Public Health Security and Urban Sustainable Development

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With a high concentration of population, industry and wealth, city is the most concentrated and active area of modern social economy, and works as the main place of modern social life and production. Cities have been experienced rapid development, while at the same time they also face unprecedented challenges from security issues. To tackle challenges from frequent and intensive natural disasters, emergent public health accidents and biological terrorism threats, it is imperative to promote capability building to respond varied public health emergencies.

There are growing demands for urban public health safety as cities play an increasingly important role. There are several major public health emergencies happened in recent years, such as Tokyo subway poisonous gas accident, "10 .11" event in US in 20001, SARS outbreak in China and other countries in 2003, London explosion accident in 2205, Ebola in West African countries in 2014 and MERS in 2015. These previously public health tragedies remind us that we have entered the peak of public health emergencies which are inevitable. Therefore, it's particularly important to focus on urban public security and carry out researches to find solutions on public health emergencies

Besides natural disasters such as earthquakes, tsunamis and other natural disasters, the urban public safety is also affected by many factors like politics, economy, society, culture and so on. Megalopolis with millions of population is doomed to face a more serious security challenge. Especially Shanghai, which is characterized by large population, high density, numerous high buildings, concentrated industries and large volumes, is bound to face severe pressures and challenges from issues like social security, public health and safety, fire safety, elevator safety, urban traffic safety, energy security, chemical dangerous good safety, terrorist security and so on. This paper will focus on the relationship between public health security and urban sustainable development.

I. Urban public security and public security system

1. Urban public security and management scope

Introduction>>

With a rapid development speed, cities are facing increasingly security challenges among which public health and safety events are significant issues. We should understand the distinctions and connections between two concepts--urban public security and public security system--and explore the relationship between public health and urban sustainable development. Closely linked with city development, urban public safety is the foundation of urban sustainable development. Especially, food safety benefits people and affects urban economy and development.

Urban security refers to a dynamic stability of ecological environment, economy, society, culture, human health and supply of resources, and the ability to resist disasters. As a necessary condition for the sustainable development of a city, urban security ensures urban economic, social and ecological stability and safety, which further facilitates the sustainable development of a city.

Public emergency is a sudden crisis which will cause or may cause significant casualties, property damage, ecological environment damage and serious social damage, and endanger public safety. According to public emergency process, nature and mechanism, it can be divided into four categories, namely, natural disasters, accidental disasters, public health events, and social security events, such as climatic natural disasters ,complex natural disasters, fire, toxic gas leakage, nuclear leakage, traffic accidents, infectious diseases, explosions, murders and so on.

The scope of urban public security management covers four aspects including production safety, public safety, food safety and public health safety.

2. Urban public security system

The urban public security system is composed of two aspects. One is the daily management system dealing with daily city safety problems . Another is the crisis handling system mainly for handling of sudden crisis and corresponding public safety issues. Only combine the urban daily safety management and crisis management, can we build a well-organized public security system to protect the urban safety.

(1) Daily management system of urban public safety

Public safety daily management system refers to an integral entity involves government administrative departments, relevant social organizations and citizens to prevent and resolve public safety events before they happen. It's composed of five major systems, including organization management, hazard installation management, target detection, educational training as well as rescue and safeguard.

(2) Crisis handling system of urban public safety

Crisis handling system of urban public safety refers to a series of operations that turn daily management system into emergency, rescue and recovery after public safety events occur. The system should include: the

emergency command system, the start-up of information release platform, emergency rescue team,   aftermath handling and so on.

II. Urban public health security and sustainable development

1. Public health emergency

With the development of economy and the progress of the society, the resident average activity space is growing, and resident aggregation and mobility also increase. This change of social activities significantly promotes urban economic development and social progress, but in the view of public health , this kind of change in social activities aggregate risks outbreak and spread of infectious diseases, especially in the cities with large population mobility and density, which means a higher possibilities of public health emergencies.

Public health emergency is an event concerning public health that occurs suddenly, which causes or may cause serious public health damage, such as major epidemic outbreaks, group unknown diseases, severe food and occupational poisonings and so on. Generally speaking, these events are unexpected and unpredictable, because it is a public health issue that focuses on not a specific person, but a unspecific social group. The emergency damages or impacts public health to a certain extent, that is, the event has caused serious damage to the public health, or it may cause serious impact on public health from development trend view. Urban population density and large mobile population result in a wider range influence and great loss of public health events, causing social panic and serious damage. Public health emergencies are often related to illegal and irresponsible activities. At present, global public health events have shown characteristics of large scales, serious losses, broad influences, high-profile concerns, complex reasons, and new infectious diseases.

