"Micro-Participation" of the urban Emergency Management in the Age of Micro-Blogging

Guangliang Xi   PhD. Student

Nanjing University, China

xigl022@163.com

Outline

- **Research Background**

- **Micro-participation in urban emergency management**

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Research Background

- New media based on network and mobile information plays more and more important roles in the dissemination and diffusion of urban emergency information.

- According to *the 30th China Internet Development Statistics Report* surveyed by the China Internet Information Center, micro-blogging users in China reached 274 million, accounting for 50.9% of Internet users, China has fully entered a micro-blogging era.

- Micro-blogging is a social network, like Twitter, facebook, Sina micro-blogging…

- Micro-blogging has more advantage than traditional information platforms in public participation in urban management. It is timely and interactive to communicate and disseminate information with Micro-blogging.

Research Background

- The Beijing storm disasters on July 21, 2012 caused significant damage on roads, bridges and water conservation projects.

- 1.9 million people suffered from the rainstorm, and 79 people died in the disaster.

- **This paper takes Sina micro-blogging in the Beijing rainstorm as example, analyzes the public participation in the urban emergency management.** 5

- **The characteristics of micro-participation**

   the information of the Micro-blogging is interactive, fragmented, and shorter than other information. Ordinary people can release and disseminate information freely, so micro-blogging participation in urban emergency management can be called the "micro-participation" process.

➢ Information about urban disaster outbreaks can be published by the residents freely and timely.

➢ It is helpful for the interaction immediately with micro-blogging.

➢ It is easy to generate recognition on disaster information.

- **The significance of micro-participation in urban emergency management**

  The popularity of the network changed the traditional social imbalances that was caused by lack of the public rights to speak in real life (Hu Yi, Zhang Jingxiang,2010).

  Micro-participation can play the role of diffusing information, hot topic discussions and supervising public opinion.

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data and analyses

- **Samples**

  Using "rainstorm" as key words, the author searched and recorded real-time posting status and popular Sina micro-blogging from 20 to 31,July 2012.
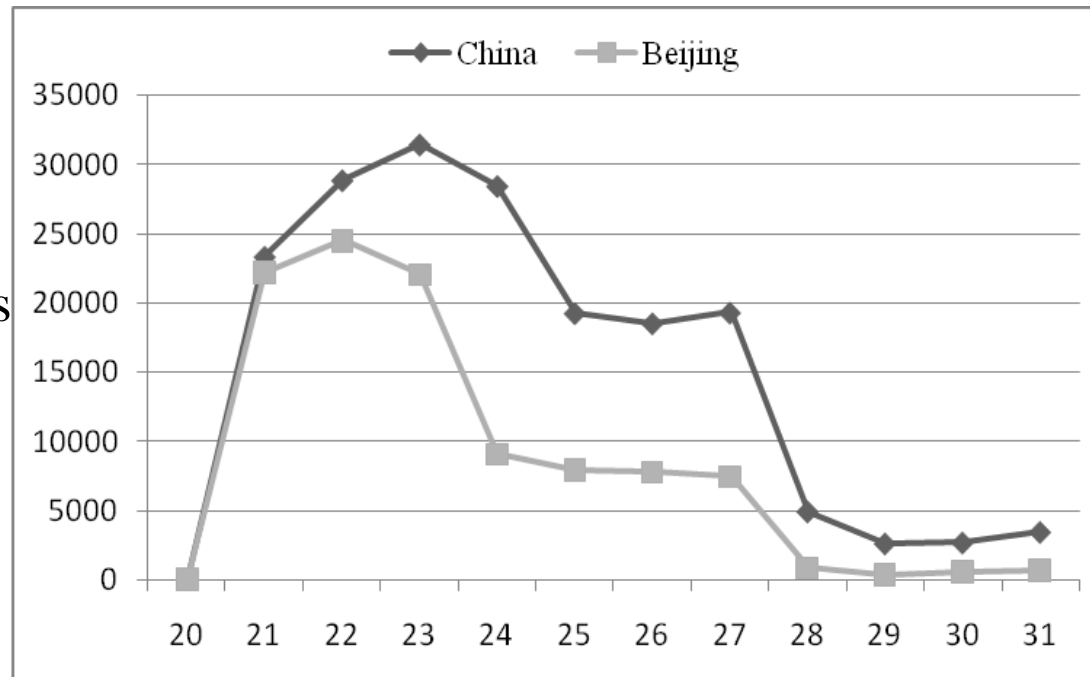
➢ First, recording the **original real-time daily micro-blogging** in the whole China and in Beijing.

