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The identification of heritage attributes and values in World Heritage: the Tajo de San Pedro in the context of the Alhambra, Generalife and Albayzín (Spain)

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Abstract

To ensure that Outstanding Universal Values (OUVs) are not compromised, control and monitoring mechanisms are needed for World Heritage management. This implies working with specific attributes and values that make conservation compatible with possible works at heritage sites. This paper aims to develop a methodology that can be used to systematically identify, order, evaluate and prioritise the attributes and values of World Heritage. This implies a review beyond inscription dossiers, policy and planning documents, and projects. The methodology has been tested in Alhambra, Generalife and Albayzín, particularly in the northern slope area. First, the categories of values and attributes are defined in a table from a transdisciplinary point of view. Second, the values and attributes of the OUV Statement are identified. Those that are relevant to the field of study are highlighted. Third, other documents at the national, regional and local levels are reviewed to determine the attributes and values identified by the management institutions. The resulting list of heritage attributes and values is very complex and highlights previously unrecognised issues, e.g., natural, ecological and landscape elements. Institutions can make recommendations for the management of heritage sites on the basis of this detailed identification. It will also provide a better understanding of the cultural significance of these sites and facilitate the assessment of their impact.

Keywords Methodology, UNESCO, Landscape, Monitoring, World Heritage management

1 Introduction

The short- and long-term management of assets that are included on the World Heritage List (WHL) is considerably complex and has a large scale. Thus, in many cases, architectural or discursive-narrative works can involve part or the whole asset. The definition of their heritage attributes and values should be as detailed and flexible as possible (Court et al 2022). Thus, the impact of these

works can be measured and prevented from influencing (or distorting) people's understanding of the importance of world heritage. This challenge is faced with the existing information in WHL nominations, most of which were initiated many years ago. Many of these dossiers need to be updated, as the heritage assessment has focused on historical and artistic issues to exclude other contemporary heritage approaches. The incorporation of multidisciplinary in the preparation of these dossiers, the inclusion of citizens' perceptions (Ibid, 24; Sánchez-Carretero et al. 2019), the approach of public institutions, and the implementation of a landscape or climate focus are approaches that were not adopted at the time. If they were included today, completely different registration

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dossiers would be produced (GarcíaMartínez and Díaz-Sierra 2023). Today, these old documents define the cultural significance of assets and provide the keys that define their heritage uniqueness. However, these documents do not allow for an extensive, comprehensive and inclusive evaluation of heritage. A precise definition is needed to assess the impact of any architectural or discursive-narrative work on the specific characteristics and values of a study area. Thus, the degree of change it might cause to the identified attributes and values must be accounted for when evaluating a specific intervention on these WHL-listed assets. Mechanisms for monitoring and controlling are needed to ensure that the attributes and values are maintained.

Other studies have also considered the need to review the OUV of heritage assets. For example, a study by Schmutz and Elliott (2017) examined 811 assessments by international advisory committees between 1980 and 2010 to demonstrate the rationality of the World Heritage evaluation methodology, as well as the degree of reliance on the definition and validation of the OUV. The change in criteria as a result of the revision of the OUV allowed for the protection of the Rosetta/Rachid quarter in Egypt in 1996 (Tawab 2019). On the other hand, the OUV and its criteria are used to measure how tourists perceive heritage to help promote conservation. This was confirmed by 565 surveys conducted in Mount Sanqingshan National Park in China. Tourists showed a stronger connection to the World Heritage Site. Thus, the study concluded that tourism contributes to heritage conservation (Nian et al. 2019).

However, the main challenge is the inclusion of other heritage values beyond OUV (Court et al. 2022) and the ability to develop a tool for monitoring them. As Fredheim and Khalaf say, 'a values-based approach is defined

as one that seeks to identify, maintain and enhance significance, where significance is understood as the overall value of the heritage, or the sum of its constituent heritage values' (2016: 466). The aim is to improve the significance and justification of the features identified.

This article was commissioned by the Patronato de La Alhambra y Generalife, the institution responsible for the protection, management and conservation of the Alhambra. Its purpose is to provide guidelines for conservation and recommendations for further studies to identify the heritage values of this monumental complex. The Alhambra and Generalife were inscribed on the WHL in 1984, with an extended statement in 1994, which also included the Albayzín neighbourhood. The evaluation focused specifically on the northern slope of Alhambra hill. Here, a major threat to the masonry structures and buildings of the Alhambra is the lack of stability of the Tajo de San Pedro, a natural space defined by a vertical slope with an almost parabolic ground plan (Figs. 1 and 2). In the medium term, Tajo de San Pedro will require an intervention project. In light of the above, the need has been felt to update the document, identifying the characteristics and values of the Alhambra, Generalife and Albayzín. Once this information has been obtained, it will be possible to propose works to be carried out in the Tajo River. This does not affect the characteristics and values of the whole complex.

We found that the values identified in the 1984 and 1994 inscriptions were insufficient. They are limited to architectural aspects and do not consider all the space outside the monument. On the other hand, there is no methodology for a systematic review and updating of these values. Thus, the research questions are as follows: Can a methodology be developed to facilitate identifying, ordering, evaluating and prioritising World Heritage



Fig. 1 The Alhambra from the viewpoint of San Nicolás (Source: the authors, taken in 2023)



Fig. 2 Aerial view of Tajo de San Pedro in the surroundings of Alhambra, Generalife and Albayzín. (Source: Google Earth, 2024/02/20)

values and attributes? Can this methodology integrate values from the inscription document and new values?

The specific objectives of this study are as follows:

- To design a tool for the management of World Heritage values and attributes. These should be both tangible and intangible and open and flexible enough to integrate new ones as they are added over time.
- To develop a working protocol aimed at revising and updating the OUV contained in the inscription document. It also needs to consider the evolution of assets; the changing sensitivities and perceptions of citizens; and the complexity of their relationships, particularly with respect to social, economic and environmental values.
- To identify, analyse and prioritise documents and sources of information that may contribute to the identification of other OUV-compatible attributes that are not included in the registration document.
- To evaluate, in particular, the conditioning factors of the site and its surroundings, as well as its evolution, identify the community of the heritage. To create a stakeholder map of organisations and individuals.
- To develop guidelines and recommendations for conducting World Heritage Impact Assessments by establishing a universal reporting format.

A multidisciplinary team of experts defines the categories of values and attributes in a table to achieve these objectives. First, the attributes identified during the methodology are placed in this table according to their

features and importance. Second, the values and attributes in the OUV Statement are identified, with emphasis on those that are relevant to the area under study. Third, a review of other documents at the national, regional and local levels is carried out for the identification of other attributes by the management authorities. As a result, the table shows that heritage attributes and values are highly complex. It highlights aspects not previously identified, such as the natural, ecological and landscape dimensions. This detailed identification will allow the managing institutions to make recommendations for the management of these sites and to ensure an understanding of their cultural significance. It is a methodology that can be extrapolated and scaled to any other World Heritage Site, considering any other studies that may be added. The more interdisciplinary the OUV review team is, the more comprehensive the outcome.