2. Relationship between urban public security and sustainable development

As a highly intensive society, a city is closely linked and mutually influenced by various components. We must correctly deal with the relationship between men and nature, ensure city's public safety and provide beneficial resources and environment to city development to achieve a stable and healthy social economic development.

(1) Urban public safety is the basic condition for city sustainable

development.

Along with global population, resource and environmental issues become increasingly prominent, city sustainable development has become a common concern of the whole world. A city is a highly populated area where people frequently engage in economic, cultural and politic activities and it is also vulnerable to ecological and environmental damage. The key idea of sustainable development is to coordinate the relationship between human, natural environment and resources, to ease the conflicts between them, to reduce environmental negative effects on human, and to meet the needs of contemporary people and protect the interests of future generation.

(2) Urban public health safety events are closely related to urban development

Urban population is so intensive and mobile that once a contagious disease outbreaks, it's extremely easy to spread quickly in the crowd Furthermore the popularization of modern transportation tools accelerates population mobility and activity scope, so that infectious diseases can spread rapidly in every corner of society, resulting in social and economic losses. From the perspective of social development, infectious diseases have been heavy burden for developing countries. Besides the traditional factors, the increasing population density and long distance flight density have also contributed to the outbreak and spreading of infectious diseases in city. Direct or indirect contact with infectious diseases is bound to accelerate infectious diseases' transmission speed, and long-haul flights increase the risk of the disease input and output, such as SARS, MERS and other respiratory tract infections. For an international metropolis like Shanghai, with its rapid economic development and large population flow, high entry and exit population increases the risk of infectious disease importation and exportation, as well as its coping pressure. In addition, along with the rise of oil industry and mining industry, a large number of toxic, harmful chemicals and pesticides have been synthesized or produced. As a big country of chemical production, use, import and export as well as consumption, China accelerates its urbanization, to a certain extent, causing these toxic, harmful chemicals and pesticides to flow into the city through a variety of ways, which increases the potential risks of public health events in city.

With high information dissemination, city is the central area of social

production, where social activities are closely associated with each other. Once public health emergencies occur, social order will be inevitably affected through a direct or indirect way within a short time resulting in economic loss which cannot be estimated. If emergencies cannot be effectively intervened and controlled, it is possible to cause social crises or political unrest.

(3) Food safety benefits people, affecting city economy and development

Food safety is related to the vital interests of ordinary people. Food security is influenced by food safety, food supply and individual behavior. With high urban population density and large food consumption, food is mostly supplied by market. If food safety cannot be guaranteed by market, residents are easy to buy inferior or unsafe food which threaten their life and property under information asymmetry condition In addition, food consumption occupies a relatively large proportion in people's daily cost. Solving food safety issue is conducive to stimulating domestic demand, and facilitating implementation of economic policies. Food development can be divided into survival, nutrition and safety stages. China now is in the third stage. China's food safety supervision confronts with problems such as particularity, complexity and sociality. Particularity is decided by Chinese national culture, and complexity refers to large varieties, wide ranges and considerable quantities sociality means that food safety problem is a professional problem while it becomes the focus of social attention which raises common concern of both professional and amateur. Ensuring   not only facilitates the development of food industry itself, but also promotes urban economic development. In many cities of our country, food industry has become the pillar industry, and the development of food industry is very important to realize the sustainable development of urban economy. Therefore, food production and processing must be people-oriented, and food quality and health safety must be effectively ensured.

(4) The establishment of urban public security system is the urgent demand of urban sustainable development.

The outbreak of SARS in 2003 brought an unprecedented impact on our society. It also made people realize the urgency to establish the public security system, and the fragility of the modern city. The urban crisis may happen at any time, and any emergency may become a disaster. To reduce risks and improve a city crisis bearing capacity, we must re-examine

our city public security policy, set up government crisis management mechanism and improve the government crisis management capability Relying on a reasonable public health system and strict law enforcement, Hong Kong and Macao has weaved public health emergency response team and emergency management into basic public health work, which helped them to achieve sound accomplishments. After Fukushima nuclear leakage, the Japanese government enforced evacuation mechanism, which effectively reduced its impact to residents. Increasing public participation in the entire event processing and management through effective health education, psychological intervention, population screening, information disclosure and other means can effectively reduce   impact and danger of emergencies.

III. The response of urban public health safety events

Urban public health safety events are directly related to public health, economic development and social stability, so it gets increasingly social attention. The government's capability of preventing and controlling public health emergencies has become major indicators to assess government performance and social progress. When a public health incident causes harm to public health, effective coping response system is essential to ensure rapid response, correct decision and decisive management, which can safeguard people's health, economic development, social stability and national security to the utmost extent.

1.main problems of urban public health system in China

Since the outbreak of SARS, remarkable achievements have been made in China's public health system, but it still lags behind the development of economy and other social undertakings. The contradiction between the health care service system and people's growing demand is significant, especially in Shanghai, a metropolis with large population and serious aging problem.

