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# Contributions to a Revised Definition of Sustainable Conservation

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## Abstract

*The inclusion of Heritage in the global agenda for sustainable development has contributed to a broader discussion around the interconnection between heritage and sustainability. However, the definitions of both concepts lack consensus. In the last decade, hundreds of definitions of sustainability can be identified in the scientific literature. Often these definitions focus on different dimensions of sustainable development and do not cover the overlapping of social, economic and environmental aspects. The indicators vary according to the main goal and/or specific building under assessment. Moreover, the concept/notion of heritage is understood as a social process based upon definitions and values, which are dynamic and evolve. During the last decades, there is growing attention for the integration of such comprehensive concepts and several frameworks have been developed. However, a systematic definition of the relation between the two concepts is lacking. Some authors even pointed out that the multiple approaches, too specific for each context, lack objectivity and reduce credibility. The main goal of this paper is to contribute to a revised definition of sustainable conservation at the intersection of these two concepts, based on a narrative review of the recent literature and international reference documents, developed by different organisations, such as ICOMOS, the United Nations, and the International Organization for Standardization and the European Committee for Standardization.*

## Keywords

*Heritage; sustainable development; sustainable conservation*

## 1 INTRODUCTION

Heritage and sustainability have traditionally been studied as separate concepts, by different disciplines. Codes, recommendations, and standards are being established with specific focuses and goals. Depending on the approach, heritage can be understood as either a vector for development<sup>1</sup> or a victim of development.<sup>2</sup> Therefore, the role of heritage for sustainable development is not being embraced in its full potential.<sup>3</sup>

Despite the increasing number of studies on Heritage and Sustainability, both concepts lack consensus on their definition, as well as on their relation. The integration of such comprehensive concepts in a common framework has been a recurrent challenge for several decades<sup>4-16</sup>. However, there is still the perception that such a framework is still lacking<sup>4,5,11,12</sup> and that the multiple approaches, too specific for each context, lack objectivity and reduce credibility.<sup>9</sup>

This paper presents the results of a review of the literature and international reference documents on the definitions of heritage conservation and sustainable built environment, to contribute to a revised definition of sustainable conservation.

## 2 METHODS

The review on recommendations, standards, and codes was performed on the topics of heritage and sustainability, with a focus on the definitions of these main concepts. This review is divided into three parts: 1) the evolution of the concept of Heritage in the international charters, since the beginning of the 20<sup>th</sup> century; 2) the evolution of the concept of sustainability in international regulations and standards; and, 3) the integration of the two concepts in the documentation where both concepts were referenced.

This review aims to provide a better understanding of the several factors that the concepts of heritage conservation and sustainable built environment have in common. By understanding these concepts, further research can be developed for the definition of a framework on the contributions of heritage to a more sustainable built environment.<sup>17</sup>

This review was performed by analysing official documents from ICOMOS, United Nations, International Organization for Standardization and European Committee for Standardization. Fig. 1 lists the reviewed documents in chronological order. These illustrate the current international reference documents in the domains of heritage (top line), sustainability (bottom line) and both (middle line), in the scope of the built environment.

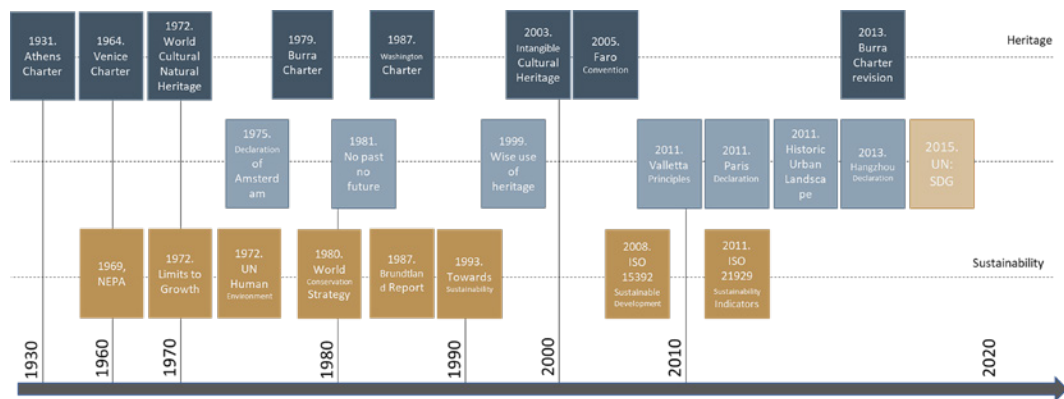


FIG. 1 Timeline of international documents on heritage and sustainability. Source: Joana Gonçalves