2 Approach to the identification of heritages value

Identifying the multiple values and attributes that characterise heritage can be complex. However, this needs to be done to ensure that heritage is managed according to the current dimension of heritage and the problems of each context. Heritage is considered a broad and diffuse subject of study. Its definition involves several actors and numerous disciplines with a humanistic, scientific, social or legal profile. Its nature is transversal and complex. It is a discipline of disciplines. This implies a work of consensus. It is essential to objectify personal or collective judgements and to use well-founded data and arguments to justify those taken. Identifying cultural values and

attributes is necessary to develop intervention criteria to guide different action strategies. 'The policy for managing a site should be based on an understanding of its cultural significance,' as stated in the Charter for Places of Cultural Significance, better known as the Burra Charter (ICOMOS 2011).

In the context of heritage inflation, many authors have expanded the participatory turn in this context (Quintero 2020). This socialisation process began with the Burra Charter (1979) and reached a milestone with the Intangible Heritage Convention (2003). This marked the transition from the historical vision of heritage to the anthropological vision of culture, issues that are not mutually exclusive but rather complementary (Marchán Fiz 2015). This perspective on heritage understands that the concept of value has the capacity to bring together the demands of different disciplines. It is an open, changing and evolving concept at the same time. In addition to recognising the authorised discourse (Smith 2006), it aims to implement the recognition of other values, emphasising the need to adopt a discursive approach (Fouseki 2022).

From an axiological perspective, values are cultural constructions. They are under the influence of the social context and specific conditions. If we define 'status' as a combination of individual, social, cultural and historical elements and circumstances, we maintain that values have existence and meaning only within a concrete and determined situation (Fronzizi 1966, 124). For this reason, there is no such thing as ideal values or a framework of values that can serve as a reference for all cultures and all times (Zamora Baño 1997, 38–39). This should not be seen as a limitation to the diagnosis of heritage. In contrast, it is a natural part of the process. It is a natural consequence of heritage consciousness, which exists in a particular 'situation'.

Values can be understood only in relation to the social, historical and even spatial contexts that lie behind the lens of whoever defines them. In other words, they do not exist outside the cultural processes that give them meaning (Pastor Pérez and Díaz-Andreu 2022). They are socially constructed in a particular space and time. Because they are contextual, they change with society (Hernández Ramírez, 2003: 84–85). As stated in the Nara Document on Authenticity (ICOMOS 1994),

'All judgements about values attributed to cultural properties as well as the credibility of related information sources may differ from culture to culture, and even within the same culture. It is thus not possible to base judgements of values and authenticity within fixed criteria. On the contrary, the respect due to all cultures requires that heritage properties must be considered and judged within the cultural contexts to which they belong (art. 11).'

Values cannot be considered essential and immutable principles. Instead, they are discursive and dynamic and are adapted to those that social groups have at any given moment. They are also a reflection of past experiences that are already integrated into the mental schemata of the subjects (historical dimension). In other words, values change constantly, just as society itself and its sensitivities evolve. They always do so on the basis of previous perceptions. They are perceived by individuals and codified by institutions through laws, charters or recommendations. This explains the cumulative nature of heritage, which grows in importance according to the new concerns, tastes and needs that are projected in each period (García Fernández 2013). This cumulative nature is reflected in new values that complete and enrich the perception, understanding, protection, conservation and interpretation of existing values (Avrami et al. 2019).

Given the ideas outlined above, value attribution is presented as a useful tool for dialogue and the introduction of multivocality into the heritage process. As de la Torre and Mason noted, 'value has always been the reason for the conservation of cultural heritage. It is self-evident that no society makes an effort to preserve what it does not value' (2002, 3). The assumption that the value of heritage is created by the generations of its time and changes over time implies not only the valuation of the outcome but also the valuation of the process.

This idea or value is formed from a set of objects or from a cultural manifestation (both tangible and intangible) in which it is located. UNESCO refers to these objective elements as attributes (UNESCO 2014, 33). Both tangible and intangible attributes are considered heritage because of the cultural values that we—as a community, as experts, as residents or as tourists—are attached to them. Thus, the valorisation of heritage requires a clear distinction between what is being valued (the attribute) and why it is being valued (the value) (Court et al. 2022; Tarrafa Silva da Silva and Pereira Roders 2021). These two identifications are necessarily dynamic. They should be continuously updated and are dependent on contextual changes.

The task is facilitated by working with a typology of values. Breaking this down allows the identification of all these elements of heritage and the relationships between them in these complex assets. Different value typologies have been proposed by different researchers and organisations in their attempt at identification (Fredheim and Khalaf 2016). Riegl (from the discipline of art history) was the first to distinguish between historical values ('ancient', 'historic' and 'commemorative') and contemporary values ('use') (Riegl 1982). However, UNESCO defined universal values in the 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage. These were

aesthetic, historical, scientific, ethnological or anthropological (in the case of sites). The 1979 Burra Charter extended this list to recognise an additional class of values, social values. These qualities are defined as those qualities that focus on majority or minority spiritual, political, national or other cultural sentiments (ICOMOS Australia 1979).

Over the past 40 years, several approaches have been identified. One of these was that developed by the Swiss economist Bruno Frey in 1997, which has a purely economic focus. Another is the English Heritage approach. Here, the categories of value are structured on the basis of whether heritage is used by people other than elites and experts. Another approach comes from the Getty Conservation Institute. They distinguish between sociocultural values and economic values. This is controversial because the method of measuring the economic value of heritage cannot be applied to other heritage values to determine the significance of a place (Mason 2002). We can assign a wide range of values using different approaches, scales and actors. These can range from the traditional ones proposed by UNESCO to those that are linked to concepts that are currently in use, such as sustainability or ecology. With the aim of implementing a broader heritage assessment, the Historic Urban Landscape Recommendation document proposes the identification of attributes from a landscape approach (UNESCO 2011), a question that relates to an understanding of the concept of landscape as a process (Taylor 2018).

In 1992, in its definition of an OUV, UNESCO included 'cultural landscapes' as a protection category. However, the importance of landscape values at many World Heritage Sites has not been reexamined. On the other hand, the European Territorial Strategy (European Commission 1999) and the European Landscape Convention (Conseil de L'Europe 2000) were published in response to concerns about the protection and management of landscapes. These have been the basis for the documents and regulations drawn up by both the Spanish State and the Autonomous Communities. In this case, they justify the inclusion of this new category. Additionally, the document ICOMOS-IFLA *Principles concerning Rural Landscapes as Heritage*, adopted by the 19th ICOMOS General Assembly in New Delhi (ICOMOS 2017), focuses on "tangible and intangible rural heritage".

This means that the identification of heritage attributes and values should be seen as an open-ended process. It should be constantly updated and flexible according to the needs and requirements of the current context. Furthermore, it is important to recognise the need to undertake heritage evaluation and management by

methodologically overcoming the dichotomy between the monument and its setting (Rodwell and Turner 2018).

3 Case study: Tajo De San Pedro

The Alhambra is located at a natural height. Its border with the city is marked by steep slopes. Some of them are more than 20%. Around the perimeter of the Nasrid palace, these steep slopes are covered with dense vegetation, forming a forest. The Tajo de San Pedro is located on the northern slope between Alhambra and the Darro River. A unique slope in the terrain results from a combination of geological and anthropic processes over time (Azañón et al. 2007). It is called the Tajo de San Pedro (Fig. 3) because of its location in the area known as the Alhambra Forest or the San Pedro Forest. This reference to San Pedro comes from the church opposite the river, from which it takes its name.