➢ Second, content analysis on the **representative micro-blogging** information.

➢ Finally, digging on the **four types of identifiable micro-blogging users** (government departments, media, planners and ordinary Internet users)

- ## Descriptive of samples

According to the general stages of disaster emergency management and the collection dates, rainstorm disaster in Beijing is divided into four stages

➢ **warning period** (July 20,2012)

➢ **disaster outbreak** (July 21-22,2012)

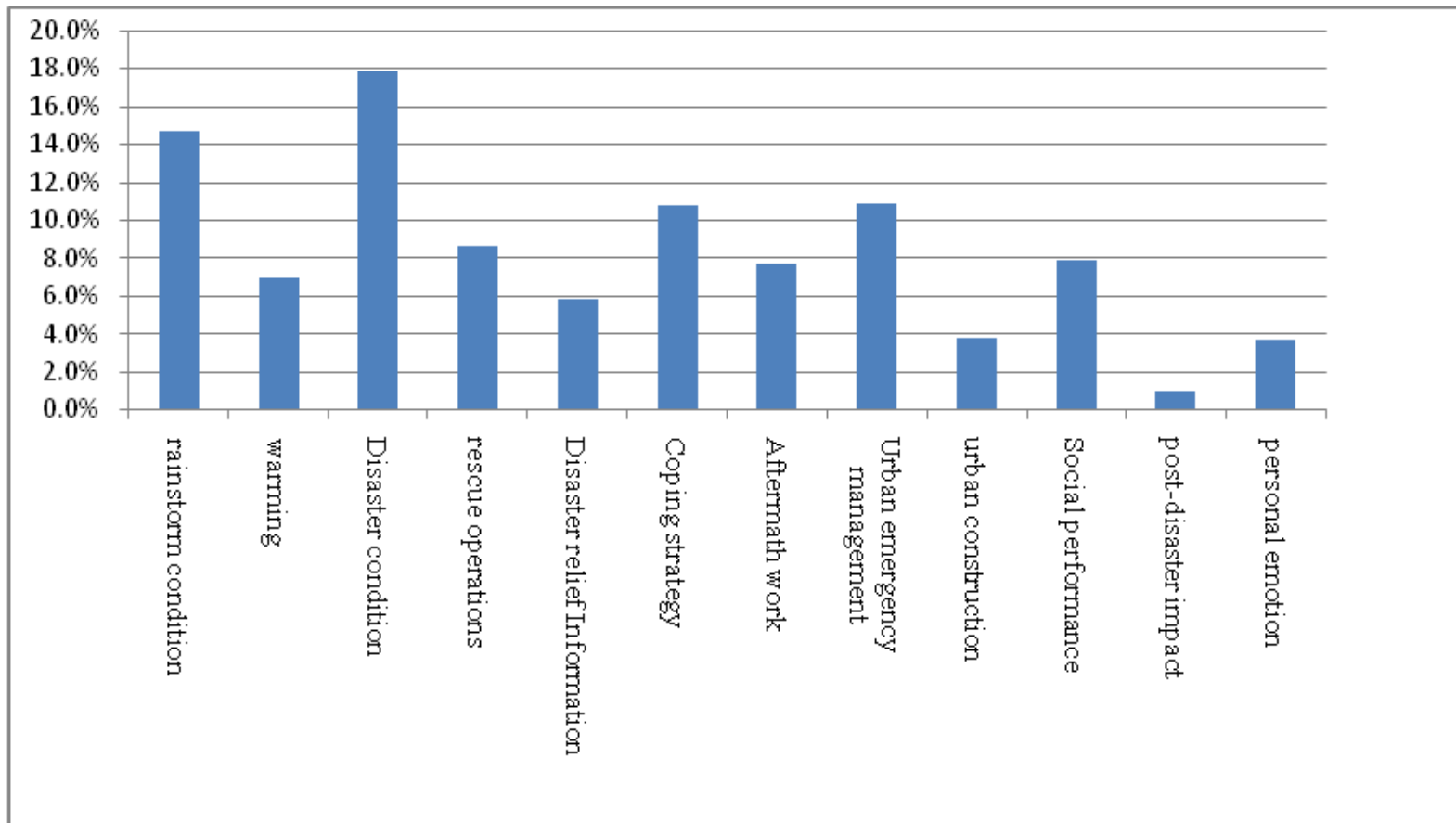➢ **spreading**(July 23-26)

