

Resilience Building in Small and Medium-Sized Cities: Pathway Innovation Based on Existing Governance Resources

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Abstract: Due to limited resources and funds, small and medium-sized cities cannot build high-investment resilience in the same way as large cities. Now one of the problems we need to solve is how to build an affordable resilience network. According to the theory of collaborative governance, this paper will investigate how the local governments of small and medium-sized cities can make better use of their current governance resources to improve risk resilience. However, in actual operation, there are often problems such as the absence of key actors, resource fragmentation and a lack of collaborative rules; together they constitute "collaborative failure", and thus the existing stock of resources cannot be turned into resilience efficiency. The Structure of the three-dimensional collaborative governance mechanism in this paper is "stakeholder mobilisation, resource sharing and rule guarantee", and we will analyze the positions of all parties, the three-dimensional allocation path for resources, and the core function of institutional guarantees to provide theoretical support and practical suggestions for small and medium-sized cities in building resilience.

Keywords: Small and medium-sized cities, Collaborative governance, Governance resources, Resilience building

1. Research Background and Theoretical Framework

A general definition of a small- and medium-sized city is that it has a permanent city population of 100,000 to 1 million. According to the "Development Report on Small and Medium-Sized Cities in China (2025)", by the end of 2024, there were about 2,554 small and medium-sized cities in the country. As the leading areas for regional development, these cities are in good positions in the administration of the country. Based on the existing research on resilient cities, the word "resilience" comes from the Latin word "resilio" and originally meant to bounce back to a previous state^[1]. Resilience City Research Center at Zhejiang University has put forward the following theory of resilient cities: A city should be able to withstand a disaster independently, reduce the damage caused by the disaster, reasonably allocate resources for rapid recovery after the disaster, learn from previous disasters and accidents, and thus strengthen its ability to face disasters^[2]. However, due to the lack of construction facilities, a relatively small number of talented people, capital and technology, slow dissemination of information and reduced social attention, small and medium-sized towns are more vulnerable to collapse in the face of external shocks^[3]. Small- and medium-sized cities have relatively weak resources and fiscal strength, so it is difficult for them to carry out high-investment, resilient construction projects that large cities can. Therefore, how to make better use of the existing governance resources to improve the risk-resistance ability of small and medium-sized cities, and what low-cost, high-benefit ways to build resilient cities can be found, are urgent problems for them at present.

The general idea of collaborative governance is that, in order to strengthen the coordination of public resources in the government system and all positive factors in society for dealing with public problems, the government will design corresponding institutions and arrangements to make better use of the roles of citizens, social organisations and market entities in managing social public affairs and providing public services. Therefore, the government can provide public goods and services for the people more effectively based on the above^[4]. According to the theory of collaborative governance, we will construct a three-dimensional analysis framework of "stakeholder mobilisation, resource sharing and rule guarantee" (Figure 1) in this paper to study the innovation pathway mechanism for resilience construction in small and medium-sized cities. Identify and define the main stock of governance resources and the synergy potential for building resilience in small and medium-sized cities, then

analyze the actual dilemmas of resilience construction in these cities from the perspective of collaborative failure and construct the main mechanisms for low-cost resilience construction.