Although its origins are probably older, there has been evidence of its existence since at least the 16th century. In 1524, a fire in Alhambra and the northern forest triggered large landslides, which precipitated the evolution of the landscape.

Later, a lack of soil protection due to new vegetation and rain led to the slope being damaged (Justo et al. 2005). In 1590, the explosion of a gunpowder factory near the church of San Pedro caused significant damage and a large sinkhole that formed the Tajo de San Pedro (Valldar 1890). This was followed by the flooding of the river in 1600. This created a sinkhole at the foot of the hill, which exacerbated the deterioration of Tajo (Justo et al. 2005). The northern slope underwent significant changes as a result of various events in the 16th century. The state of preservation of Tajo in this period can be seen in the earliest known image of this part of the Alhambra. It was drawn by Hoefnagel and was published in 1596 (Fig. 4).

Until the beginning of the 20th century, the Tajo area was characterised by a general lack of vegetation, in contrast to the other slopes of the Alhambra. A project to increase the amount of vegetation on the northern slope was approved in the 1960s. The introduction of an irrigation system and the replanting of trees has been a singular transformation of the landscape of this area, creating the current San Pedro Forest (Fig. 1). The location of this place has made it one of the most famous and most photographed views of the Alhambra. It is possible to see how Tajo de San Pedro has shaped the image and landscape of the Alhambra and Granada from the Albayzín neighbourhood.

Today, the Tajo de San Pedro appears to be a hollow on the northern slope of the Alhambra. Its current dimensions are 45.50 m above the level of the river, with a slope of 67° (Mateos et al. 2015). Since the 16th century, there has been a gradual increase in the size of



Fig. 3 Study area. Tajo de San Pedro next to the Alhambra Forest, with the same name, and the left bank of the Darro River (Source: the authors, drawn in 2022)



Fig. 4 View of Tajo de San Pedro in the view of the Alhambra and Granada from Valparaíso (Source: *Civitates Orbis Terrarum*, 1564)

Tajo and a threat to the walls of the Alhambra. Despite the numerous studies and reinforcements that have been carried out in the area, there is still horizontal retreat of the rocky slopes of 8 cm per year. However, given that this process is not constant, it is possible that it could continue to increase in the foreseeable future (Justo et al. 2005). The unsolved historical situation has been documented in several studies and proposals since the end of the 19th century, especially in the last quarter of the 20th century (Justo et al. 2005).

The importance of identifying other (natural) attributes in addition to those currently recognised has been highlighted by the need to intervene in the structural consolidation of this natural element (UNESCO 1984, 1–3; 1994, 63–65). The impact of Tajo could significantly influence the understanding of the landscape values of this area, as well as those of Alhambra. Currently, owing to its uniqueness, geology, landscape characteristics and importance in the history of the Alhambra and the Albayzín, the Tajo de San Pedro is part of the group of catalogued assets

near the Alhambra. For this reason, a contemporary perspective is needed to update the process of identifying the attributes and values of heritage as it is applied to this case study.

4 Methodology for value and attribute identification

The development of methods for identifying values and attributes is ongoing. It has been in parallel with the evolution of the concepts that have been the hallmark of cultural theory in the field of heritage. The main contribution in this evolutionary context is the creation of a simple table capable of synthesising the characteristics and meanings of World Heritage.

The following work phases and procedures were followed:

- Phase 1: The definition of the categories of values and attributes that we will be working on. The aim of this phase is to define the framework of attributes and values into which the information under review will be classified. For this purpose, international documents were reviewed. Different values from the 20th century were identified. The values on which the definition framework will be built are identified through a critical analysis of the documents, supported by the vision of the multidisciplinary team carrying out the review (architects, historians, archaeologists, urban planners and biologists). Regarding attributes, the Operational Guidelines for World Heritage Implementation (UNESCO 2005) were used as a reference. Tangible and intangible attributes have been identified. In both categories, different nuances were then identified. Tangible attributes are defined in terms of scale and relationship to context. Intangible attributes are related to use and tradition. The design of a table of values and attributes systematises this information.
- Phase 2: An analysis of the OUV Statement. Through the study and reading of the dossier, the attributes that appear in the text are identified. To do so, not only the values established in the document (aesthetic/artistic, historical and scientific) but also those established in the OUV Statement were accounted for. Once the attributes have been identified and are in the table, the next step is the identification of the main attributes of the object under study. This facilitates a deeper exploration of its problems.
- Phase 3: An analysis of local official documents affecting the World Heritage Site to identify values and attributes beyond the perspective of the Statement. To visualise the attributes that may affect the various values identified, the multidisciplinary team

perspective (archaeology, urbanism, architecture, art history and ecology) is considered essential to cross-reference all the information studied. As in the previous case, once all the information has been collected, the main attributes of the object of study are identified to conduct an in-depth study of its problems.

As stated in the Introduction, this type of heritage value report is intended to serve as a reference for the study of the impact of heritage values on World Heritage sites. In the absence of precedents, a methodology has been proposed. It may be useful for any UNESCO World Heritage property of any category. Its main benefit is to make it easier to review and update the values and attributes of its inscription according to new considerations. For this purpose, a tabular information management tool was created. This tool can be adapted to the specific features of each World Heritage Site or can even be extended. Moreover, new values and types of attributes can be added as necessary. Finally, it offers the possibility not only to identify attributes but also to organise them, evaluate them, prioritise them and even quantify them.

This methodology is applicable and scalable to other national, regional or local heritage sites, not just World Heritage Sites. Its ergonomics and adaptability do not depend as much on the level of inscription or the category of the assets as on the aspects related to their context and scale. The experience of the team in other sites and contexts where the same methodology has been successfully applied confirms its usefulness. In this sense, the differences between urban and nonurban contexts, or even between small and large cities, are more decisive. Scale is relevant regarding the urban, territorial or landscape integration of assets. For example, this would explain the differences between the Alhambra and the Generalife and the Mosque of Cordoba, both of which are World Heritage Sites. On the other hand, Alhambra's typology and character share many elements with other medieval fortifications, such as the Castle of Bujalance (Córdoba). In fact, the latter has only been declared an asset of cultural interest (BIC) by the Spanish State, with the category of Monument. The same could be said of a building with a lesser declaration or even one that has not yet been declared. In all cases, the differences take the form of a greater or lesser development of some attributes with respect to others, a greater importance of some values over others, or even the appearance of new attributes appropriate to these assets. Like any cell-based valuation table, this table can be adapted to the needs of the case without losing its theoretical approach and methodology.

5 Methodological development of the case study

After the problem of the Tajo de San Pedro and the need to update the Alhambra, Generalife and Albayzín dossiers are outlined, the methodology is presented. This method is proposed to help identify the characteristics and values of the monumental complex. We consider what is defined in the World Heritage Statement, as well as the official documents drawn up by the administrations, from national to state, regional and local, and other reference documents relating to the area studied.