A sample of 32 documents on international recommendations for best practices, both in heritage and sustainability of the built environment, were analysed. The documents were examined by searching for the keywords "heritage", "conservation", "sustainable" and "environment", in the glossary and terminology sections. If those sections were not available, the definitions of the concepts were deducted by content analysis of the integral documents. If the documents did not directly contribute to the theoretical evolution of the concepts, they were excluded from the analysis.<sup>18-20</sup>

## 3 RESULTS

### 3.1 HERITAGE CONSERVATION

The word “heritage” refers to an inheritance: something transmitted or acquired from a predecessor or passed down from previous generations.<sup>50,51</sup> Since the 19<sup>th</sup> century, the concept has been used in the cultural sector, overcoming the limits of an individual inheritance to represent a collective legacy.<sup>52</sup>

Follows a comprehensive evolution of what is recognised as heritage, clustering the definitions of the most important international documents accordingly.

#### HERITAGE AS MONUMENT

The *Athens Charter for the Restoration of Historic Monuments*<sup>21</sup> (Athens Charter) was the first doctrinal document internationally ratified on the principles for heritage interventions. The concept of heritage was limited to historical monuments: particular buildings or human-made objects valuable for their historic or artistic interest. About 30 years later, the *International Charter for the conservation and restoration of monuments and sites*<sup>23</sup> enlarged the concept of monuments to include the urban and rural settings, claiming the importance of smaller buildings as historic documents with their own value. Conservation is defined as “a common responsibility to safeguard [monuments] for future generations”.<sup>23</sup>

#### HERITAGE AS PLACE

In 1972, UNESCO integrated the conservation of natural and cultural heritage in the *Convention concerning the protection of the World Cultural and Natural Heritage*.<sup>25</sup> The definition of heritage was redefined to include buildings, groups of buildings and sites, natural or “combined works of nature and Man”.<sup>25</sup> In this shifting environment, the *Guidelines for the Conservation of Places of Cultural Significance (Burra Charter)*<sup>29</sup> aimed to clarify the terms used by experts to define cultural heritage. It uses the concept of “place” instead of the expression “monument”, to refer to all the “sites”, “areas”, “buildings” and “other works” with cultural significance.<sup>29</sup> Conservation is the most integrative term, used to refer to all the actions taken to look after a place and retain its value.

#### HERITAGE AS ECOSYSTEM

In 2003 a new concept to define “heritage” was introduced by UNESCO, to recognize the need to complement existing recommendations on cultural heritage with the concept of “intangible heritage”.<sup>38</sup> It includes practices, knowledge and skills, developed for communities through generations as a response to environment and nature. The *Convention for the Safeguarding of the Intangible Cultural Heritage*<sup>38</sup> is the pivotal document that would influence the subsequent policies of heritage management.<sup>39,42,43,46</sup> In the latest revision of the Burra Charter - *The Australia ICOMOS Charter for Places of Cultural Significance*<sup>46</sup>, “place” is still the broader expression used to define “heritage”. However, while the original version was focused on the fabric – the physical attributes of the “place” - the revision states the importance of considering that value is also embodied in the associations – the connections between people and place. The *Framework Convention on the Value of Cultural Heritage for Society*<sup>39</sup> systematises an inclusive concept of heritage as “a group of resources inherited from the past”, that shape a unique urban ecosystem<sup>43</sup>. [...] With this broadening of the concept, the *Recommendation on the Historic Urban Landscape* (HUL Recommendation) introduces a new approach no longer defined by categories of “Heritage”, but recognising “a historic layering of

cultural and natural values and attributes" in the whole human environment, formed by the broader urban context and its geographical setting.

## 3.2 SUSTAINABLE ENVIRONMENT

The word "sustainable" refers to a state in which something is maintained and continued for a long period.<sup>53,54</sup> The origin of the concept, as it is commonly used nowadays, associated with responsible use of resources for balanced development, dates to the 1950s. This section presents the origins of the concept "Sustainability", along with the relationship established with the evolving concept "environment".