➢ **recovery period** (27-31 July)

The number of original micro-blogging about Beijing rainstorm

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The themes and types of micro-blogging information

Themes(number of micro-blogging)	Types(number of micro-blogging)	themes(number of micro-blogging)	types(number of micro-blogging)	themes(number of micro-blogging)	types(number of micro-blogging)
Rainstorm forecasting（77）	Rain condition（141）	Help seeking information（10）	Disaster relief Information（56）	drainage（23）	urban construction（37）
Rain characteristics（61）		People and object searching（13）		urban infrastructure（5）	
Causes of rainstorm disaster (3)		Offering help of disaster relief（23）		urban planning and construction（9）	
Rainstorm warming（57）	Warning and Contingency（67）	Offering living services（5）		Action of government（23）	Social performance（76）
Contingency plans（2）		Appealing for disaster aid（5）		deed of helping disaster（47）	
Flood control and emergency questions（8）		Safety strategies（74）	Coping strategy（104）	Bad behavior（6）	
		Suggestion for precaution and help disaster（30）			
Disaster scenes（24）	Disaster condition（172）	donation（8）	rehabilitation work（74）	Society and economics influence（6）	post-disaster impact（10）
broadcasting situation of disaster（112）		recovery after disaster（66）		Government regulation（4）	
damage statistics（12）		urban emergency management（30）	Urban emergency management（105）	ridicule（6）	personal emotion（36）
The number of death toll（24）		Urban infrastructure management（7）		touching（19）	
The actions of disaster relief（48）	rescue operations（83）	Road and traffic Condition（68）		Criticism（5）	
Progress of disaster relief（31）				praising（6）	
Organizing disaster relief spontaneously（4）					

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- **Main content and process of micro-participation**

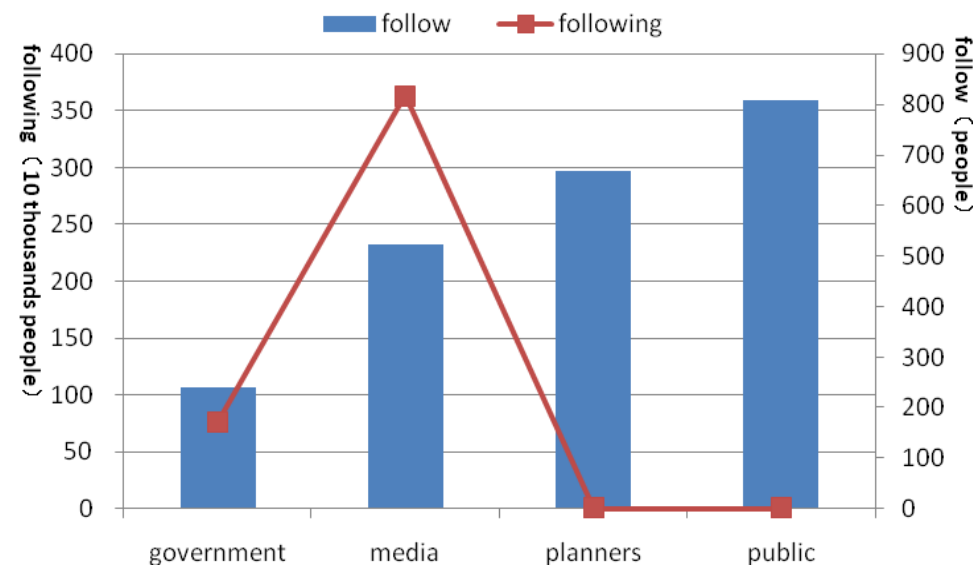**Main content of micro-participation in rainstorm disaster**