5.1 Phase 1 The definition of the categories of values and attributes on which we are going to work

First, it has been reviewed by the Convention Concerning the Protection of the World Cultural and Natural Heritage. Article 1 of the Convention states that the properties of OUV (both cultural and natural) should be defined from the point of view of history, art, science, anthropology and ethnology (UNESCO 1972). Later, we added the contribution of ICOMOS to the Burra Charter, which also recognised social value. These are a new class of cultural values. As a result, the first part of the table consists of the following values: aesthetic/artistic, historical, scientific and social. However, UNESCO has gone a step further. In its most recent documents, it refers to the need to include values related to sustainability, which are defined as ecological (environmental) and economic (UNESCO 2016; Pereira Roders 2007).

To these six values, a seventh—landscape dimension—must be added. This is a holistic and transversal value that is not limited to the aesthetic or formal concept of landscape, that is, landscape as perceived and represented by an artist or landscape as the trace of human action on the territory. Landscape is considered the dimension in which human communities coexist. Thus, it goes beyond overcoming the dichotomy between natural and cultural heritage inherited from the 1972 World Heritage Convention itself (Pastor Pérez and Díaz-Andreu, 2022). It refers to how communities relate to the physical environment and each other, forming a complex system that must value not only ecological, economic, social and political but also cultural dimensions (Tesser 2000). Indeed, it is the sensory, emotional and symbolic dimension that has contributed most to renewing the scientific consideration of landscapes as a field of study, particularly with respect to the construction of identity (Nogué 2011).

With respect to attributes, both tangible and intangible attributes have been referenced, as it is impossible to ignore the Convention for the Safeguarding of the Intangible Cultural Heritage (UNESCO 2003) and the numerous references to the latter concept in the *Operational*

Guidelines for the Implementation of the World Heritage Convention (UNESCO 2008). It should be noted, however, that the *Operational Guidelines for the Implementation of the World Heritage Convention*, adopted in 2005, refer to attributes (point No. 82):

Depending on the type of cultural heritage, and its cultural context, properties may be understood to meet the conditions of authenticity if their cultural value (as recognised in the nomination criteria proposed) are truthfully and credibly expressed through a variety of attributes including: form and design; materials and substance; use and function; traditions, techniques and management systems; location and setting; language, and other forms of intangible heritage; spirit and feeling; and other internal and external factors (UNESCO 2005, 21).

An identification of tangible and intangible attributes has been proposed according to the different scales of approach to the asset and the questions suggested by the Operational Guide (Table 1). Tangible attributes are divided into 1) materials and techniques; 2) buildings and complexes; 3) urban structure; and 4) the physical environment and natural areas. Attributes reflecting constructive uniqueness or the use of specific materials are related to 'materials and techniques'. Related to 'Building and Complex' are those that focus directly on the architecture produced, the group of buildings or a particular urban complex. In relation to 'urban structure', the aim of this attribute is to capture those elements that influence the urban configuration of the asset. Finally, in relation to the 'physical environment and natural areas', the aim is to reflect those aspects related to the area, including the orography, physiography and ecology, as well as their relation to locations.

Intangible attributes are divided into 1) relationships with the cultural context, 2) relationships with use/function, 3) relationships with traditions and habits/practices and 4) relationships with the social context. The attributes related to 'relationship to cultural context' focus on the ideas behind the design, such as period, style or ideology. Attributes relating to the 'relationship to the use/function' that society gives to the property or place can be approached from the perspective of the past (e.g., the lifestyle of the emirs in the thirteenth and fourteenth centuries) or as a current use. The 'relationship to traditions and habits/practices' seeks to capture those local practices, traditions or knowledge of a community or group that are often linked to a particular place or property or to tangible outputs such as tools or instruments. Finally, 'relationship to the social context' refers to aspects related to the feelings and meaning created in the

Table 1 Table of attributes and values

		Tangible				Intangible			
Attribute types		Materials & Techniques	Building & complex	Urban structure	Physical environment & natural areas	Relationship with cultural context	Relation to the use/function	Relationship with traditions & habits/practices	Relation to social context
Values set out in the declaration (Unesco, 1972)	Aesthetic Artistic								
	Historical								
	Scientific								
Burra Charter (Icomos, 1979)	Social								
Values linked to sustainability (Unesco, 2016)	Ecological								
	Economic								
Landscape (Authors, 2024)	Landscape								

relationship between a World Heritage asset and a person, i.e., issues related to cultural identity or diversity.

This information is systematised in the Table of Values and Attributes (Table 1).

5.2 Phase 2—An analysis of the OUV Statement of the Alhambra, Generalife and Albayzín

The information contained in the OUV Statement is examined in detail in this section. For Alhambra and Generalife (Table 2), the descriptions in the 'Brief Synthesis' section, which are located in the justification of the criteria for inscription on WHL, and the 'Authenticity and Integrity' section have been revised. The criteria for the inscription of the Alhambra and Generalife on the WHL are as follows: "Criterion (i): representing a masterpiece of human creative genius"; "Criterion (iii): unique or at least exceptional testimony to a cultural tradition or to a civilisation, living or extinct"; and "Criterion (iv): an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history".

The identified attributes are classified according to the scale and characteristics of what they represent. Once

they have been identified, it is important to reflect on their significance to assign the values they represent. An attribute can have more than one value. Among the various attributes identified in the statements of Alhambra and Generalife, those whose alterations significantly affect their understanding or appreciation, or which are considered a priority for conservation, have been selected. These features are described as they appear in the reference documents. The exact text is given in quotation marks and is also shown in the table. Those that are considered a priority for the case study, Tajo de San Pedro, are shown in bold type.

Table 2 includes all the attributes. An example is "Integration of architecture, vegetation, water". This is a transversal attribute identified in the category of "urban structure", which affects different values, such as artistic/historical and landscape values. This attribute also refers to the historical and artistic periods of the Alhambra and Generalife, up to its current conformation. It is a palimpsest made up of tangible elements such as architecture, vegetation and water. This integration establishes a relationship with Tajo de San Pedro, which contributes to the landscape of the Darro Valley. The same procedure

Table 2 Table of attributes and values of Alhambra and Generalife based on the Statement of World Heritage: Prioritisation of Tajo de San Pedro

Tangible				Intangible				
Attribute types	Materials & Techniques	Building & complex	Urban structure	Physical environment & natural areas	Relationship with cultural context	Relation to the use/function	Relationship with traditions & habits/practices	Relation to social context
Alhambra Generalife	Aesthetic Artistic	Values set out in the declaration (Unesco, 1972)	· Best example of Nasrid art in its decorative aspects. · Use of plaster, wood and ceramics as decorative elements.	· Integration architecture, vegetation, water. · It shows coherence as a whole composition.	· Content related to the religious, political and poetic world of the Nasrid dynasty, preserved and enriched by the humanist and innovative art of the Spanish Renaissance. · It is an example of the way of life of the amirs in the 13th and 14th centuries.	· Artistic technique on which all decorative and constructive developments are based.		
			· Outstanding example of the palatial residences of medieval Islam not destroyed or modified by time. · Exceptional testimony of Muslim Spain in the 13th and 15th centuries.	· Development of irrigation engineering in Al-Andalus.				
			· Unique palatine city from the Islamic period.					
Alhambra Generalife	Social	Burra Charter (Icomos, 1979)		· Extension of the irrigation system beyond the boundaries of the palace and gardens, integration into the medieval city.	· Content related to the religious, political and poetic world of the Nasrid dynasty, preserved and enriched by the humanist and innovative art of the Spanish Renaissance.	· It is an example of the way of life of the amirs in the 13th and 14th centuries.	· Artistic technique on which all decorative and constructive developments are based.	· Its component parts convey a set of values, preserved over time and enriched by their symbolic value.
				· Presence of hills and orchards, as a place of agricultural productivity.				
				· Presence of hills and orchards, as a place of agricultural productivity.				
Alhambra Generalife	Landscape	(Authors, 2024)	· Integration architecture, vegetation, water. · It shows coherence as a whole composition.	· Extension of the irrigation system beyond the boundaries of the palace and gardens, integration into the medieval city.				· Its component parts convey a set of values, preserved over time and enriched by their symbolic value.

has been followed for the identification of the remaining attributes that make up Table 2.