### SUSTAINABILITY OF THE HUMAN ENVIRONMENT

In the United States, the *National Environmental Policy Act (NEPA)*<sup>24</sup> was one of the first national environmental policies worldwide. It aimed at promoting "general welfare" by maintaining the harmony between man and nature for present and future generations. This harmony between nature and the human-made environment was later designated as "Human Environment" by the United Nations.<sup>27</sup> It includes the natural environment – comprising water, air, land, fauna and flora – and the built environment that constitutes the setting where people work and live.

### SUSTAINABILITY OF THE LIVING RESOURCES

In 1972, the Club of Rome envisioned a world system capable of ensuring ecologic and economic stability in the future, without "sudden and uncontrollable collapse",<sup>26</sup> in the *Report on The limits to growth*. "Sustainability" is used to define a state of equilibrium between economic growth and natural resources. Also, the World Conservation Strategy<sup>30</sup> uses the word "sustainable" in the sense of a balance between humanity and the planet - the living resources and the non-living resources on which they depend. It states that sustainability is not possible without conservation. While 'development' aims at achieving human goals using resources, 'conservation' aims at achieving them "by ensuring that such use can continue".<sup>30</sup> A few years later, the Brundtland Report - *Our Common Future*<sup>34</sup> established the most accepted definition of sustainable development: "development that meets the needs of the present without compromising the ability of future generations to meet their own". Development is understood as a process of change that has as a major objective the satisfaction of human needs and aspirations, in three dimensions: economic, social and environmental. "Environment" is defined as the result of the interrelationship between people and natural resources, that "doesn't exist as a sphere separated from human actions, ambitions and needs".<sup>34</sup>

### SUSTAINABILITY OF THE BUILT ENVIRONMENT

Stating that standardisation is needed to "establish a common basis for communication"<sup>40</sup> between the different stakeholders, the *ISO 15392:2008 - Sustainability in building construction — General principles* establishes general principles for the adaptation of sustainable development to the building construction sector. "Built environment" is defined as the "collection of man-made or induced physical objects located in a particular area or region; including buildings, landscape, infrastructure and other construction works", but refers the importance of embracing the human dimension, considering communities, traditions, health and comfort and social equity<sup>40</sup>. The standardised definition of sustainable development goes back to the definition of the Brundtland report<sup>34</sup>, detailing, however, that it concerns "all resources providing a better quality of life". Sustainability is defined as "a state in which components of the ecosystem and their functions are maintained for the present and future generations".<sup>40</sup> Till today, this definition is the basis of several international regulations and standards.<sup>41,49</sup>

### 3.3 SUSTAINABLE CONSERVATION

This section presents how the concepts of “heritage conservations” and “sustainable built environment” have been linked over time.

#### INTEGRATED CONSERVATION

Despite focusing on the natural environment, the NEPA from 1969<sup>24</sup> states the need to preserve important historical, cultural and natural heritage, to safeguard the harmony between man and nature. Only that can ensure an environment that supports diversity and variety of individual choice for all citizens. Heritage, built and natural, is understood as part of the environment. Also, the *European Charter of the Architectural Heritage*<sup>28</sup> defines “heritage” as an irreplaceable expression of wealth and diversity. It introduces the concept of integrated conservation, defined as the responsibility of passing this resource to future generations. The *No past, no future Assembly*<sup>21</sup> highlighted the need for a higher awareness of the world to adapt to new conditions for a more balanced life. By introducing priorities as the conservation of energy, use of endogenous materials and methods and appropriate technology, it states that the study of man’s history and the contribution of heritage for a better quality of life is part of an environmental policy to improve the relationship between man and nature.

#### MANAGEMENT OF CHANGE

The *Wise Use of Heritage Assembly*<sup>36</sup> outlined that the key objective of both sustainable development and urban conservation is to manage change for the survival of humanity. Urban sustainable development must include economic, social, environmental and cultural dimensions to “offer economic opportunities, provide the context for social cohesion, ensure a safe and healthy habitat, as well as reinforce the sense of place and the sense of identity of its residents”.<sup>36</sup> Heritage is defined as second nature – the physical environment resulting from the tangible and intangible relationships between man and nature. It states the urgency to include urban conservation in the principles of sustainable development, considering heritage as an irreplaceable resource for present and future generations. Heritage is understood as an essential resource of the urban ecosystem, composed of tangible and intangible elements. To ensure the harmonious development of historic towns and their settings – the natural and human-made contexts, the goal of conservation is the management of change on the natural, built and social environment, to provide for a better quality of life and enhance valuable resources.

