Reconsideration and strategy research on the construction of resilient cities under the extreme weather

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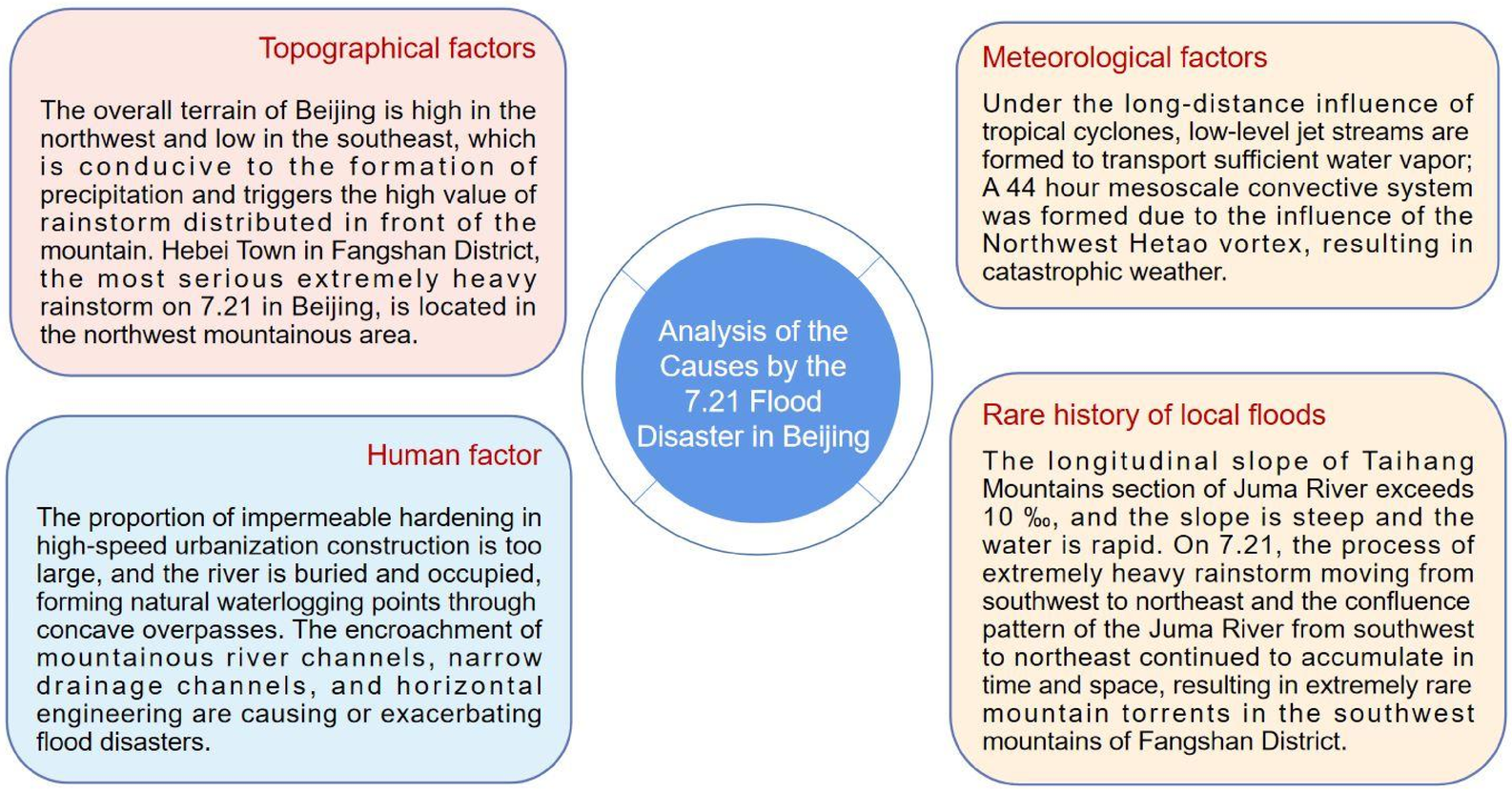
Objectives

Affected by global climate change and human activities, in recent years, extreme weather and urban waterlogging events have occurred frequently in China, with floods, droughts, and salt tides overlapping and coexisting. The defense situation is extremely complex, especially the significant casualties and property losses caused by the 7.21 and 7.20 floods in Beijing and Zhengzhou, which have exposed serious deficiencies in urban safety resilience in China at present.

How should we build and repair our city in order to make it indestructible, stable in disasters, and protect our lives and property safety? By clarifying the characteristics and trends of flood disasters in changing environments, we can formulate flood prevention and control strategies tailored to local conditions and enhance urban resilience.

Methods

Through the analysis of the 7.21 flood in Beijing and 7.20 flood in Zhengzhou and its causes, taking the urban flood disaster as the cut in point, the analysis is carried out from the meteorological factors, topographic factors, human factors, urban infrastructure, flood control and drainage capacity, emergency response, etc., to uncover the deficiencies in safe operation in urban construction layer by layer. From the perspective of the harmony between man and nature and the construction of ecological civilization, this paper puts forward countermeasures and suggestions for the construction of a Urban resilience to ensure life safety and improve urban resilience.



Results

From the perspective of urban scale, economic structure, and geographical location, mega cities often face more serious security risks and challenges, and resilience construction is more urgent and important.

Urban resilience is a kind of wisdom and ability of coexistence of city and risk. When natural disasters occur, the "Hard power" such as buildings and lifeline facilities and the "soft power" such as timely and effective disaster emergency response measures play a comprehensive role to enhance the resilience, immunity and sustainability of the city to deal with disasters, minimize the "dead time" of the basic functions of the city, minimize personnel and property losses, and ensure that urban construction moves towards a safer and more vital development path.

Conclusions

The construction of a Urban resilience should take the river basin as the unit, give unified command, link departments, make overall planning for comprehensive water control, effectively link the urban drainage system with the regional river system and water conservancy facilities, and establish a unified flood control and waterlogging drainage system. At the same time, the supply system of urban lifeline facilities will be transformed into a decentralized "group", improve the flood disaster prevention standard of lifeline projects, carry out safety risk identification and early warning, implement the construction of Sponge city, enhance the public's risk awareness and self rescue and mutual rescue ability, and continue to enhance the resilience of the city to deal with disasters, form a good ecology of people, city and nature, and realize the safe, transitional and harmonious development of the economy and society.