

**EVALUATION OF CULTURAL HERITAGE,
GEOGRAPHIC INFORMATION SYSTEM
AND TERRITORY MUSEUM
TOOLS FOR SUSTAINABLE MANAGEMENT**

Jorge Hermosilla Pla
Director



VNIVERSITAT
DE VALÈNCIA



EULAC
MUSEUMS

EVALUATION OF CULTURAL HERITAGE, GEOGRAPHIC INFORMATION SYSTEM AND TERRITORY MUSEUM

TOOLS FOR SUSTAINABLE MANAGEMENT

Authors

Jorge Hermosilla Pla *Director*
Mónica Fernández Villarejo
Ghaleb Fansa
Sandra Mayordomo Maya
Miguel Antequera Fernández
Esther Haro Carrasco
Roberto Escrivá Almiñana

Technical team

Esther Alba Pagán
Catherine Andrés Langa
Miguel Antequera Fernández
José Vicente Aparicio Vayà
Roberto Escrivá Almiñana
Esther Haro Carrasco
Emilio Iranzo García
José Luis Jiménez Salvador
Joan Carles Membrado Tena
Carme Piqueras Sanchis

Collaborators

Anna García
Museu de la Universitat de València de Historia Natural

Ernesto Manzanedo
Museu de Ceràmica de Paterna

Eva Sanz
Museu de la Rajoleria de Paiporta

Francesc Martínez
Museu del Palmito d'Aldaia

Javier Martí y Laura Torres
Museu d'Història de València

Mari Carmen Barcos
Museu de L'Horta d'Almàspera

Clara Pérez
Museu Comarcal de L'Horta Sud (Torrent)

Carlos Barberà
Castillo Palacio de Alaquàs

Sara Blanes y Ana García
Museu de Ceràmica de Manises

Design

Begoña Broseta

APPLICATION OF TOOLS FOR SUSTAINABLE MANAGEMENT IN PERU

Authors

Pontificia Universidad Católica del Perú:

Luis Repetto Málaga, *Coordinator*
Amalia Castelli Gonzalez
Viviana Munguia Monterroso
Claudio Mendoza Castro

*Assistant team from the Dirección Desconcentrada
de Cultura, La Libertad, Ministerio de Cultura*

María Elena Córdova Burga
Former Deputy Minister of Cultural Heritage and Industries

Jhon Juárez Urbina
DDC Director, La Libertad

César Gálvez Mora
DDC Sub director, La Libertad

Luis Chaparro Frías
Responsible for Intangible Cultural Heritage, DDC La Libertad

Víctor Vallejo Martell
Head of the Citizen Participation Unit, PECACH

David LLancari Oliden
GIS Operator, PECACH

Rolando Paredes Grados
Responsible for Archaeological Site of Chan Chan and Site Museum

Flor Díaz Deza
Responsible for Cultural Heritage Defence

Roger Montealegre Barrientos
Responsible for Communications and Institutional Image

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C/ Artes Gráficas, 14 - 46010 - Valencia

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FAX: 96/369 41 51

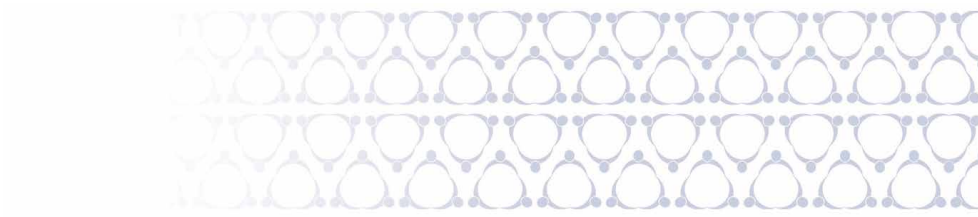
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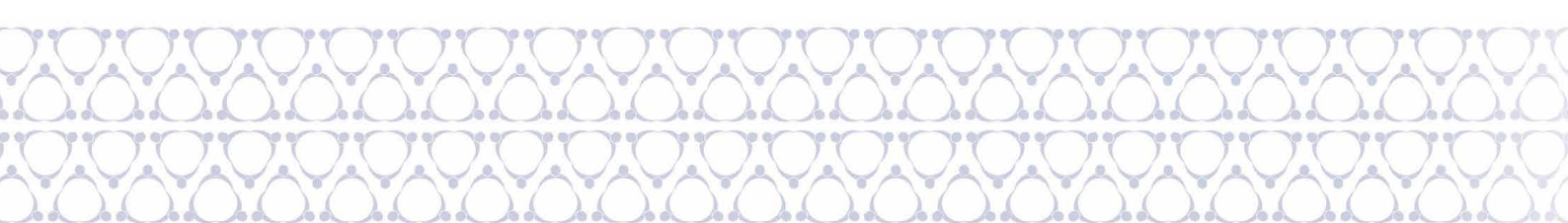
PREFACE