#### CONSERVATION AS SUSTAINABILITY

The *Paris Declaration on heritage as a driver of development*<sup>45</sup> stated that development is not to achieve economic growth but to achieve “a more satisfactory intellectual, emotional, moral and spiritual experience”. Heritage is defined as a crucial, non-renewable resource for present and future generations. Culture contributes to social cohesion and well-being and “must be integrated as the fourth pillar of sustainable development, alongside the economic, social and environmental pillars”.<sup>45</sup> Despite the title “heritage as a driver of development”, heritage is not understood in its contributions for the three dimensions of sustainability, but as a separate factor. Instead of a separate pillar of sustainability, the *Hangzhou Declaration: Placing Culture at the Heart of Sustainable Development Policies*<sup>47</sup> positions culture at the heart of sustainable development. Heritage is defined as an enabler of sustainability, a resource for innovative solutions, knowledge capital and an economic asset. It outlines the contributions of heritage for a more inclusive social development, for the reduction and poverty and economic development, and to promote environmental sustainability and reduce the environmental footprint of societies. Instead of the isolated protection of architectural buildings/elements, the HUL Recommendation fosters the conservation of the overall urban setting.<sup>42</sup> The

definition of sustainability is integrated and inseparable of the concept of conservation, attained by a “balanced relationship between the urban and the natural environment, between the needs of present and future generations and the legacy from the past”.<sup>42</sup> Assuming that the principle of sustainable development provides for the preservation of existing resources, it states that the protection of urban heritage is a condition *sine qua non* for sustainable development.

#### THE SUSTAINABLE DEVELOPMENT GOALS (SDG)

In 2013, the Hangzhou Declaration targeted directly the post-2015 UN Development agenda to consider culture “in equal measure with human rights, equality and sustainability”.<sup>47</sup> Despite all the recommendations that since the 1970s reflected on the links between heritage and sustainability, only in 2015 the world leaders in the United Nations adopted the *Sustainable Development Goals (SDG)*, that mention cultural heritage as part of a goal concerning the sustainability of cities.<sup>48</sup> Accordingly, the importance of “protect and safeguard the world’s cultural and natural heritage” contributes to making “cities and human settlements inclusive, safe, resilient and sustainable”.<sup>48</sup>

## 4 CONTRIBUTIONS FOR A SUSTAINABLE CONSERVATION TERMINOLOGY

From the review of the links between heritage conservation and sustainable built environment, it is concluded that the latter has been more integrated by the domain of the former than the other way around, mostly in international expert recommendations and guidelines. From the analysis of the literature, some integrative definitions can be derived.

### 4.1 TO A REVISED CONCEPT OF HERITAGE CONSERVATION

It is possible to recognize a shift in the meanings of the semantic evolution of the concept of “Heritage”, by analysing its definitions since the *Athens Charter*<sup>21</sup>. (Fig. 2). This starts with the inclusion of single architectural monuments, passing through the gradual inclusion of surroundings, to a more comprehensive concept based on a holistic and integrative urban ecosystem, composed of material and intangible elements, valuable for future generations. As stated by Howard<sup>56</sup>, heritage is “anything that someone wishes to conserve and to pass on to future generations”. Two elements are certain and recurring in the definitions across time: heritage is about resources inherited from the past; conservation is about transmission for future generations.

Based on this analysis, the following definitions are presented:

- **Heritage:** a group of resources inherited from the past that communities wish to pass on to future generations. It is an ecosystem, that includes tangible and intangible dimensions, as a result of the interaction between nature, fabric and people through time;
- **Conservation:** includes all the processes of looking after heritage, as the ecosystem inherited from the past, to retain its value for future generations. It may include different actions, such as maintenance, preservation, restoration, reconstruction or adaptation.

