

Research on Emergency Responding to Water Contamination Incidents

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Objectives

Water Contamination Incidents in China has been increasing day by day, which has led to serious damage to the water environment on which human beings rely for production and life, making the domestic water safety of residents in the polluted areas unable to be guaranteed, and seriously affecting and restricting the local social and economic development. Therefore, conducting research on emergency responding to water contamination incidents, providing theoretical foundation for protecting water ecological environment and ensuring water supply safety, which has an important significance.

Methods

We had systematically collected and organized water contamination incidents that had great impact on water environment in China from 2012 to 2022. A database of emergency response technology cases has been formed, summarized and analyzed the emergency response measures for water contamination incidents. Developed scientific and reasonable emergency response measures and emergency monitoring plans under multiple scenarios. Finally, the emergency response work for large-scale cross basin and cross provincial water contamination incidents in China in recent years was summarized.

Results

- ❖ A database of emergency response technology cases has been formed. Analysis of sudden water contamination incidents from 2012 to 2021 (incomplete statistics) is shown in Figure 1.
- ❖ Emergency monitoring process for sudden water contamination incidents is shown in Figure 2.
- ❖ Chinese government had some response measures, such as establishing and improving cross regional and multi departmental linkage mechanisms, "One River, One Policy, One Map" of environmental emergency for key rivers for key, organizing the investigation and rectification of environmental risks and hidden dangers of hazardous waste, organizing and implementing emergency drills for water contamination incidents.

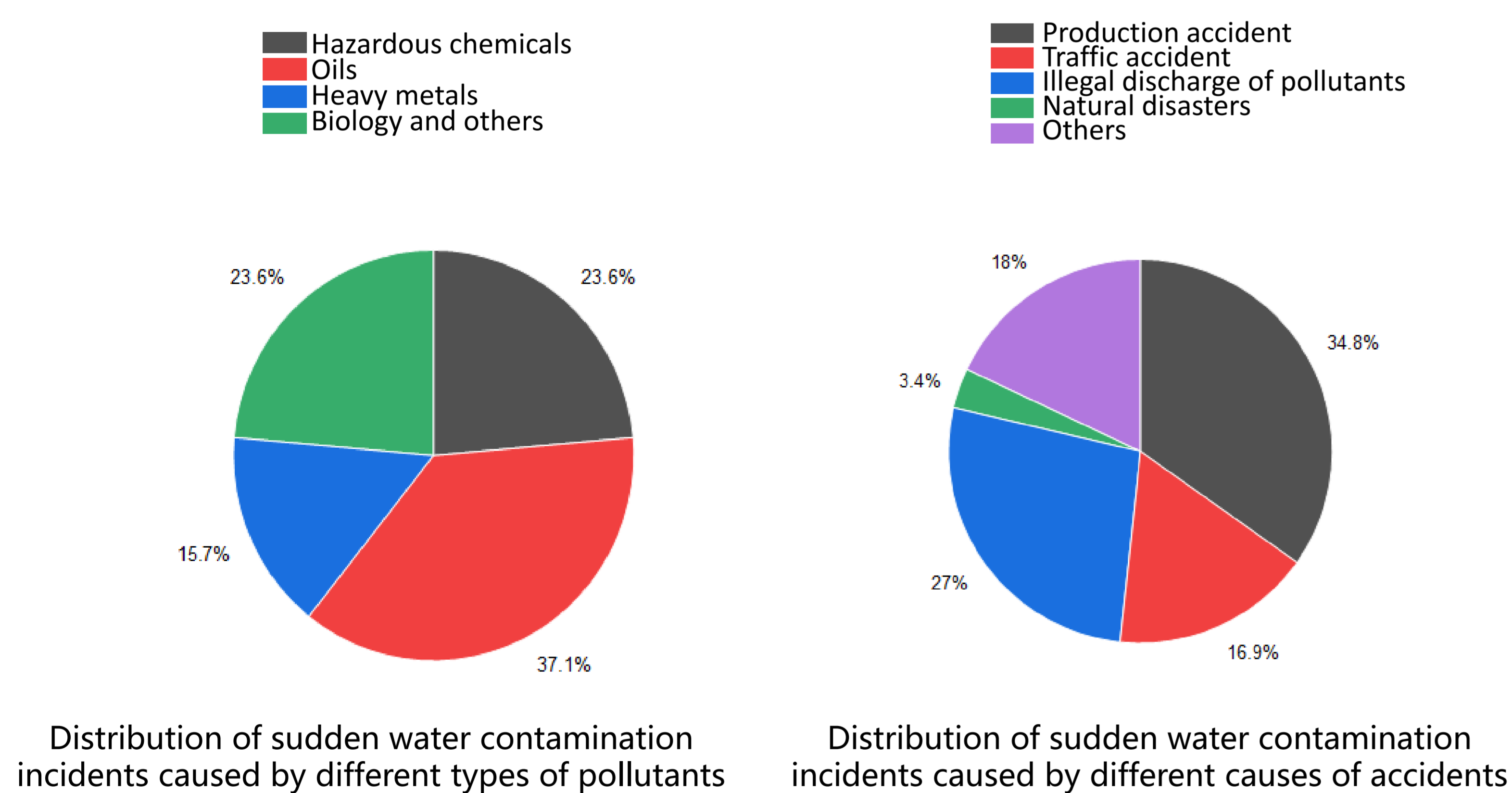


Fig. 1 Analysis of sudden water contamination incidents from 2012 to 2021 (incomplete statistics)