Dr. Karen Brown

*School of Art History, Director, Museums,
Galleries and Collections Institute,
University of St Andrews, Scotland
Co-ordinator, EU-LAC-MUSEUMS
Horizon2020 project*

The EU-LAC-MUSEUMS project (2016-2020) was explicitly designed in response to the Horizon2020 Work Programme call INT 12 (2015), the cultural, scientific and social dimension of EU-LAC relations, to study 'close connections between Europe and Latin America and the Caribbean' in the world of community museology.¹ Museums and cultural heritage hold an unequalled responsibility to communicate the 'shared history' and 'cultural, political and economic ties' between Europe, Latin America and the Caribbean. Museums have enormous capacity to reach all levels of community, from towns to remote villages, and can be neutral spaces for building social cohesion and reconciliation in a varie-

¹The EU-LAC-MUSEUMS project is funded by the European Union Horizon2020 programme under Grant Agreement number 693669. The consortium consists of: The University of St Andrews (Scotland) (Coordinator), The University of Valencia (Spain), The National Museum of Archaeology, Lisbon (Portugal), the International Council of Museums (based in France), The Pontifical Catholic University of Peru (Peru), The University of Austral (Chile), the National Museum of Costa Rica (Costa Rica), and the University of the West Indies (Jamaica).



'Heritage constitutes a source of identity and cohesion for communities disrupted by bewildering change and economic instability. Creativity contributes to building open, inclusive and pluralistic societies. Both heritage and creativity lay the foundations for vibrant, innovative and prosperous knowledge societies.'

(UNESCO, 'Protecting our heritage and fostering creativity', 2015)

ty of contexts. Together, our research teams are determining 'synergies and cross-fertilization, as well as identifying asymmetries in bi-lateral and bi-regional relations' at the level of museum practice, theory, and policy.

The project partner research team ESTE-PA in the University of Valencia has run a Work Package entitled 'Innovation and Entrepreneurship for Sustainable Museums', bringing a common concern to share academic knowledge and research into cultural heritage beyond the academy, and to witness the real benefits of their research for society through the application of their research and methodologies in heritage territories. By focusing on the theme of Museums and Community: Concepts, Experiences, and Sustainability in Europe, Latin America and the Caribbean, all partners in the EU-LAC-MUSEUMS project are creating a common vision for sustainable, small to

medium-sized local and regional museums and their communities, and reinforcing mutual understanding and cooperation between regions. This vision is being built to last beyond the lifespan of our project, as we aspire towards future interaction and cooperation in the field of cultural and natural heritage management.

The outcomes of the Valencia group's research have led to two publications: on the one hand, Strategic Planning and Comprehensive Management Model of Cultural Heritage. Implementation in Territory Museums; and on the other, Evaluation of Cultural Heritage, Geographic Information System and Territory Museum. Tools for Sustainable Management.

The first publication focuses on the theory of territorial planning for heritage and sustainable development, while the second turns

to the methodologies used by the ESTEPA team, notably the deployment of design and implementation of a Cultural Heritage Evaluation Method, and a Geographic Information System. Both methodologies have been implemented first in Valencia and then in Perú. As the first manual elucidates, 'territory' as a term has special significance in the world of museums and heritage, including a long history dating back to the late 1960s and early 1970s when the concept of the 'integral museum' was born in Latin America and subsequently brought back to Europe and shared with the world. In 1972 a Round Table on the role of museums in relation to the social and economic needs of modern-day Latin America was held in Santiago de Chile, bringing together museologists from Central and South America, and representatives from UNESCO and ICOM as well as local representatives including farmers. The resulting Declaration, published by UNESCO in 1973, presents the conviction that museums have the responsibility to address the needs of their communities. There must be a paradigm shift from a museum focused on traditional values of custodianship, preservation and interpretation, to one where the needs of the community are located at its core.

In Europe, we seek to learn from the LAC region's innovative approaches to community museums developed since the 1970s including their territory museums, so-called 'integral museums', while also sharing concepts and experiences of related European initiatives such as social inclusion policies, the development of ecomuseums and territory museums in a European context. Building an EU-LAC knowledge area in museums and community has the potential to impact upon policy for future actions in social inclusion and sustainability in museums. In exploring these concepts and experiences, EU-LAC-MUSEUMS ultimately seeks to inform future research into regional museums and the communities they serve.

Sustainability is a word used frequently in today's policy agendas and publicity, but often ill defined. And yet, 'sustainability' has proven to be the single most pressing issue for our local museums and heritage sites. Returning to the 1972 Round Table of Santiago, key discussions which took place then still have resonance today: how can museums and heritage initiatives play a role in economic development? How can they contribute to regeneration and development of territories geographically isolated, or living in poverty? To answer these questions, our research needs to function at a range of levels – from community-level, to regional and national policy. All of these levels are present in the research approach taken by the ESTEPA team from Valencia.

