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Preserving Heritage in the Face of Natural Disasters: Lessons from the Bam Experience in Iran

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Abstract : The occurrence of natural disasters, such as floods and earthquakes, can cause significant damage to heritage sites and surrounding areas. In Iran, the city of Bam was devastated by an earthquake in 2003, which had a major impact on the rivers and watercourses around the city. This study aims to investigate the environmental design techniques and sustainable hazard mitigation strategies that can be employed to preserve heritage sites in the face of natural disasters, using the Bam experience as a case study. The research employs a mixed-methods approach, combining both qualitative and quantitative data collection and analysis methods. The study begins with a comprehensive literature review of recent publications on environmental design techniques and sustainable hazard mitigation strategies in heritage conservation. This is followed by a field study of the rivers and watercourses around Bam, including the Adoori River (Talangoo) and other watercourses, to assess the current conditions and identify potential hazards. The data collected from the field study is analysed using statistical methods and GIS mapping techniques. The findings of this study reveal the importance of sustainable hazard mitigation strategies and environmental design techniques in preserving heritage sites during natural disasters. The study suggests that these techniques can be used to prevent the outbreak of another natural disaster in Bam and the surrounding areas. Specifically, the study recommends the establishment of a comprehensive early warning system, the creation of flood-resistant landscapes, and the use of eco-friendly building materials in the reconstruction of heritage sites. These findings contribute to the current knowledge of sustainable hazard mitigation and environmental design in heritage conservation.

Keywords : natural disasters, heritage conservation, sustainable hazard mitigation, environmental design, landscape architecture, flood management, disaster resilience
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