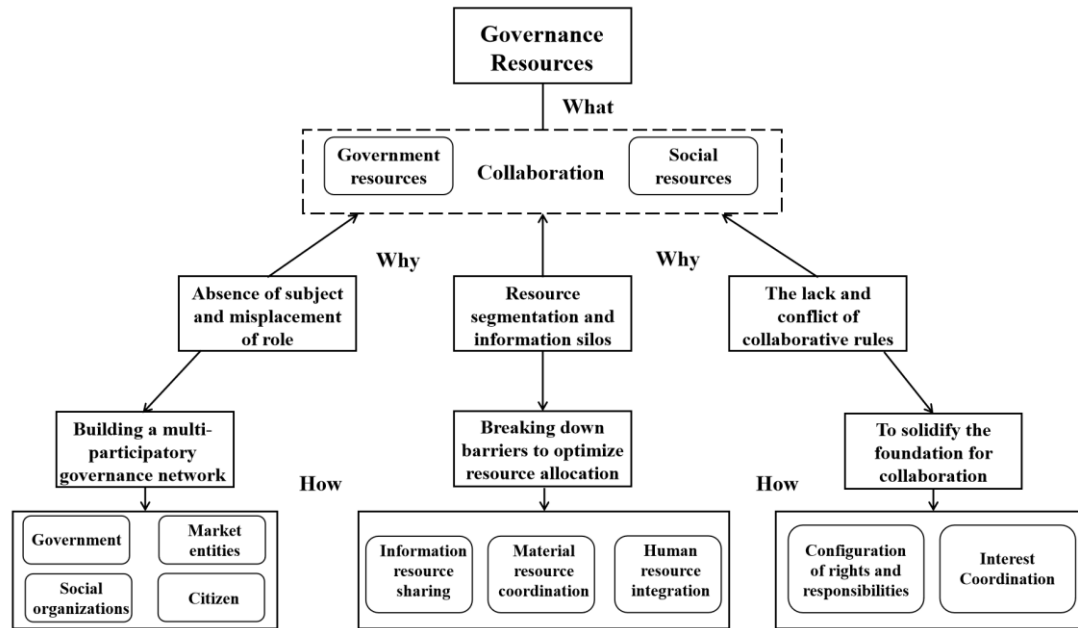


Figure 1: Three-dimensional analysis framework of "Main body mobilization - resource sharing - rule guarantee"

2. Existing Governance Resources for Resilience Construction in Small and Medium-sized Cities

Local governments are responsible for many functions of the government, so they are the main subjects. The current governance resources of small and medium-sized cities are mainly the whole set of all kinds of tangible and intangible resources that local governments have or can mobilize in the course of carrying out their governance functions and achieving public goals. The listed resources are those directly managed by the government and the social resources that can be used through all kinds of cooperation.

Government funds provide the foundation for building resilience in small and medium-sized cities and are the main support for the leading role of the government in the collaborative governance network. The first two are general administration and organisation, respectively. Hard resources are directly under the government's control, so the administrative resources for building resilience start with the human resources that guarantee the construction of this system, such as local public servants and professional technical staff in the relevant areas; these form the main driving force for building resilience. Second, most of the funds for building resilience come from local fiscal budgets and central fund transfers, and together they make up one of the main mobilisation channels of social funds. Thirdly, the material resources provided by the city need to offer a solid foundation; that is to say, related urban infrastructure, emergency material reserves and public service facilities should form the "hardware support system" of the city to help it cope with the impact of risks and recover quickly. Fourth, there is data that can be used to build the foundation of resilience, such as urban operation monitoring data and risk and hazard information; thus, one can identify risks, issue early warnings, and allocate resources accordingly. Institutional resources are the "soft resources" provided by the government at the top level, such as policies and regulations, governance systems and mechanisms, division of powers and responsibilities for building resilience among departments, etc. The resources mentioned above provide institutional norms and procedural guarantees for the joint use of all kinds of resources, promote the synergy of administrative resources in governance, etc.

Social resources can be used to strengthen the resilience of small and medium-sized cities, and they are also needed to solve governance problems caused by resource scarcity, compensate for the lack of government resource supply, and trigger the driving force of grassroots governance. The primary origins of the above resources are organisations in society, market units and the public. As links

between the government and the people at the grassroots level, social organisations have a large amount of social capital and professional skills, are close to the people, and are flexible and effective. They can take part in risk education and community rescue, help address shortcomings in government work, and so on. Market subjects are the subjects of the market economy, such as local supermarkets, logistics companies and construction enterprises, etc. They have materials and machinery, transport capacity, etc., and can provide material, technological and service support for construction resilience. As the basic unit of urban governance, people can learn to take care of themselves and others, and are also motivated to volunteer. These are the smallest units and the basic peripheral forces in the construction of resilience.