First, the public health system is unsound and the task to prevent critical illness is arduous. The basic principle of health work in China is to adhere to the prevention as the first, which is the primary task of health work.

Second, the mechanism of public health emergencies is not sound. In addition to the spread of infectious diseases, public health emergencies also include sudden natural disasters, major production safety accidents, as well as serious food poisoning. All of these require a city public health

emergency disposal mechanism for improving capability to handle public health security crisis.

Third, resident health needs is not adapted to urban medical service system. Although our urban medical service system has made a great development, there is still a big gap between people's health needs. The problem of medical treatment is that inaccessible and expensive has not been solved. At the same time, many large and medium cities in China are entering aging society, which leads to a significant increase in the prevalence of chronic diseases and growing burdens. With higher life expectancy and increasing prevalence of chronic diseases, the healthy life expectancy is decreasing. Traditional health system, which focuses on acute onset and treatment, cannot cope with the growing demand for elderly health services and chronic disease management.

Fourth, the urban health management system doesn't adapt to people's health needs. Medical and health resources in many cities are affiliated to different departments, industries and enterprises, causing city health department hard to carry out effective supervision on the medical and health resources of the whole city.

2.specific measures of urban health system building

First, the construction of urban public health institutions should be strengthened, and the protection mechanism of public health services needs to be improved. The construction of urban public health system supports public health system building, and a stable public health service investment and growth mechanism should be established with gradually increasing the proportion of total public health expenditure.

Second, public health emergency response mechanism should be improved, and health emergency treatment should be strengthened. Since the outbreak of SARS, according to the requirements in Regulations on Public Health Emergencies, many cities in our country have set up a health emergency treatment coordination mechanism, which clarifies responsibilities, establishes regulations, organizes coordination and standardizes emergency treatment. On the basis of above, it is necessary to further establish the emergency material reserve, security and training mechanism to ensure emergent management of public emergencies.

Thirdly, the prevention and control of major infectious diseases should be strengthened, focusing on control of AIDS, viral hepatitis, tuberculosis

and other major infectious diseases.

Fourth, emergency response network should be improved. The network command center for urban public health clinical center of infectious diseases and treatment need to be established and improved, networking the city emergency command center, so as to achieve the disease surveillance, prevention and treatment , and to further improve the urban infectious disease control and treatment capacity.

Fifth, the reform of urban medical system should be deepened, and the hospital management needs to be strengthened, so as to improve the quality of medical services. Since the national health care reform in 2009, the reform of urban medical service system has made some progress, but overall, the effectiveness is not obvious, there are many outstanding contradictions and problems. For example, public welfare has not been fully reflected in public hospitals operating mechanism, social resources can't be freely used in medical services, medical service lacks supervision, community health service development is slow, residents still have difficulty in accessing to quality medical services, and medical bills remain expensive.

Sixth, Shanghai, a large city with aging population, needs to increase its financial support to community health services, improve the existing community health service system, expand the coverage of medical insurance, in order to meet the urgent needs of the elderly health care and ensure accessibility of health care.

In the context of rapid globalization, we must consider the problem of urban security in the perspective of globalization: the crisis would happen in global level, the globalization of crisis spread, and the globalization of crisis early warning and response. With the increasing globalization of social and economic life, as well as a more open environment, China's economy is more and more integrated into the world, leading to more frequent international exchanges. As a frontier of China's economy, Shanghai is the experimental area of China's reform and opening door policy, opening a new chapter. It also works as the hot spot of global economic and cultural exchanges, and an important gateway to the China's development which urges its stability, security and sustainable development. When Shanghai integrated itself into globalization, the rapid development of foreign trade increased the pressure of port health, facing a new challenge of strengthening the monitoring and prevention of

infectious disease importation. It is also the responsibility of Shanghai, an international metropolis, to prevent domestic epidemic exportation. At the same time, in the process of rapid development of urban economy, the increasing population density of Shanghai has brought favorable conditions for rapid spread of infectious diseases, and the growing urban aging population has brought new problems and challenges to urban development and urban health service system.

In a broader sense, urban public security also includes polarization of the rich and the poor, psychological security caused by employment pressure, intensive social conflict, and worse social security situation and so on. At the same time, the change of age structure will also lead to the conflict between different age groups in the sharing of social development resources.

Above all, as a performance of social progress, urban development is protected by urban security. In order to improve the public safety factor, it depends not only on the subjective efforts and scientific decision of the city management, but also on the cultivation of citizen's safety awareness and cooperative spirit, and sustainable production and life style, fair and harmonious social system arrangement.

Translator/ Wang Hui