Because of spatial differences, one analysis was carried out for Alhambra and Generalife, and another was carried out for Albayzín. For Albayzín (Table 3), the descriptions in the "Brief Synthesis" section, which are located in the justification of the criteria for inscription on WHL, and the "Authenticity and Integrity" section have also been revised. The criteria for inscribing Albayzín on WHL are as follows: 'Criterion (i): representing a masterpiece of human creative genius,' 'Criterion (iii): unique or at least exceptional testimony to a cultural tradition or to a civilisation, living or extinct,' and 'Criterion (iv): being an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history.' Again, from the various attributes identified in the Statement, the priority attributes (in bold) are selected. In this case, they come from Albayzín. They can also be extrapolated to the Alhambra and Generalife sector, specifically to its northern slope, where Tajo de San Pedro is located.

Table 3 includes all the attributes. An example is "Its varied urban fabric coexists harmoniously with the changes and the opening of new public spaces built after the Christian conquest". This attribute can be considered a transversal attribute corresponding to 'urban structure', as it includes aesthetic/artistic and landscape values. It can also be applied to the promenade along Darro and to different spaces on both sides of the river. These include places such as Paseo de los Tristes, Chirimías Bridge and Tajo de San Pedro. Here, the plots of land, buildings and hydraulic infrastructure inherited from the Moorish urban plan coexisted with the constructions of the 20th century. They form part of the urban landscape of this sector and the Tajo de San Pedro. The same process was developed for the remaining nonpriority features: identification, categorisation (tangible/intangible) and evaluation.

5.3 Phase 3—The identification of complementary attributes and values from other national, regional and local documents

This phase aims to identify, on the basis of official documents at the national, regional and local levels, heritage values and attributes that go beyond the perspective of the OUV Statement. Once again, the most important attributes related to the object of study are prioritised (Table 4). The documents analysed in this phase (Table 5) are as follows:

A colour code was used to identify the type of source used to facilitate the reading and interpretation of the table of values and attributes obtained from the

analysis of the "complementary documents" (Table 4): 2003 Decree 186/2003, of June 24, of the Historic City of Granada (black), 2004 Decree 107/2004, of March 23, of the Monument of the Alhambra and Generalife, and 2017 Decree 43/2017, of March 14, of the Heritage Zone of the Darro Valley (blue), or directly related to the management of the property, such as the 2020 Master Plans of the Alhambra and Generalife (purple). Additionally, each attribute indicates, in parentheses, its source. This is the abbreviation of the document in which it was identified. The information contained in each of the documents examined is explained below.

By Decree 43/2017 of 14 March (España 2017), the Darro Valley was included in the General Catalogue of the Historical Heritage of Andalusia as an Asset of Cultural Interest (*Bien de Interés Cultural*, the highest level of protection in Spain). In this context, the typology of the Heritage Area focuses on the values of the landscape and the main characteristics of the Darro River, especially the one that is close to the northern slope of the Alhambra hill. These are both physical elements and human traces in the area. These include practices, knowledge and traditions that have been handed down through history. For example, the 'Urban Darro River and valley/gorge as a vertebral axis' is located in the 'Urban structure' and has ecological value. 'Conglomerate and dolomite outcrops' and 'meanders, river terraces, gorges, ravines' are also assigned an ecological value, but in the category 'physical environment and natural spaces'. The remaining attributes identified in this decree can be checked using Table 4.

Similarly, the 2020 Master Plan of Alhambra and Generalife highlight attributes related mainly to the landscape value of the northern slope of Alhambra hill and, by extension, the Darro valley (Villafranca Jiménez and Salmerón Escobar 2020). However, there is little reference to the attributes and their values in urban planning and special protection plan documents, which are more concerned with the management of spaces. For example, the document states that "the northern slope of the Alhambra, the San Pedro Forest and the Darro banks are areas of great historical, scenic and environmental value". This finding confirms not only the previous attribute. It also explicitly states that the northern slope of the Alhambra adds a new value. The environmental value is added to the scenic and historical values. For this reason, it has been selected under "physical environment and natural spaces" to associate it with historical, ecological and landscape values. Specifically, the northern slope is an important point, as it is the hinge and transition axis between the Alhambra and the Albayzín.

Decree 107/2004, of 23 March (España 2004), which declares the Alhambra and Generalife as an Asset of

Table 3 Table of attributes and values of Albayzín based on the Statement of World Heritage: Prioritisation of Tajo de San Pedro

