Comparison and Enlightenment of USA and Japan's Emergency Management Mechanism

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Abstract

Recently, sudden natural disasters strike worldwide frequently, seriously prevent the economic development and increasing living standard of people in affected countries. Emergency management is gradually being seen as the most important task by all the governments, the academia has also conducted in-depth exploration and rational thinking. Based on USA and Japan the two developed countries' emergency practices, summaries and analyses the successfully experiences build up during the emergency management mechanism process, and gives some proposal to help our country's emergency management practitioners.

Keywords: emergency management, emergency management practitioners, USA, Japan

1. Introduction

Along with the rapid development of modern technology and materialize culture, natural disaster also speed up its damage to human nature. During the past half century, the world has suffered all kinds of natural disasters, such as the Indonesia tsunami, The Republic of Guatemala's flood, Kashmir earthquake and Hurricane Katrina etc., many people and huge economic loses were caused , it had seriously prevent the development of people's living standard and social development. China being one of those few countries that has been critically affected by natural disasters, its frequency and severity ranked highly. Therefore, natural disaster especially severe natural disaster which is one of the most significant public events would be closely linked to country's safety and ruling party leaders' position. Therefore every government gives high propriety to its Emergency Management ("EM"). EM is a hot topic in economic management science, information science, statistic and science of disaster and so on. Our country's EM research is currently only at the early stage, it has built the basic structure, but theory and practical wise are significantly lacked behind those developed countries. Authors of this article plan to improve China's EM system by compare US and Japan's EM experiences and lessons.

2. US EM Mechanism

2.1 US EM Organization

2.1.1 Top US EM Organization

Sitting at the top of US EM system is the Department of Homeland Security ("DHS"), which was created by the Federal government after the "9.11"event that combines 22 different existing federal agencies, employs over 170,000 staffs, its budget reaches 40 billion US dollar every year. One agency under DHS is the Federal Emergency Management Agency ("FEMA"), which has 10 sub- regional offices around the country, mainly responsible for commutating with the local agencies, planning, implementation and evaluation, each office employs 40-50 staffs.

2.1.2 State (City) EM Organization

Each state (city)'s EM agency is the EM center for its own region. Each of them is responsible for handling their region's emergency events. Its main tasks include: handle state (city) emergency event, lay down state level's emergency and disaster plan, monitor and guide local agency to carry out their works, when disaster strikes organize rescue team and to apply for reliefs from upper government in case of server disaster.

2.1.3 Community Emergency Services

Many US cities are formed by several community based suburbs, those suburbs have large number of volunteer

oriented emergency services. Those organizations carry out education and trainings, in the case of emerge event, they can respond straight away and then provide assistant to relevant departments. Those organizations have their own offices, transportations, communication equipment and professional facilities, at the same time work closely with local fire station, police station and health department.

2.2 US EM Mechanism

After disaster occurred, every state would start self-rescue first. When state government applies for assistance, FEMA along with local agency evaluates damages, and reports to the President, based on the report President then makes the decision on whether or not to issue a rescue order. Once the order is sent out, through FEMA, government mechanism will in an alter situation, and the whole system will start to operate.

US government's EM mechanism has three characters: coordinating, cooperating and fast responding. Basically it can be summarized as : an early-warning mechanism that set out the crisis level and category; a shared information mechanism that using computerized network; an social mechanism that work together with non-government organization, commercial group, social group, professionals as well as international organization; an information diffusion mechanism that focus on server disasters' reporting and set up press spokesman; an evaluation mechanism that through self-rescue, government assistance, market organization and social group. Therefore, US governmental EM mechanism has its integrated and staged management, different responding but standard operation.

2.3 US Public Security Management System

US Public Security Management has already formed a rather sound legal safeguard system. In 1950, the Congress has released Disaster Relief Act, which is US public security management's systematical law, it entrusts the President to announce the state of catastrophe. During the 1960s, due to increased natural disasters occurrence, National Flood Insurance Act was passed in 1968, which brought insurance plan into flood. In 1988 Stewart McKinney-Robert T. Stafford Act was born, it set the standard procedure for emergency situation, clarified the importance of preparation and mitigation, and also described the process between different levels of governments.

3. Japan's EM System

Japan is a country that has been frequently affected by natural disasters such as earth-quake, typhoon, tsunami, volcano, storm due to its geographical features. During 1950s to 1990s, Japan suffered Isewan typhoon, Hanshin-Awaji-daishisai etc. serve disasters, especially last year's "3.11"nucler event. Facing those challenges, Japan gives high priority to prevent disasters and reduce damages, through many years' experiences, it has formed unique and effective EM system.

3.1 EM Structure

Japan's EM responsibilities are also shared at central, provincial and city levels, mainly based on city level, but also cooperate closely with fire stations, traffic and land authorizes, at the same time centrally coordinated by the Disaster Prevention Bureau. Government set up so called "Disaster Prevention Committee", to be responsible for the Cabinet to take part in coordinate and to communicate with different parties. In case of large scaled disaster, central government would step in and form what is named "The very disaster countermeasure department".