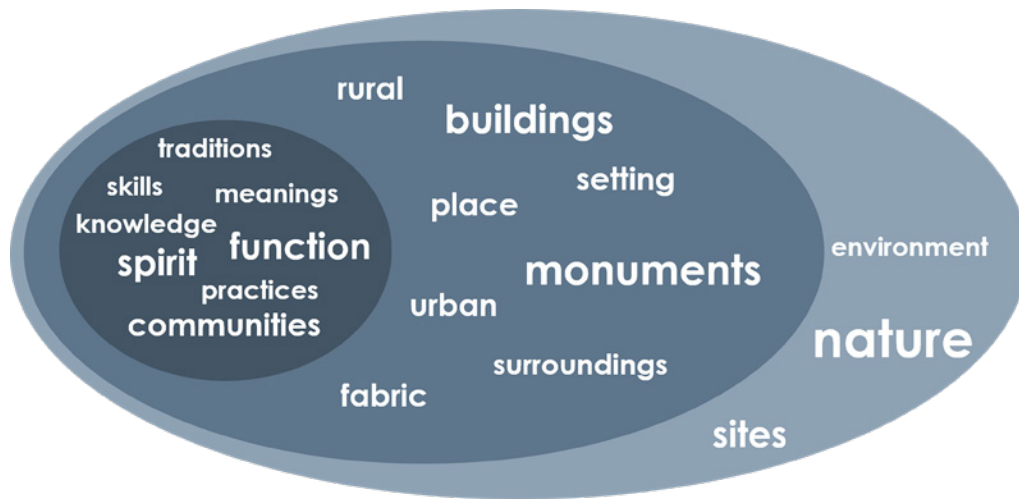


FIG. 2 Concept of "Heritage", including intangible (dark), tangible, and natural (light) elements.  
Source: Joana Gonçalves

## 4.2 TO A REVISED CONCEPT OF SUSTAINABLE ENVIRONMENT

The semantic evolution of the concept "sustainability" (Fig. 3) confirms the broadening of the concept of "environment" with gradual inclusion of tangible and intangible attributes that contribute to a better quality of life. As stated by Kristinsson, "sustainable is everything that future generations want to inherit, use and maintain."<sup>57</sup> Two elements were kept constant in the definitions across time: the environment is made by living and non-living resources; sustainability is about preserving those resources for future generations. Based on this analysis, the following definitions can be extracted:

- **Environment:** concerns the interrelationship between people and natural resources, the built environment and the human sphere. It includes all the resources providing a better quality of life;
- **Sustainability:** state of equilibrium in which the components of the ecosystem - comprised by nature, humans and built environment, and its functions are maintained for present and future generations.

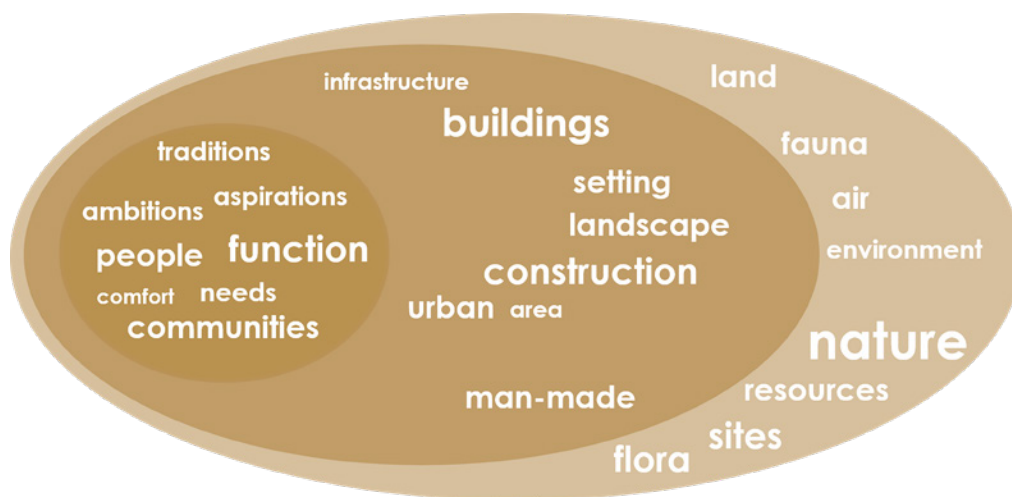


FIG. 3 Concept of "Environment", including intangible (dark), tangible, and natural (light) elements.  
Source: Joana Gonçalves



### 4.3 TO A REVISED CONCEPT OF SUSTAINABLE CONSERVATION

Originally, heritage was understood as part of the environment, with a growing relationship with the social dimension of sustainability. Gradually, it was recognised that heritage is cross-cutting to the three dimensions of sustainability: it is an economic asset, it is knowledge capital on how to cope with the natural environment, and it provides for social cohesion and a better quality of life.