3. Practical Problems in Building Resilience for Small and Medium-Sized Cities

There is a shortage of emergency governance resources, and as a result, the normal operation of emergency governance at the grassroots level has been disrupted^[5]. Therefore, the problem of how to improve the basic level of emergency governance effectiveness now needs to be addressed. However, the small and medium-sized cities have reached a state of collaborative failure; that is to say, although there is a multi-resource system, good synergy cannot be achieved, and thus the limited governance resources fail to produce actual resilience efficiency. Therefore, we will be able to promote the delayed construction of resilience in small and medium-sized cities.

First, there are no key people and no coordination of their roles; therefore, the participation of all kinds of governance actors is weak. The government has been too focused on building resilience and has not established reasonable participation channels for social organisations, market institutions and the public. Most social organisations do not have a clear sense of purpose or limited rights and responsibilities, and have failed to achieve the goal of building resilience through their functions. The company does not need to build resilience, and since there are no specific reasons or responsibilities, most employees are not motivated to take part in such activities. The public has a low sense of risk prevention, there are no open channels for participation in building resilience, platforms are lacking, and most of the time, people remain passive and do not use the knowledge and skills they have learned.

Second, there is a shortage of resources and information, and these resources are not being used effectively. Under the bureaucratic administrative system and the traditional mode of governance, the governance resources of small and medium-sized cities are often scattered. Resource shortages in the departments at the administrative level and the gap between the government and the people are difficult to solve. At the level of data, there is a lack of interoperability among the data in the relevant departments, and thus information silos have formed; it is difficult to share risk information and urban operation information with each other and provide data support. At the level of materials and personnel, the emergency material reserves have been distributed at all levels and units, but due to a lack of unified coordination and dispatch, there is a deficiency in collaborative operation ability. At the level of finance, there are strong constraints from the fiscal system, and the channels through which social capital can be used to build resilience have high thresholds; thus, the supply of resources is further strained.

Third, there are no cooperative rules or conflicts among the rules for resource mobilisation of the different parties. Small and medium-sized cities do not have a Design for Collaborative Rules on Building Resilience, so institutional resource mobilisation cannot be done. First of all, the division of powers and responsibilities is still unclear, and the coordination relationship and scope of responsibility among all parties have not been clarified. For the reasons mentioned above, there will be problems with conflicting instructions and a lack of responsibility; thus, the mobilisation of resources will not go smoothly. Second, there are no supporting institutions, so we do not know the legal basis and behavioural norms of social forces in building resilience. Therefore, the participation behaviour of the relevant party cannot be properly protected, and the governance effect will be reduced. Third, there is a tendency to change from two-way communication to one-way orders. The government has still been issuing administrative orders to promote the construction of resilience, and various social organisations are being used instrumentally without a sense of responsibility.

However, due to the reasons mentioned above, it is not easy to make good use of these resources and coordinate them well; therefore, resource efficiency will not be achieved, and the improvement in urban resilience will be limited. Therefore, given the characteristics of the risk and the development needs of their cities, local governments should build more effective project operation models and fiscal fund utilisation models^[6]. Reforms need to be carried out in the institutions to remove all obstacles to

collaborative governance, the synergy of the existing governance resources should be realised, and all kinds of resources should be combined to strengthen resilience.

4. Mechanism Innovation for Low-cost Resilience Construction in Small and Medium-sized Cities: A Model of Collaborative Governance

4.1 Mechanism of Stakeholder Mobilisation: Constructing a Multi-actor Participatory Governance Network

One way to mobilise the people is to start joint governance work. The goal is to move away from the top-down management mode of the government and build a multi-actor participatory governance system based on the characteristics of government leadership, social participation, market support and citizen co-creation. On the one hand, the government should move away from the old idea of social management based on a single subject and administrative control, and build a governance concept of multi-actor governance, co-construction and shared benefits. All kinds of management methods and tools should be employed by the government in its administration, enforcement of the rule of law, moral education, market economy and social organization. At the same time, the government should build and improve institutional communication channels and participation platforms for society in the course of social governance^[7].