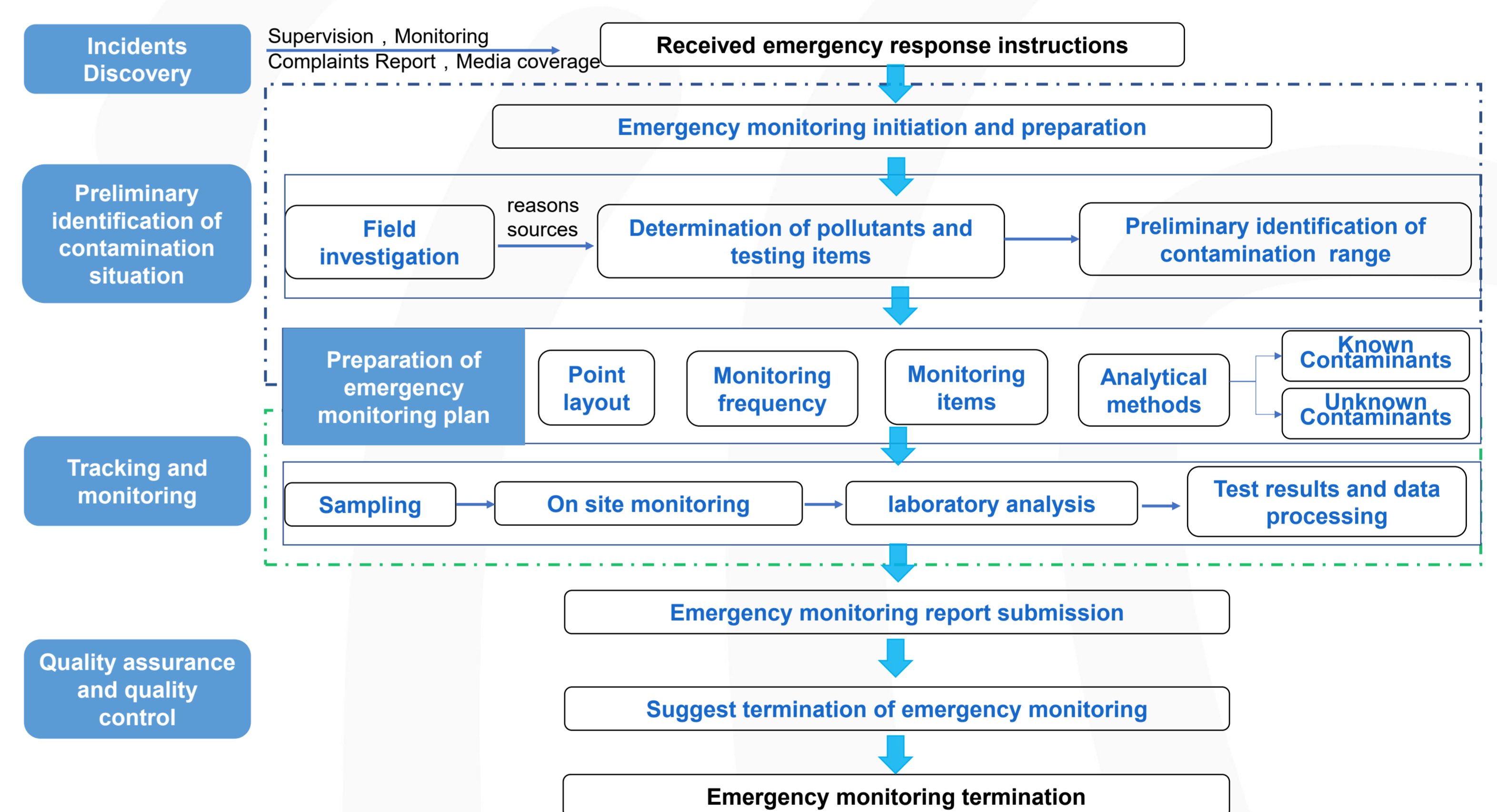


Fig. 2 Emergency monitoring process for sudden water contamination incidents

Conclusions

It is necessary to continue to summarize and apply emergency management nationwide, to enhance the emergency response capacity for sudden water contamination incidents in the watershed.

- ❖ Strengthening plan management and overall planning to enhance the response ability to sudden water contamination Incidents.
- ❖ To improve the level of enterprise risk prevention and control and emergency response capabilities.
- ❖ Strengthening early warning and enhance the construction of emergency monitoring capabilities.
- ❖ Establishing and improving cross regional and multi departmental linkage mechanisms, strengthening risk prevention and controlling capabilities in the upstream and downstream of the river basin.
- ❖ Increasing publicity efforts for illegal reporting.
- ❖ Establishing a mechanism for ensuring the safety of drinking water sources with the participation of multiple departments.