Tangible			Intangible																
Albayzín	Attribute types	Materials & Techniques	Building & complex	Urban structure	Physical environment & natural areas	Relationship with cultural context	Relation to the use/function	Relationship with traditions & habits/practices	Relation to social context										
Albayzín	Aesthetic Artistic	· Its main characteristics in terms of form, materials and colours have remained almost unchanged and it survives as a remarkable example of a Moorish city of the Nasrid dynasty.	· A rich legacy of Moorish town planning and architecture in which Nasrid and Christian buildings coexist. · Its main characteristics, materials and colours are preserved and survive as a remarkable example of a Moorish city of the Nasrid dynasty. · Fusion with the vernacular urbanism of the 19th and early 20th centuries. · It preserves unique examples of major architectural landmarks.	· They represent two complementary realities and examples of medieval urban complexes. · A rich legacy of Moorish town planning and architecture in which Nasrid and Christian buildings coexist. · The design of the streets and the Hispanic-Muslim cityscape show authenticity. · Its mostly urban fabric coexists with the changes and openings of new public spaces.	· Its mostly urban fabric coexists with the changes and openings of new public spaces.	· It represents a microcosm of the Andalusian cultural splendour of Granada.	· It maintains its original residential character, the result of the richness of Moorish architecture, harmoniously finished off with elements of traditional and secular architecture from Granada. · Its mostly urban fabric coexists with the changes and openings of new public spaces.	· Its architecture and urban landscape is the most remarkable cultural example of the survival of the Andalusian culture in our days. · Scientific knowledge and their social customs, gastronomy and hygiene confirm the greatness of this advanced culture.	· The customs handed down by the Andalusian people originated in this type of neighbourhood and influenced European cultures. · Scientific knowledge, social customs, gastronomy and hygiene confirm the greatness of this culture.										
										Historical	Values set out in the declaration (Unesco, 1972)	· A rich legacy of Moorish urban planning and architecture in which Nasrid buildings coexist harmoniously with constructions in the Christian tradition. · It involves the adaptation of the Nasrid technique to Christian monumental typologies, which coexist with Muslim ones.	· Together with the Alhambra, it forms the medieval part of the city. · It is the origin of the city of Granada.	· The customs handed down by the Andalusian people originated in this type of neighbourhood and influenced European cultures. · Scientific knowledge, social customs, gastronomy and hygiene confirm the greatness of this culture.					
															Scientific	Burra Charter (1979) (Icomos)	Ecological	Values linked to sustainability (Unesco, 2016)	Economic
Ecological	Values linked to sustainability (Unesco, 2016)	· A rich legacy of Moorish town planning and architecture in which Nasrid and Christian buildings coexist. · The design of the streets and the Hispanic-Muslim cityscape show authenticity. · Its mostly urban fabric coexists with the changes and openings of new public spaces.	· Its mostly urban fabric coexists with the changes and openings of new public spaces.	· It maintains its original residential character, the result of the richness of Moorish architecture, harmoniously finished off with elements of traditional and secular architecture from Granada.	· Its mostly urban fabric coexists with the changes and openings of new public spaces.	· The customs handed down by the Andalusian people originated in this type of neighbourhood and influenced European cultures. · Scientific knowledge, social customs, gastronomy and hygiene confirm the greatness of this culture.													
							Economic	Values linked to sustainability (Unesco, 2016)	· A rich legacy of Moorish urban planning and architecture in which Nasrid buildings coexist harmoniously with constructions in the Christian tradition.	· It is an exceptional and harmonious blend of two traditions, creating a unique and special form and style.	· It maintains its original residential character, the result of the richness of Moorish architecture, harmoniously finished off with elements of traditional and secular architecture from Granada.	· Its mostly urban fabric coexists with the changes and openings of new public spaces.	· The customs handed down by the Andalusian people originated in this type of neighbourhood and influenced European cultures. · Scientific knowledge, social customs, gastronomy and hygiene confirm the greatness of this culture.						
Social	Burra Charter (1979) (Icomos)	Ecological	Values linked to sustainability (Unesco, 2016)	Economic															
					Landscape (Authros, 2024)	· A rich legacy of Moorish urban planning and architecture in which Nasrid buildings coexist harmoniously with constructions in the Christian tradition.	· It is an exceptional and harmonious blend of two traditions, creating a unique and special form and style.	· It maintains its original residential character, the result of the richness of Moorish architecture, harmoniously finished off with elements of traditional and secular architecture from Granada.	· Its mostly urban fabric coexists with the changes and openings of new public spaces.	· The customs handed down by the Andalusian people originated in this type of neighbourhood and influenced European cultures. · Scientific knowledge, social customs, gastronomy and hygiene confirm the greatness of this culture.									

Table 4 Table of attributes and values of Alhambra and Generalife based on complementary documents: Prioritisation of Tajo de San Pedro

