

Digital, and then what?

An integrated data framework for sustainable heritage management in dynamic landscapes.

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Introduction

The launch of Europeana in 2008 initiated an increase of projects involved with the digitisation of cultural heritage. The continuation of these activities in following years resulted in the presentation of a vision by the European Commission in 2021 for a digital transformation by 2030, including the recommendation for a common European Data Space for Cultural Heritage (European Commission, 2021). The objective of this Data Space is to protect and preserve monuments and sites at risk, and boost their reuse in domains such as education, sustainable tourism and cultural creative sectors. A platform like Europeana, containing mainly digitalized and meta-dated artifacts is a first step towards this objective, but is also restricted. Although it brings together all kinds of collections, it doesn't give the opportunity to include or integrate sites, let alone cultural landscapes. Especially for the latter dynamic group, sustainable management requires an integrated framework combining not only cultural data, but also the data of a myriad of stakeholders and interest groups, and the natural world.

To fully reach the objective of protecting endangered cultural heritage for the future, and to open and link them to sectors like education and sustainable tourism, digitalisation can only be seen as the first step. The most important part is using these data to accommodate stakeholders, interest groups, heritage professionals and (political) managers with knowledge, monitoring data, economic and environmental data and management information. In this contribution we will present such an integrated methodology specifically designed for managing (world) heritage sites in dynamic environments.

Cultural (heritage) landscapes

Most of the northwest European landscapes are the result of a strong, and long-lasting human-landscape interaction. Even the non-urban landscapes can be seen as cultural landscapes. These

landscapes are often also seen as specific for a region, or even as carriers of regional or national identity.¹



Fig. 1. Landscape as heritage; "typical Dutch" polder landscape with windmills. Paul Gabriël (1877) Rijksmuseum.

These landscapes continuously change due to both natural and anthropogenic causes. This is especially true for wetlands, which are amongst the most dynamic landscapes of Europe (Fig. 1). Their unique characteristics make them strongly susceptible for environmental changes such as climate, demography, economy, and politics. Equally they reflect long-term human-landscape interactions and present excellent preservation conditions. These qualities make them unique and invaluable heritage archives. Additionally, wetlands are increasingly perceived as valuable ecoservice systems for e.g. carbon sequestration and water management. As a result, a wide variety of stakeholders are active in these landscapes and pressure is high. The impact of these dynamics on the heritage contained in these landscapes remains generally unclear (Van Lanen et al. 2021).

A sustainable heritage management framework

The importance of sustaining the 'heritage value' of cultural landscapes should not be underestimated and is underlined by the increased awareness that cultural heritage can be influential in developing shared identities and in both environmental and spatial development.² Furthermore, recent

¹ Examples are for instance the Dutch polder landscapes with their windmills and canals, reclaimed lands like the new polders in the former *Zuider Zee* (now: IJsselmeer) and wetlands like peat landscapes or the Wadden Sea. A number of which even have UNESCO world heritage status underlining their importance for identity.

² This is further underlined by the recent launch of the European Cultural Heritage Green Paper on 22 March 2021 that is putting Europe's shared heritage at the heart of the European Green Deal (Europa Nostra and ICOMOS 2021), and

research shows the importance of incorporating historical perspectives and narratives for making well-informed choices regarding environmental challenges (Kosian and Van Lanen 2018). Consequently, cultural heritage is becoming increasingly important for meeting future and present-day environmental challenges. This, however, requires the development of new methodologies and theories.

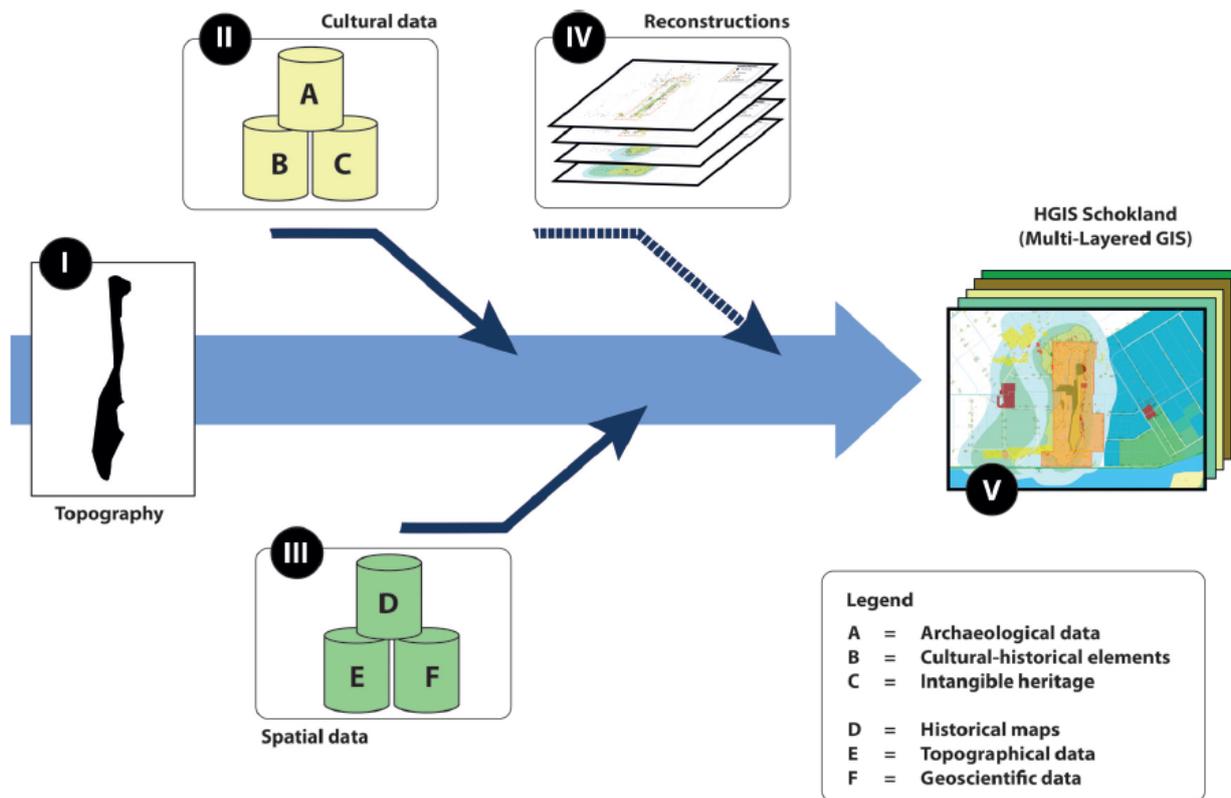


Fig. 2. Building a multi stakeholder, multi-disciplinary, HGIScience based data framework for sustainable heritage landscape management. Source: Van Lanen et al. 2021.

In this contribution we will present a new digital methodology for integrated heritage management for three typical Dutch wetlands: the western fenlands-area (between Amsterdam and Rotterdam), the world-heritage site of Schokland, and the world-heritage Wadden Sea region (Fig. 2). For each of these areas we will show the essentiality of incorporating historical and modern data in order to make informed choices for preservation, management, and communication or education. Our results show that historical adaptations in cultural landscapes provide unique insights for sustainable heritage management, and that strictly differentiating between natural and cultural factors only hampers long-term management and preservation of heritage in dynamic landscapes.

the publication of the White Paper of the combined JPIs Climate and Cultural Heritage “Cultural Heritage and Climate Change: New challenges and perspectives for research” on 15 March 2022 underlining the importance of historical knowledge and heritage as a means for climate adaptation strategies (JPI Climate and JPI CH 2022).

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