



## **A new Heritage Impact Assessment matrix for sustainability and resilience to hazards– from water heritage point of view**

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Understanding the significance of an historic asset and the possible impact of the proposed scheme on this significance is the key to good heritage conservation practice. In order to comply with the principle and advice set out in many statutory documents, from international charters to local regulations, the proposers are required to provide a description of the significance of the heritage. This needs to be presented in the form of a Heritage Impact Assessment (HIA). HIA is to protect the value of the heritage affected, by mitigating and minimizing the impact. The ignorance and inadequacy of HIA may lead to the development plan being made unapproved. Therefore, when dealing with changes on historic built environment, engineers and stakeholders without the participation of heritage profession are increasingly facing the relevant issues of HIA in recent decades, and are getting more aware of its importance and inevitable trend in the field, especially in the heritage-centred European environment.

Although HIA has been globally recognized and applied as a well-developed tool, its merely focus on the 'value' aspect is rather limited. The lack of consideration on natural environment reflects the issue of sustainable environment development, hence merits further discussion. This study reviews HIA from the theory of international heritage conservation, to the statutory practice of the UK, then proposes a new matrix framework from the water heritage point of view, by integrating two aspects - sustainability and resilience to natural hazards (e.g., shocks and stressors) into the conventional framework, for the purpose of contributing to the dual protection of natural and historic environment.