful community", etc. From an objective perspective, emergency management involves various aspects, entailing participation of different parties as well as joint cooperation and management. However, the standards, contents and requirements of "communities of disaster prevention and relief", "safe community", and "peaceful community" are so different that the relevant work is hard to deal with, which results in the unsystematic progress of emergency management, the waste of resources and low working efficiency of grassroots communities. For instance, some community offices often change their sign boards for the sake of different leading groups.

### **Inadequate emergency rescue equipment in communities**

Neighborhood committees and village committees only have a limited number of fire equipment and forest fire extinguishers. The lack of basic emergency rescue equipment cannot satisfy the need of early or cooperative disposal of natural disasters of different types, or accidents. As a result, during the progress of preventing and disposing emergency, a small leak will sink a great ship, leading to more casualties and losses.

### **Community residents' non-proficiency of self and mutual rescue**

Although community residents have a little knowledge of disaster prevention and defense, as well as some skills of self and mutual rescue, their understanding is not that profound and not all residents know about it. For example, quite a number of residents don't really know how to use fire extinguishers or artificial respiration and how to escape in the case of fire, especially after emergency occurs. There is little contact between community residents, and some are even completely isolated from each other. More importantly, there are no identified members of emergency assistance to help the old and the handicapped in need. Therefore, all these factors will bring about grave consequences once emergency occurs.

### **Measures to enhance the construction of community emergency capability**

As far as emergency management is concerned, emergency capability is a concept in terms of emergency subject. The difference in the graveness of emergency requires different emergency capability at different levels. Our country implements responses to different risk levels, so for a certain particular level, the emergency capability is only required to reach a suited level section. In response to the situations and problems existing in the construction of community emergency capability in our city, we assume that we should try to promote the construction from the following aspects:

### **Focus on practice, strive for utility, and enhance the construction of comprehensive emergency teams and volunteer teams in communities**

Man is the active element in emergency management. Well-organized and well-trained emergency teams are the key to disposing emergency effectively. According to *the Emergency Response Law of the People's Republic of China*, the neighborhood committee, village committee and other organizations where emergency occurred should, in the light of the decisions and orders by the local government, publicize, mobilize and organize the masses to save themselves and each other, and moreover help maintain social order. According to *Advice on Strengthening Emergency Management at the Grass-roots Level by the general Office of the State Council*, neighborhood committee, village committee as well as various enterprises

and public institutions should, in line with the relevant requirements and the actual situation, work hard on the organization of emergency teams. A community should organize a comprehensive emergency rescue team of 10-50 members composed of community staff, party members and league members, medical staff, militiamen, and reservists. The team should be led by community leaders or leaders especially in charge of comprehensive safety emergency treatment, and be responsible for the emergency rescue in the community after the occurrence of emergency. Besides, the team should also work hard on the registration of emergency volunteers, the establishment of corresponding data base, and strive to attain the goal of there being 100 volunteers per 10,000 people. In peacetime, communities should enhance preparedness, and in the hour of risk, communities should assemble immediately, carrying out early disposition and coordinative disposition. The team should be equipped with essential outfit, practice hard and improve emergency rescue ability.

### **Integrate resources, tap potentials, and try to outfit basic equipment fit for emergency management**

In the process of emergency disposition, essential facilities and equipment are of the utmost importance. Communities should make full use of the basic facilities available, integrate available resources in the enterprises and public institutions as well as social organizations or raise money to purchase them in order to perfect the essential facilities and equipment of emergency management. The establishment of the basic data base of emergency management mainly includes: the basic situation of community, emergency plan, emergency management system, data of source of danger, emergency resources, and emergency cases, etc. communities should also try to improve the emergency communication mode, report information and release early warning information without delay, which means improving broadcasting system and constructing comprehensive data network in rural areas linked with Nongxintong, thus making possible the communication between broadcasting and mobilephone. Setting up intranet websites in communities should be included in the emergency system in neighborhoods as well as towns and villages. Other things include: confirming the location of shelter, the number of refugees, management personnel, evacuation routes, as well as functional zones such as rescue, resettlement and entertainment, etc.; collocating essential emergency tools (shovels, extinguishers, stretchers, cutters, ladders, ropes, etc.), illumination tools (flashlights, floodlights, etc.), as well as emergency drugs and life supplies (clothes and quilts, food and drinking water, etc.).

### **Enhance publicity, consolidate training, and improve residents' know-how about emergency as well as their ability to save themselves and each other**

To publicize and teach knowledge and skills about safety emergency is an effective means to improve residents' ability of safe defense and self and mutual rescue. Communities should enact special plans concerning the training of emergency knowledge, and implement them in real earnest; make full use of community playrooms, libraries, cultural centers, cultural squares and bulletin boards, etc. to publicize and teach knowledge and skills about emergency escape; invite relevant specialists and professionals regularly or irregularly to teach both community leaders and residents something about safety emergency, especially how to escape in earthquakes, how to use extinguishers, how to save themselves and each other and how to perform CPR; taking the opportunity of National and International Disaster Reduction Day, by extensive propaganda about safety emergency as well as disaster prevention and reduction, try to enhance residents' awareness of attention to crisis, crisis prevention and crisis disposition and improve their knowledge and ability of emergency disposition. In the communities, various enterprises should also implement emergency training programs among their employees, making them strictly enforce the rules and regulations. The most important thing is to enhance the training of newcomers. Both middle schools and primary schools should, in line with *Guidelines of Public Security Education in Primary and Secondary Schools*, make emergency knowledge part of the textbooks and classes and the teaching of safety emergency and disaster prevention and reduction should be an important part of school education.

### **Emphasize guidance, intensify instruction, and urge households to make full preparations for emergency**

As we all know, preparedness ensures success and unpreparedness spells failure. Emergency preparation is the primary part of emergency management. Particularly, household emergency preparation is essential to safety emergency and disaster prevention and reduction. County governments, subdistrict offices and town governments should intensify the guidance and instruction for the households in their administrative districts, and make full preparations for emergency. As to preparing for the common knowledge of emergency, residents should learn to identify the potential risk in their districts and get to know the emergency plan (including evacuation plan) in their districts, communities, places of work, as well as places where their families study and work, the degree of emergency warning, alarm system, sign for rescue, and some basic common knowledge of self-rescue in emergency such as natural disasters, accidents, public health events and social security incidents, as well as how to conduct first aid and how to use extinguishers. As to formulating household emergency plans, residents should learn to draw sketch maps of rooms in their houses and control charts of main valves for water, circuit and gas, and decide several meeting points, draw the route for emergency evacuation, and make a communication plan in emergency for their family members, persons to contact at the places where they study and work and emergency service numbers. As to the hazard identification for home security, residents should focus on checking power sources, electric wires, sockets, gas valves, as well as hazards of air tubes, chemicals, fire, building structure and public facilities nearby. As to storage of emergency supplies, things that are indispensable include flashlights and standby batteries, sturdy nylon ropes, smoke proof masks or respirators, multi-cutters, portable radio and standby batteries, first aid packets, common emergency

medicine, matches and candles in waterproof containers, drinking water which is drinkable for at least 3 days, food, and emergency manuals, etc.

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