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Brief-Mitigation Strategies Great East Japan Mega Disaster

The Great East Japan Earthquake (GEJE) hit Japan on March 11th, 2011, killing 20,000 people. The strength of the 9.0 magnitude earthquake devastated homes and elicited a tsunami, further damage ensued as the tsunami caused an accident at a power plant [1]. Although there was damage and lives lost during this triple disaster, Japan had mitigation strategies in place that reduced destruction from GEJE. Japan also improved mitigation strategies after learning lessons from this mega-disaster.

Mitigation strategies used to reduce damage and death included structural and non-structural mitigation. Some of the most important structural mitigation strategies include earthquake-resistant piping and structures, and redundancy. Nonstructural mitigation included partnerships and revising existing policies.

The mega-disaster demonstrated the need for a resilient water supply after disrupting the water supply for nearly 500,000 people [1]. In response, existing water supplies were upgraded with more resilient improvements, and maps were created that quickly allow for the identification of broken pipes. Although there was damage to the water supply during the GEJE, disruption was mitigated by non-structural measures including aid agreements with water supply utility operators [1].

Structural measures that mitigated damage during GEJE include earthquake-resistant piping, something implemented after Great Hanshin Awaji Earthquake in 1995. Structural and non-structural mitigation tactics were applied to the transportation system as non-structural agreements permitted roads to be used for evacuation routes and structural mitigations allowed for the quick repair of roads to aid in recovery [1].

After the mega disaster, protocols were updated to refine the standard for the activation of public-private partnerships. To make schools and buildings more resilient, Japan updated school and building regulations. Japan has made efforts to improve risk identification through information and communication technology (ICT). The purpose of ICT is to appropriately identify risks and communicate risks to the communities [1]. Japan serves as an example of successful structural and non-structural mitigation strategies and for successful improvements based on lessons learned from GEJE.

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Sources:

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