Alhambra			Tangible			Intangible			
Attribute types	Materials & Techniques	Building & complex	Urban structure	Physical environment & natural areas	Relationship with cultural context	Relation to the use/function	Relationship with traditions & habits/practices	Relation to social context	
Aesthetic Artistic	· Remains of the cármenes in the Darro valley, 16th-17th centuries (PD) · Buildings and spaces such as the Rey Chico mill or the Rauma Hotel are valued (PD)	· The essential element is "the urban fabric", "the historic city of Granada, including the Alhambra and Generalife, which enables its global understanding as a cultural reality to be protected" (Decreto 186/2003)	· Medieval hydraulic system as a territorial structuring element (ZP) · The essential element is "the plot [...] to be protected" (Decreto 186/2003) · Cuesta de los Chinos, archaeological remains and cármenes of the Darro (PD)	· Darro Valley (ZP) · North slope of the Alhambra, San Pedro forest and the banks of the river Darro, areas of great historical, scenic and environmental value (PD)	· Darro Valley (ZP) · Use of water (ZP) · Transhumance (ZP)	· Landscape diversity and the different scenarios from which the Alhambra can be observed, based on historical analyses of views (PD)	· Darro Valley (ZP)		
Scientific	· Remains of Nasrid defensive, palatial and residential architecture, enriched by the palace of Charles V (BIC) · Typologies of the carmen, from the Middle Ages. Full configuration in the 19th century with arcades, flowerbeds, iron railings) (ZP) · Remains of the cármenes in the Darro valley, 16th-17th centuries (PD) · Valuation of the Rey Chico Mill or the Rauma Hotel (PD) · Cuesta de los Chinos, archaeological remains and cármenes of the Darro (PD)	· The essential element is "the urban fabric", "the historic city of Granada, including the Alhambra and Generalife, which enables its global understanding as a cultural reality to be protected" (Decreto 186/2003)	· Medieval hydraulic system as a territorial structuring element (ZP)	· Darro Valley (ZP)	· Forest culture (PD) · Hydraulic culture (PD) · Gardening culture (PD) · The monument's harmonious presence in nature (PD)	· Use of water (ZP) · Transhumance (ZP) · Use of surplus irrigation water by the forest (PD) · Increased biomass acts as a green lung in relation to humidity, air, temperature and CO2. (PD)	· The Darro, the San Pedro forest and the Dehesa del Generalife provide complementary solutions for public use (PD)		
Social	· Balates and parates of Arab origin (PD) · Orchards / horticulture and gardens / gardening Andalusian origins (PD) · Supply and irrigation system: irrigation ditches, dividers, reservoirs, fountains; medieval origin, better conservation and use of water (PD) · Microclimate in the monumental area and the city (PD) · The Rauma Hotel can have an administrative, tourist and cultural use, enhancing the connections between Alhambra and the city (PD)	· Location (BIC) · BIC area assesses the aspects of the landscape: buildings, vegetation, fauna, geology, etc. (PD)	· Location (BIC) · Hydraulic system (ZP) · Agricultural plot (ZP) · Urban Darro River and valley as a vertebral axis (ZP) · Darro ecological corridor on the north slope (ZP) · Island forest within the urban fabric (PD) · Darro Sierra Huéscar-Granada ecological corridor (PD) · Hydraulic system (ZP) · Agricultural plot (ZP)	· Forests, orchards and water wealth (BIC) · San Pedro Forest, Umbria del Generalife and dolomite outcrops · Terraces, gullies, canyons - copses and copses of the Darro (ZP) · In Granada "the physical environment takes on a special role worthy of protection" (Decreto 186/2003) · North slope, San Pedro forest and Darro riverbank, areas of historical, scenic and environmental value (PD) · Area around BIC values aspects related to the landscape (PD) · Confluence of very different ecosystems: Darro, forest and Generalife (PD)	· Forest culture (PD) · Hydraulic culture (PD) · Gardening culture (PD) · The monument's harmonious presence in nature (PD)	· Use of water (ZP) · Transhumance (ZP) · Use of surplus irrigation water by the forest (PD) · Increased biomass acts as a green lung in relation to humidity, air, temperature and CO2. (PD)	· The Darro, the San Pedro forest and the Dehesa del Generalife provide complementary solutions for public use (PD)		
Ecological	· Valuation of the Rey Chico Mill or the Rauma Hote (PD) · Cuesta de los Chinos, archaeological remains and cármenes of the Darro (PD) · Diversity of landscapes and scenery in which to observe the Alhambra (PD) · BIC area assesses the aspects of the landscape: buildings, vegetation, fauna, geology, etc. (PD)	· Location (BIC) · Hydraulic system (ZP) · Agricultural plot (ZP)	· Location (BIC) · Hydraulic system (ZP) · Agricultural plot (ZP)	· In Granada "the physical environment takes on a special role worthy of protection" (Decreto 186/2003) · North slope, San Pedro forest and Darro riverbank, areas of historical, scenic and environmental value (PD) · BIC area assesses the aspects of the landscape: buildings, vegetation, fauna, geology, etc. (PD) · Ecological influence of water use and topographical differences (PD)	· Territorial dimension "links cultural values, space and time, with others that remain but also physically shape it" (Decreto 186/2003) · Landscape manifestations of water, vines, vegetation and associated fauna (PD) · Soil conservation and good water use (PD)	· Idyllic image. Lushness adorned with aromatic plants and colourful flowers (PD) · Landscapes manifestations of water, vines, vegetation and associated fauna (PD)	· Totems and intergenerational references crowd this small area of land (PD)	· Landscape diversity and the different scenarios from which the Alhambra can be observed, based on historical analyses of views (PD) · Inmate, present and potential landscape use (PD)	
Economic	· Valuation of the Rey Chico Mill or the Rauma Hote (PD) · Cuesta de los Chinos, archaeological remains and cármenes of the Darro (PD) · Diversity of landscapes and scenery in which to observe the Alhambra (PD) · BIC area assesses the aspects of the landscape: buildings, vegetation, fauna, geology, etc. (PD)	· Location (BIC) · Hydraulic system (ZP) · Agricultural plot (ZP)	· Location (BIC) · Hydraulic system (ZP) · Agricultural plot (ZP)	· In Granada "the physical environment takes on a special role worthy of protection" (Decreto 186/2003) · North slope, San Pedro forest and Darro riverbank, areas of historical, scenic and environmental value (PD) · BIC area assesses the aspects of the landscape: buildings, vegetation, fauna, geology, etc. (PD) · Ecological influence of water use and topographical differences (PD)	· Territorial dimension "links cultural values, space and time, with others that remain but also physically shape it" (Decreto 186/2003) · Landscape manifestations of water, vines, vegetation and associated fauna (PD) · Soil conservation and good water use (PD)	· Idyllic image. Lushness adorned with aromatic plants and colourful flowers (PD) · Landscapes manifestations of water, vines, vegetation and associated fauna (PD)	· Totems and intergenerational references crowd this small area of land (PD)	· Landscape diversity and the different scenarios from which the Alhambra can be observed, based on historical analyses of views (PD) · Inmate, present and potential landscape use (PD)	
Landscape	· Valuation of the Rey Chico Mill or the Rauma Hote (PD) · Cuesta de los Chinos, archaeological remains and cármenes of the Darro (PD) · Diversity of landscapes and scenery in which to observe the Alhambra (PD) · BIC area assesses the aspects of the landscape: buildings, vegetation, fauna, geology, etc. (PD)	· Location (BIC) · Hydraulic system (ZP) · Agricultural plot (ZP)	· Location (BIC) · Hydraulic system (ZP) · Agricultural plot (ZP)	· In Granada "the physical environment takes on a special role worthy of protection" (Decreto 186/2003) · North slope, San Pedro forest and Darro riverbank, areas of historical, scenic and environmental value (PD) · BIC area assesses the aspects of the landscape: buildings, vegetation, fauna, geology, etc. (PD) · Ecological influence of water use and topographical differences (PD)	· Territorial dimension "links cultural values, space and time, with others that remain but also physically shape it" (Decreto 186/2003) · Landscape manifestations of water, vines, vegetation and associated fauna (PD) · Soil conservation and good water use (PD)	· Idyllic image. Lushness adorned with aromatic plants and colourful flowers (PD) · Landscapes manifestations of water, vines, vegetation and associated fauna (PD)	· Totems and intergenerational references crowd this small area of land (PD)	· Landscape diversity and the different scenarios from which the Alhambra can be observed, based on historical analyses of views (PD) · Inmate, present and potential landscape use (PD)	

[...]: See full description in this table.

* These characteristics belong to the value 'Historic' and to the attribute 'Building and Complex'.

** These characteristics belong to the value 'Ecological' and to 'Physical environment and natural areas'.

Table 5 Table of documents analysed in phase 3. The official name of the documents is in the Spanish language. The original reference has thus been retained

National	1929 Real Orden de 05/12/1929 por la que se declara a Granada como ciudad artística (Gaceta de Madrid 341, 7/12/1929) (1929 Royal Order of December 5, 1929, declaring Granada as an Artistic City (Gaceta de Madrid No. 341, December 7, 1929))
Regional	2017 Decreto 43/2017, de 14 de marzo, por el que se inscribe en el Catálogo General del Patrimonio Histórico Andaluz como Bien de Interés Cultural, con la tipología de Zona Patrimonial, el Valle del Darro, en los términos municipales de Beas de Granada, Granada y Huétor Santillán (Granada) (2017 Decree 43/2017, of March 14, registering the Darro Valley in the General Catalogue of Andalusia's Historical Heritage as an Asset of Cultural Interest, under the category of Heritage Zone, in the municipalities of Beas de Granada, Granada, and Huétor Santillán (Granada)). 2020 Plan Director de la Alhambra y Generalife. Patronato de La Alhambra y el Generalife (2020 Master Plan of the Alhambra and Generalife. Council of the Alhambra and Generalife) 2004 Decreto 107/2004, de 23 de marzo, por el que se declara y delimita el Bien de Interés Cultural, con la categoría de Monumento, la Alhambra y Generalife. BOJA número 74 de 16/04/2004 https://www.juntadeandalucia.es/boja/2004/74/31 (2004 Decree 107/2004, of March 23, declaring and defining the Alhambra and Generalife as an Asset of Cultural Interest under the category of Monument. BOJA No. 74, April 16, 2004) 2003 Decreto 186/2003, de 24 de junio, por el que se amplía la demarcación de la Ciudad Histórica de Granada, declarada conjunto histórico-artístico por la Real Orden de 1929, de 5 de diciembre. BOJA núm. 141 de 24/07/2003 > https://www.juntadeandalucia.es/boja/2003/141/2 (2003 Decree 186/2003, of June 24, extending the boundaries of the Historic City of Granada, declared a historic-artistic ensemble by the Royal Order of December 5, 1929. BOJA No. 141, July 24, 2003) 1993 Decreto 85/1993, de 29 de junio, por el que queda delimitado el ámbito afectado por la declaración del Conjunto Histórico de Granada como bien de interés cultural (BOE 198, 19 de agosto 1993, pág. 25348–25354). BOJA núm. 72 de 6/7/1993 https://www.juntadeandalucia.es/boja/1993/72/26 (1993 Decree 85/1993, of June 29, defining the area affected by the declaration of the Historic Ensemble of Granada as an Asset of Cultural Interest. BOE No. 198, August 19, 1993, pp. 25348–25354. BOJA No. 72, July 6, 1993) 1989 Resolución de 24 de enero de 1989, de la DGBBCC, por lo que se ha acordado tener por incoado expediente de declaración de conjunto histórico, como bien de interés cultural, a favor de la Alhambra y Generalife (BOJA 15, 24 de febrero 1989, p. 661) (1989 Resolution of January 24, 1989, of the DGBBCC, initiating the process to declare the Alhambra and Generalife as a Historic Ensemble and an Asset of Cultural Interest. BOJA No. 15, February 24, 1989, p. 661)
Local	2019 Plan Especial Albayzín y Sacromonte (PAS-avance 2019) (2019 Special Plan for Albayzín and Sacromonte (PAS - preliminary version 2019)) 1990 Plan Especial de Protección y Reforma Interior (PEPRI) del Albayzín. Consejería de Obras Públicas y Transportes (1990 Special Plan for Protection and Interior Reform (PEPRI) of Albayzín. Department of Public Works and Transport) 1989 Plan Especial de Protección y Reforma Interior (PEPRI) de la Alhambra y Alijares. Consejería de Obras Públicas y Transportes (1989 Special Plan for Protection and Interior Reform (PEPRI) of the Alhambra and Alijares. Department of Public Works and Transport)