The hot topics of micro-participation in different rainstorm disaster stage

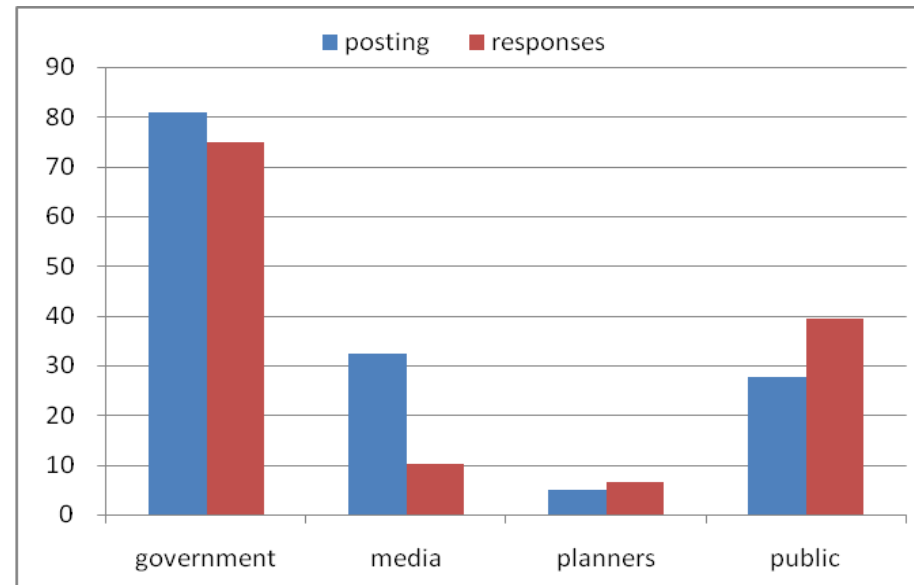| Hot topics	Disaster warning period	Disaster bursting period	Disaster spreading period	Disaster recovery period
Disaster forecasting and emergency	Rainstorm forecasting, rainstorm warming, resident's travel activities adjustment	rainstorm warming, contingency plan, security protection of rainstorm, trip reminder	Rainstorm coping strategies, questions in flood prevention	Disaster consciousness and learning security, emergency management approach
Disaster condition	—	Rainfall characteristics, disaster scene, disaster broadcasting	Distribution of disaster, statistics for loss, disaster situation reporting	Statistics and analyzing disaster
Process of disaster relief	—	Information of calling for help, People and object searching, rescue scene	Rescue operations, donation for disaster area, rehabilitation work	donation for disaster area, maintenance recovery, victims placed
urban construction management	—	Urban emergency management, urban public services, urban drainage facilities	Problem of urban planning and construction, daily management of urban infrastructure, urban developing mode	Urban building strategies, formulating urban construction and management standard
social performance and personal emotion	—	Positive action of government, praising good people and deeds in rainstorm, criticizing bad behavior in rainstorm	Touching story, condemning bad behavior	Investigation on bad behavior
Socio-economic effection	—	—	Rising price, stock market volatility	Stable prices

- **Different roles of micro-participation in urban emergency management**

  The number of concerns and follows were different among micro-blog users, and the number of posts was also different, which led to the different manner and extent of micro-participation.

The number of follows and followings

The number of postings and responses

- **Government: micro-participation in affairs management**

  With micro-blogging platforms, government departments released contingency plans according to real-time weather forecasts timely, and prompted city residents to take rainstorm prevention action, ensure the safety of travel and prevent landslides and other secondary disasters.

- **Media: micro-participation in disaster spreading**

  News media, such as Beijing TV, Beijing News, Financial Network and ordinary people, all participated in information dissemination of Beijing "7.21" rainstorm through the Sina micro-blogging platform.

Empirical study on Beijing "7.21" rainstorm disaster emergency management

- **The public: micro-participation during disasters**

  ➤ Releasing disasters and help information.
  ➤ Enthusiastic netizens called for others to provide help for residents trapped in the rainstorm.
  ➤ Giving comments on urban drainage systems, urban planning management and urban emergency management issues