In the analysed documents, it is possible to identify the evolution in heritage planning as defined by Janssen *et al.*<sup>1</sup> Heritage and sustainability evolved from a sectorial approach – being tackled as two separate domains, to a factor approach – with heritage being considered as one of many factors that contribute to sustainability. Lately, the vector approach, where heritage is considered as a driver for development, can be identified in the international recommendations such as the HUL Recommendation and the Hangzhou Declaration.<sup>42,47</sup>

The reference to cultural and natural “heritage” in the *Sustainable Development Goals*<sup>48</sup> is expected to promote reform in the field of heritage planning in practice, by introducing the topic into supra-national governance, and expect local implementation. However, it is still partial compared to other international documents on heritage<sup>42,43,45,47</sup> and sustainable built environment<sup>40</sup> – going back to a factor approach. It does not recognise the contributions of heritage in its full potential, from the perspective of the three dimensions of sustainability, but only on its protection by the state parties. The UN’s Sustainable Development Goals (2015) added very little to what was already stated in the American NEPA in 1969.<sup>24</sup>

Based on this analysis, the concept of “sustainable conservation” was defined. Considering the evolution of the concepts of heritage and sustainability, but also the way they have been interrelated in the last decades, it is possible to derive the following definitions:

- **Heritage environment:** concerns the irreplaceable and non-renewable resources that form the overall urban ecosystem, with natural, tangible and intangible elements (Fig. 4). It is an economic asset, knowledge capital and it ensures a better quality of life for present and future generations;
- **Sustainable conservation:** concerns the processes of management of change of the ecosystem inherited from the past, so its resources can benefit present generations while retaining its value for future generations.

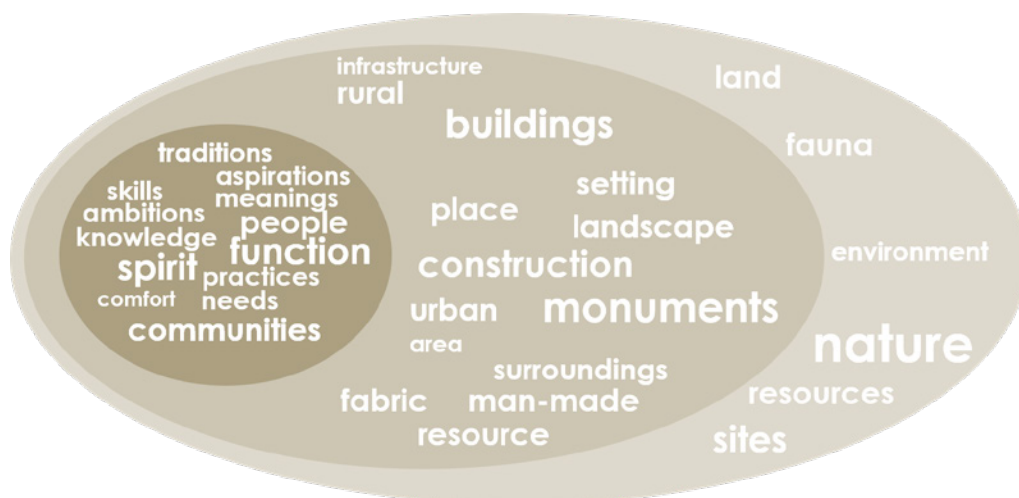


FIG. 4 Merging the concepts of Heritage and Environment. Source: Joana Gonçalves

## 5 CONCLUSIONS

The revision of the concepts of “heritage” and “sustainability” evidence that there are several commonalities between the two concepts: both involve the ecosystem inherited from the past, resulting from the interaction between people and nature through time, comprising tangible and intangible attributes that enable a better quality of life.

Also, the relationship between conservation and sustainability becomes clearer, since the two concepts share the same goal: to preserve the ecosystems for future generations. While conservation focuses on the past – safeguarding resources from the past for future generations – sustainability focuses on the present: ensuring that those resources (that are inherited from the past) are of benefit for present generations while retaining its value for the future. Using the two concepts together – sustainable conservation - results in an extension of their boundaries, defining balanced management of change that recognises the inheritance of the past, its benefits for the present, and the legacy for the future.

Finally, the results of this study are an invitation to produce further investigations with an expanded focus on the indicators and values for sustainable conservation. Hence, this study can be used as a stepping-stone to build a common language to objectively consider sustainability in well-founded decisions in heritage conservation.

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