3.2 EM Safeguard Measurement

3.2.1 Part-time and Full-time EM Teams

The professional rescue teams inculdes the JC, fire station staffs and Land Self-Defense Forces. But part time personnel are mainly other fire station workers. Those workers are selected on a volunteer basis, but are reviewed by the government, and have been given trainings, certificate and necessary equipment. Company's fire brigade is contracted by the company itself, usually works to protect its own business, however under emergency circumstances, they also follows government's instruction.

3.2.2 Completed EM Equipment

Emergency Shelters are built by utilize school sport stadiums, classes rooms and playgrounds, parks, and are clearly named and marked on streets, in order to help people to quickly and accurately find the location of those shelters. Japan's hotels, shopping mall, airport and subways also have EM maps, which clearly marks the current location, fire equipment location as well as evacuation route. All buildings' fire exits are marked by an upside-down red triangle, which makes easier for fire fighters to get access to.

3.2.3 Ensure Sufficient, High Quality and Different Variety of EM Materials

In Japan, EM materials and rotating system are maintained, all levels of government and local groups need to ensure

the locations for storing those materials and establish necessary allocating procedures. Based on different needs and uses, Japan has developed all kinds of equipment. Every time there is a disaster prevention exercise, organizers would invite those suppliers to participate, on one hand it has encouraged businesses to put more effect into work of developing new equipment, on the other hand it also extend general knowledge to the public.

3.2.4 Perfect Early-Warning and Communication System

Take advantage of the research resources of different universities and institutions, Japan has established EM research institution, which focus on emergency management, health management, disaster data analysis, and disaster prevention and so on projects, particularly make use of those studies into practices. The Very Disaster Countermeasure Control Centers are set up around Japan. Computerized network at provincial levels are connected with local JC, self-defense team, water, electricity, gas and traffic authorizes to ensure the smooth running of rescue event.

3.2.5 Enhance Public's Awareness to Hazards and Increase the Ability for Self-rescue

Japan pays high attention to the education of EM work, to commemorate the Kanto earthquake on the 1st of Sep 1923, every year's 1st of Sep was named the "Disaster Prevention Day", and from 30th Aug to 5th Sep, is the "Disaster Prevention Exercise week". During this week, varieties of activities are carried out, such as photo exhibition, media publicity, posters, and simulation experience etc. At the same time, 17th of Jan every year is the "Disaster Prevention Volunteers' Day", accordingly from 15th Jan to 21st Jan is the "Disaster Prevention volunteers' Week". Public is encouraged to participate in those exercises designed for public to master necessary skills to improve the ability of self-rescue. Japan also has listed disaster prevention into primary and middle school's courses, and requires all schools to carry out prevention exercises every semester. Simulation experience centers are built for the public to use in every city.

Compares to Japan and the US EM system, from the discovery of SARS in 2003 to"5.11"earthquake in 2008, China has built a "One Case Three System"EM structure. It basically means our EM system includes: National Disaster Rescue Organizational System, Contingency Plan System and Natural Disaster Material Reservation System.

Draw on the experience from US and Japan, based on our country's current situation, to perfect our EM system, we propose the following suggestions:

1) Further improve EM legal frame

Although on the EM legal system side, our country has already done some works, issued some single law and regulations, such as <Fire Prevention Law>, <Flood Control Law>, <Destructive Earthquake emergency Regulations>, <Regulation on public Health Emergency Response>, <Nuclear Emergency Management Regulations>, however is still lacking a unified law. Our country has not formed a comprehensive system to manage public emergency event, further laws and regulations are still needed.

2) Build sound EM system that lead by the government but dominated by business unit and supplemented by community and families

Due to the huge impact of emergency event to the public, government must lead the EM, for those regions that frequently suffer disasters, contingency plans are very necessary, special funds and EM materials must be allocated, at the same time, different means like fiscal levy etc. can be adopted to encourage non-profit organizations to participate into rescue and recovery works. Local governments at county and community levels are required to guide the communication and information collection between locals.

3) Emphasis on the guardianship and management of volunteers and social forces

Need to establish a rescue team that are dominated by army, armed police, fire fighter and Militia reserve, but also complemented by volunteers from the society. For the professional team, professional equipment and means need to be allocate, but training for professional knowledge are also required, exercises need to be carried out on a regular basis. Highly regard the importance and management of different social forces. Due to the current management for volunteers are mainly on causal basis, all levels of governments need to improve the education background of volunteer teams, and come up with a standard procedure for the selection process.

4) Enhance risk awareness and after disaster self-rescue ability

Currently, our country is facing problems such as low public risk awareness and lacking necessary self-rescue skills, urgently need to improve its training and education. From 2009, 12th of May was chosen to be the country's disaster prevention day. On this day, government tries to enhance public security education, focusing on the prevention of

catastrophe, enhance publics' awareness on self-rescue and mutual aid. Strive to change the passive conscious of public, encourage public's initiative in case of emergency.

5) Strength the building up and utilization of EM information platform

US Government has always emphasis the importance of technology development for public event, in order to ensure the continuing of communication in case of emergency, in 1993 it had developed "Emergency Alert System", applies to different departments'EM, and made sure system was regular updated to the latest version. Japan's government also holds a comprehensive disaster reporting network, especially the GIS. But our country's situation is that we have different EM system for different areas, however inter-system data exchange is not available, information can hardly be shared, and there's no unified control platform. Central government should aims to connect all resources and equipment, set up data base, establish early warning network, to realize information sharing and effective transfer.

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