- **Urban planners: micro-participation in urban planning and disaster emergency management**
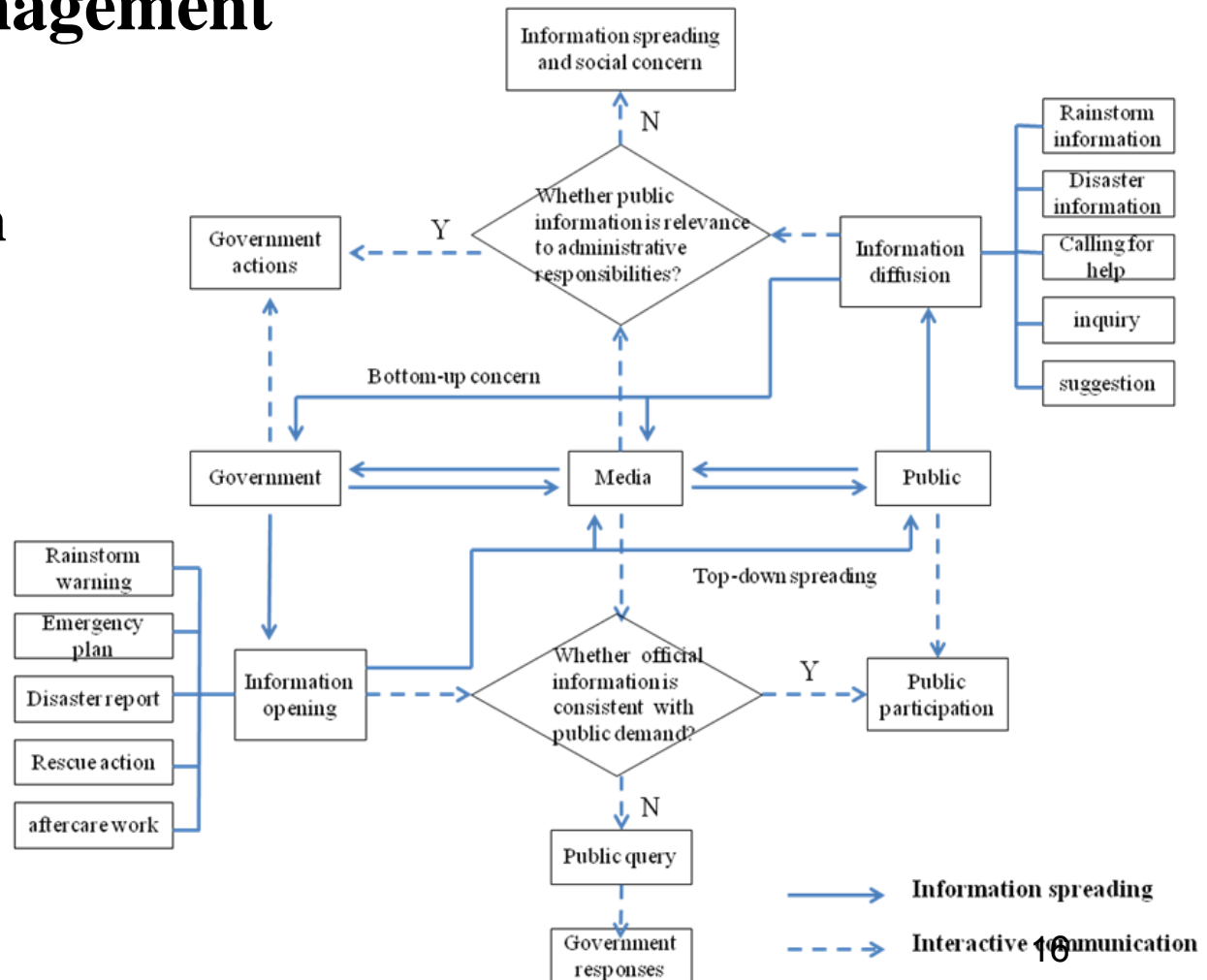
  During the Beijing rainstorm disaster, planners analyze the causes of waterlogging disaster, discuss on current Chinese urban drainage system construction standards and the problems, as well as on the concern for Chinese future urban construction.