A Change in the Role of Government is to Promote the Mobilisation of Stakeholders. Governments of small and medium-sized cities should move away from the idea of all-powerful governance and stop doing everything themselves; instead, they need to build platforms and promote the participation ability of social forces. First, one should lay the foundation for that goal. Build cross-actor platforms to organise resources, share information and deal with problems together; provide a physical carrier for cooperation among many parties and reduce communication barriers among stakeholders, etc. Second, Capacity Construction. Procurement of services by the government and professional training, financial support and professional guidance should be provided to social organizations to help social forces competently carry out tasks related to building resilience.

Social organizations should be added to the network of multi-party participation and serve as links between the government and the people. As they are closer to the people, in the area of risk education, they should organise more frequent disaster prevention and mitigation publicity and education activities at the community and village levels to increase the public's awareness of risk. At the grassroots level of volunteer services, there should be grassroots volunteer forces, specialised emergency volunteer service teams, regular training and drills, as well as the achievement of reserve and management for volunteer forces. To obtain the area of the needs feedback, one should collect the actual needs and opinions of the public on resilience construction, provide a reference for the government in formulating targeted resilience-building policies, and serve as a link to disseminate policies and gather public opinion.

The participation of market entities needs to be promoted through a combination of contractual arrangements and other means to motivate them to join in the construction of resilience. The government can sign emergency material reserve agreements with local supermarkets, logistics companies, manufacturing enterprises, etc., and build a government-enterprise cooperation model. Therefore, not only will the government's cost of material reserves be lower, but we can also use the market economy effectively. Introduce particular subsidies for technological innovation, build industry-university-research cooperation platforms to encourage enterprises to develop low-cost risk monitoring and early warning equipment, promote the development of emergency response technologies suitable for small and medium-sized cities, provide technical support for building resilience, etc. At the same time, the government can also offer tax deductions and other financial incentives to motivate more enterprises to carry out social responsibility.

The place of the people should be to participate in the construction of society, and they need to be the driving force for building grassroots resilience. Therefore, the government should make full use of the existing grassroots governance grid system in small and medium-sized cities to increase the participation of citizens in grid governance, motivate citizens to take the initiative to identify risks and hazards at the grassroots level, promote grassroots self-rescue and mutual rescue within the grids, and activate the peripheral forces of grassroots risk response. Organise public participation by holding community consultations and online opinion polls to learn more about the people's views and suggestions on the resilience-building plan, and thus better consider the needs of the grassroots in government planning. Regular emergency drills and skills training should be organised by the

government to improve the emergency response ability of the people, strengthen their self-rescue and mutual-rescue skills, and provide a practical foundation for participation in resilience construction.

4.2 Resource Sharing Mechanism: Breaking Barriers to Optimisation of Resource Allocation

Local governments have all sorts of resources for their work, such as power, funds and people, and they also have the discourse power of resource allocation^[8]. Therefore, the resource-sharing mode will be used to carry out joint governance. The goal is to break through the resource barrier among departments at all levels and among all parties, fully mobilize the resources under the control of local governments, and achieve all-round coordination and optimisation of government and social resources to form a strong joint force from the limited pool of governance resources.

The general conditions for resource sharing are the sharing of information resources. Small and medium-sized cities can make full use of the existing e-government infrastructure to share information resources and realise good results. On the one hand, there should be a division of data barriers among the relevant departments, integration of all kinds of risk monitoring data and urban operation data into a single platform, and achievement of real-time information interoperability and collaboration among departments to provide all-round data support for risk identification and emergency dispatch. At the same time, they should also promote the open-access nature of the platform for the public and allow enterprises and social organisations to obtain public risk information and urban planning data for the construction of resilience. At the same time, they should also build a citizen participation feedback channel on the platform, have the public report risks and hazards, put forward suggestions for building resilience, and create a pattern of government collection, social feedback and public participation.