Cultural Interest in the category of Monument, also provides valuable information about the northern slope. For example, this declaration highlights the "woods and orchards" and the "wealth of waters" as attributes related to the landscape. It is no coincidence that both are associated with the ecological value of 'Physical Environment and Natural Spaces'. They are a remarkable expression of the interaction between man and nature over time, which has given rise to unique plant formations and uses of the environment where water is predominant. Thus, depending on the possibilities and limitations of the topography and the technical capacity to transport irrigation water, forests and orchards, which are considered two different but complementary forms of economic use, coexist in the same space. One of the main values of the landscape is the permanence of these uses and the hydraulic infrastructure associated with them. This contributes to the construction of the historical image that characterises this sector of the Alhambra and Granada, beyond being purely ecological and even economic.

Similarly, Decree 186/2003 of 24 June 2003 (España 2003) extends the boundaries of the Historic-Artistic Site of Granada. This document refers to the territorial dimension and states that 'It links cultural values, space and time, with others that exist within them, but which

in turn shape them physically: their social and economic structures, infrastructures, landscape, nature, in short' (España 2003). This attribute is linked to territory. Here, the different material and immaterial elements that constitute Granada's urban reality come together. Owing to the cumulative nature of the landscape, the traces left by people can be seen as a synthesis of the relationship between societies and the environment over time. One of the most striking of these is the Tajo de San Pedro. Here, geological, ecological, sociological, aesthetic and historical aspects come together as part of the same landscape.

This approach emphasises that in Granada, 'the physical environment takes on a special meaning that should be protected' (España 2003). In other words, it is the framework that brings together a significant part of the characteristics and values that make this city what it is. For this reason, we highlight it under the "physical environment and natural spaces", particularly given its ecological value. However, it can also be considered a landscape asset. Sabika Hill and Tajo de San Pedro are natural formations shaped by humans. They are an original feature of the physiognomic, aesthetic and socio-economic configuration of the Alhambra, in addition to the agricultural uses that characterise its northern slope. They have also contributed to the development of the

city's image. All the information included in Table 4 has followed the same process.

6 Discussion and conclusion

The detailed identification of heritage attributes and values (Tables 1, 2, 3 and 5) through the methodology of this research resulted in the recognition of complementary values beyond those established in the World Heritage Convention and the Burra Charter. The historical, artistic, scientific and social values recognised since the 1972 Convention have significantly strengthened alongside the newly proposed ecological, economic and scenic attributes. For example, references to Alhambra's northern slope and landscape diversity were included in the tangible and intangible attributes of historic value, along with water use and the medieval hydraulic system.

The value of the landscape sums all the previous values. This implies that the environmental perspective is necessary and complementary to preserving a cultural asset characterised by the Alhambra, Generalife and Albayzín. In general, this approach has led to the recognition of the value of the consolidated image of the Alhambra in the iconography of Granada. There, both the environmental and the cultural aspects coexist. This approach highlights the possibility of reflecting all these requirements in the setting defined by the Asset of Cultural Interest, where the landscape aspects that make it up (buildings, vegetation, fauna, flora, topography, etc.) are valued. To understand the collective image created by the Alhambra, the landscape value allows the territory attribute to play a leading role. The northern slope, particularly the Tajo de San Pedro, is not only the physical 'support' of the Alhambra. Together with the Alhambra, it forms a space that has survived the changes that have taken place in recent years. It has acquired landscape value that combines cultural, natural and territorial aspects.

This review highlights the need to combine the different reports produced by administrations, each of which responds to specific needs. The criteria for evaluating World Heritage files thus need to be updated. Attributes, whether tangible or intangible, have been positioned in the methodology developed. Different values can coexist within the same heritage site. Distinguishing between what is valued and why it is valued clarifies the approach to working with this heritage. These approaches broaden the field of meanings through the diversity of disciplines involved in this assessment, moving away from the dominance of traditional values such as historical or aesthetic values. Beyond the OUV established by the Statement, the importance of the other documents dealing with heritage assessment and protection from different fields and scales is also evident and fundamental. As a result,

heritage assessment must consider both the assets that make up the heritage itself and the area in which they are located. It also needs to consider how these are related to the historical, economic, social or natural processes that have shaped them. By incorporating and synthesising, in a unique and interrelated way, all the information produced by the various institutions involved in World Heritage, this methodology redefines the heritage quality of an asset.

This broad and detailed identification of values and characteristics makes it possible to make recommendations that will guide public institutions in the actions that need to be carried out on the northern slope. It is also a guarantee of an understanding of its cultural significance. This multidisciplinary and multiscale assessment is an innovative methodological proposal for World Heritage. In this way, it becomes a monitoring tool capable of measuring the impact of the programmed actions on each of the values and attributes identified. It is a monitoring tool that can measure the impact of planned actions on each of the values and attributes that have been identified. It is a procedure that is part of a quality control process that guarantees conservation, in this case, World Heritage in its context. However, the interventions that can be proposed for this element need to be based on looking at the site from a heritage perspective, where cultural and identity issues are involved and where citizens play a fundamental role. For this purpose, other studies, such as participatory processes, should be conducted and incorporated into the design.

Abbreviations

WHL	World Heritage List
WH	World Heritage Site
OUVs	Outstanding Universal Values
BIC	Bien Interés Cultural (Asset of Cultural Interest)

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Authors' contributions

All authors have contributed equally and all authors read and approved the final manuscript.

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Data availability

The authors confirm that the data supporting the findings of this study are available within the article and its supplementary materials.

Declarations

Ethics approval and consent to participate

This research was conducted in accordance with the ethical standards and guidelines set forth by the University of Seville, which govern the responsible conduct of research. The nature of the study did not involve any direct interaction with human or animal subjects, nor did it involve sensitive data or other ethical concerns requiring formal review by the university's ethics committee.

Consent for publication

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Competing interests

The authors declare that they have no competing interests.

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