- ## The mechanisms of micro-participation in urban emergency management

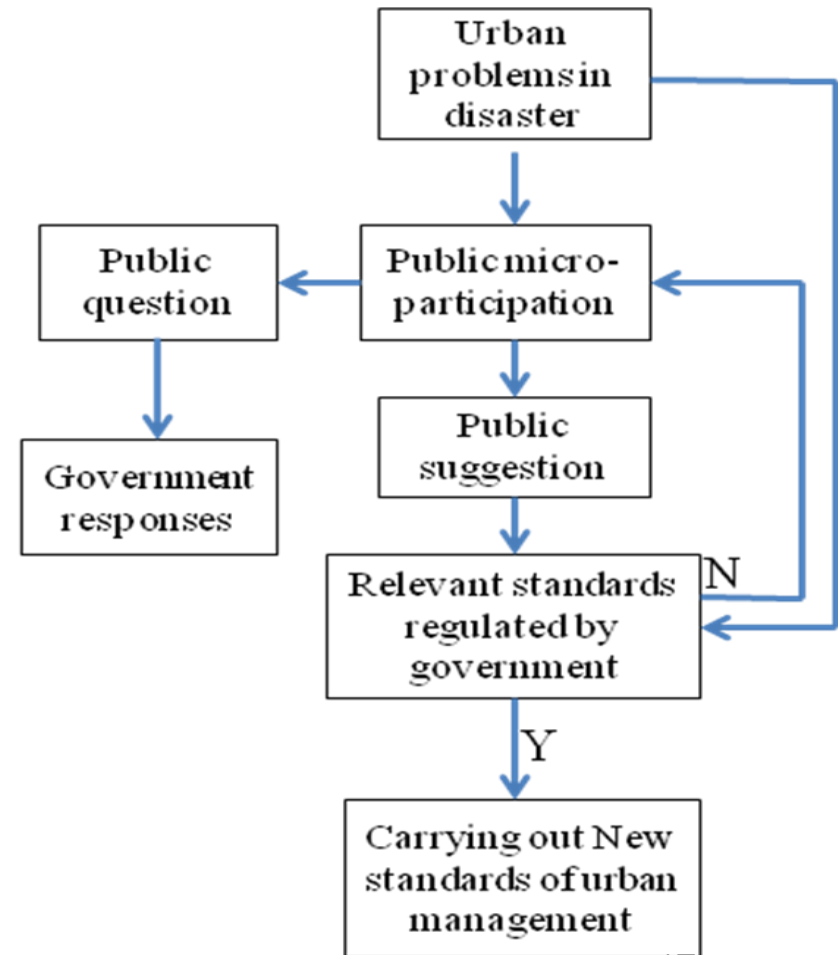**The mechanism of information diffusion and interactive communication**

➢Top-down information disclosure mechanism
➢Bottom-up information diffusion mechanisms

Mechanism of public participation in urban emergency management

➢During the Beijing rainstorm disaster, the public discussed around the topic of urban drainage systems and other infrastructure construction with the Sina micro-blogging platform. Based on these problems and questions, the government responded timely and announced some key strategies.

➢During the period of disaster recovery construction and rehabilitation, the government announced the official service phone numbers and strengthened interactive communication with the public through micro-blogging.

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Supervision and guidance mechanisms of public opinion

➢The public discussed on the disaster relief efforts of the Beijing rainstorm and other hot topics . Which can influence the behaviours of the official departments.

➢Bad behaviours in urban disasters can be supervised and the urban spirit can be propagated by public opinion through micro-blogging.

Policy recommendations

- **Constructing a new paradigm for public participation in urban management**

    Using the micro-blogging platform , we can change the traditional city management mode of the centralized mechanism led by the government, keep the mechanism of interactive communication on urban emergency management, and build a comprehensive management mode for the city.

- **Establish the safeguard mechanism system in public participation**

    We need to establish a systematic mechanism for micro-blogging of government affairs and public participation in urban management. Such as laws, institutions ,etc.

Policy recommendations

- **Toward collective decision making and real-time participation in urban management**

  The government could expand the scope of public participation in urban management affairs through micro-blogging information dissemination and difussion, and lead more extensive public participation in topic discussion of urban management.
  It is necessary to build a real-time participation in formulating urban management policies, implementing urban management and other stages.

- **Establishing the smart service management systems**

  Urban constructers can use location based services (LBS), social network services and other technical means to create public service platforms as an important aspect of smart city.
  The combination of micro-blogging information and public services can provide mobile services (toward personal services) , that will improve the efficiency of urban public services and make urban life more livable and convenient.

Thanks for your attention!

(xigl022@163.com)