The purpose of the material resource coordination system is to build a material reserve and allocation system that covers both normal use and emergency use; thus, it is possible to use the existing stock of material resources multiple times and reduce the cost of resource reserves and construction. First, the model will be to combine the government's reserve system and the social storage system. In addition to the standard emergency material reserve warehouses constructed by the government, in cooperation with local enterprises, supermarkets and communities, social storage points should also be set up to achieve distributed storage of emergency materials and improve the timeliness of material allocation. Second, the normal use of public facilities should be allowed at the same time as their emergency use. They should carry out low-cost renovation of urban public facilities to meet the daily service needs of the public in normal times and be converted into emergency shelters, material distribution centres and rescue command posts in the event of a disaster to make full use of these facilities.

The goal of integrating human resources is to make full use of the talent in society and build a high-quality, diverse, and flexible workforce. First, build an interdisciplinary expert database; people from all areas of society need to be brought into the universities and research institutions, and special technical support should be provided for risk assessment, plan development and facility construction in small and medium-sized cities. Second, a cross-regional emergency coordination mechanism should be established; in cooperation with other small and medium-sized cities, and among these cities and the surrounding large cities, professional rescue forces and volunteer forces can be deployed in different areas to make up for the lack of resources in a single city.

4.3 Rule Guarantee Mechanism: Give Full Support to Cooperation

A Rule-Guarantee Mechanism will be employed in joint governance. First, clarify the powers and responsibilities of all parties in the governance of public affairs, fairly balance their interests, build a good institutional foundation for the effective collaboration of all parties, and ensure that collaborative governance is conducted in accordance with the rule of law.

Institutionalisation of the division of powers and responsibilities provides the foundation for joint governance, and the goal of institutional design is to clarify the rights, duties and limitations of all parties in resilience construction and emergency management. First, clarify the division of command authority in the event of an emergency, establish a unified emergency command system, define the command and dispatch powers of all levels of government departments, and specify the coordination responsibilities among all parties. Second, strengthen the legal guarantees for the participation of social forces, clarify the scope of participation and the protection of rights for social forces in resilience construction through legislation and policies, provide a foundation for their participation behaviour, etc. Thirdly, it should protect the rights of the people, clarify all kinds of rights for the people in times of

emergency and their rights related to risk screening and information feedback, and guarantee the lawful participation of the people.

At the same time, the mechanism of interest coordination should build an incentive-compatible institutional design, balance all the different interests of the government, social organisations, market entities and individual citizens, and fully mobilise the endogenous motivation for participation in resilience construction among all parties. First, introduce risk-sharing tools and risk-sharing mechanisms, such as catastrophic insurance and work safety liability insurance, to have the government share the burden of disaster relief and post-disaster reconstruction with many parties and protect the legitimate rights and interests of market entities and the public. Second, expand the channels of access for social capital and, by doing so, build access-or-market mechanism models for resilience construction that can attract social capital participation in the construction of resilience infrastructure and thus achieve an effective combination of government fiscal funds and social capital.

5. Conclusion

Small and medium-sized cities are the "ends" of regional risk prevention and control, so they are frequently affected by natural disasters and face all kinds of risks, and due to limited resources, it is not easy to introduce the high-investment resilience-building model used in large cities. However, the main reason that small and medium-sized cities are not more resilient is not a lack of governance resources, but rather inefficient integration and coordination of the existing stock of resources. Therefore, the government should be more supportive, and the organisation of society, market entities and the public need to play their own roles and fulfill their own functions. Reduce the demand for resources, and then we can distribute the information, materials, etc., to others. Strengthen the institutional division of powers and responsibilities, interest coordination, etc., to build a cooperation foundation and forge a path for the construction of low-cost resilience.

Fund Projects

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