There are a number of novel applications and approaches within the EU-LAC-MUSEUMS project destined to impact upon our immediate consortium communities in each region, and which are being implemented beyond the lifespan of the project. Not least of these initiatives are the ESTEPA team publicly-accessible innovation actions into the themes of investment, entrepreneurship, and sustainability. Building on years of successful programmes in cultural heritage and climate change, ESTEPA is producing plans and arrangements for designing new, altered, or improved products and processes for sustainable museums including a model of Participatory Strategic Planning (PSP) for sustainable museums, and the Integral Management Model (IMM), and Method of Evaluation of Cultural Heritage (MECH) described in these two publications. Valencia's research thereby works to combat ineffective management in small museums, which are often constrained in their endeavours by lack of funding and support, through the efforts of 'territory museums'. Planned to re-energise museums through novel and robust management systems, these systems are being recognised by the relevant official institutions. Decision makers working

at different levels (municipal, regional and state) continue to be the recipients of Valencia's research proposals and outputs, and through this official recognition, in addition to the project and academic outputs, the dissemination of these scientific achievements is being guaranteed. These systems have been applied locally to the Huerta de València, and the huerta de Cortes de Pallàs. Furthermore, building on these innovations developed and tested in the region of Valencia, ESTEPA is creating models and methods capable of being applied in both Europe and LAC. In particular, the M.E.C.H and the design and application of the Geographic Information System, G.I.S., as an instrument of management of cultural heritage, can be applied to any territory, and the impact of the implementation of these models will ultimately be economic. Fostering investment and entrepreneurship for sustainable museums will affect the local economy and GDP, making them stronger and more competitive.

An example of this application in other territories is documented in this publication: Evaluation of Cultural Heritage, Geographic Information System and Territory Museum. Tools for Sustainable Management, where we read about their collaboration with the EU-LAC-MUSEUMS partner the Pontifical Catholic University of Peru. Following intense discussions held in Valencia in 2018 about the Spanish and Peruvian partners' shared research interest in water heritage as an Intangible Cultural Heritage asset, a number of strategic meetings, site visits and research exchange ensued. Notably, at local level The Valencian Water Court, the 'Tribunal de las Aguas de València', exchanged with the Peruvian equivalent, the Water Judges of Corongo, at the area of Chan Chan, Trujillo, Peru archaeological site whose traditions have also been inscribed as ICH by UNESCO. At an academic level, the teams also collaborated in the Third International Conference of the World Network of

Water Museums (WAMU-NET), hosted by the University of Valencia in 2019. At policy level, the Valencian team involved their local governments as in Peru through the Minister of Culture for Trujillo. Together, in December 2019, the teams deployed the Valencian methodology to document tangible and intangible elements in the landscape. This publication, therefore, includes both the Master Plans for la Huerta de València and the huerta de Cortes de Pallàs, and a report on the application of their methodological system of evaluation of cultural heritage and GIS in Peru.

The ramifications of our collective shared research are therefore designed to have impact on a number of levels, national, regional and international, as outlined above. Ultimately, our goal is to reinforce the point amongst policy makers that small to medium-sized regional territory museums are not just important, but essential for fostering peaceful and sustainable societies.

I trust that the reader will enjoy these substantial publications issuing from ESTEPA's EU-LAC-MUSEUMS research since 2016, and be inspired about ways in which these theories and methods can be applied to their own territories as well.

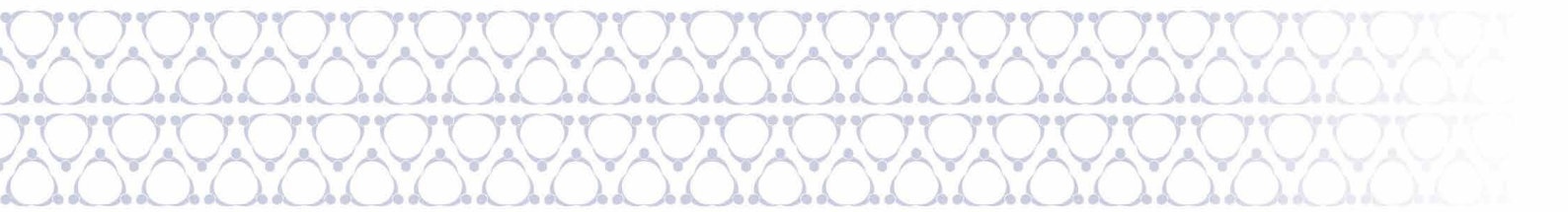
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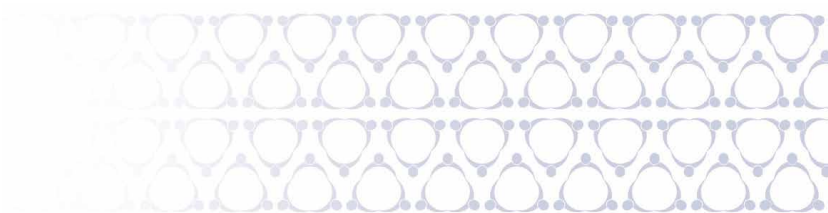
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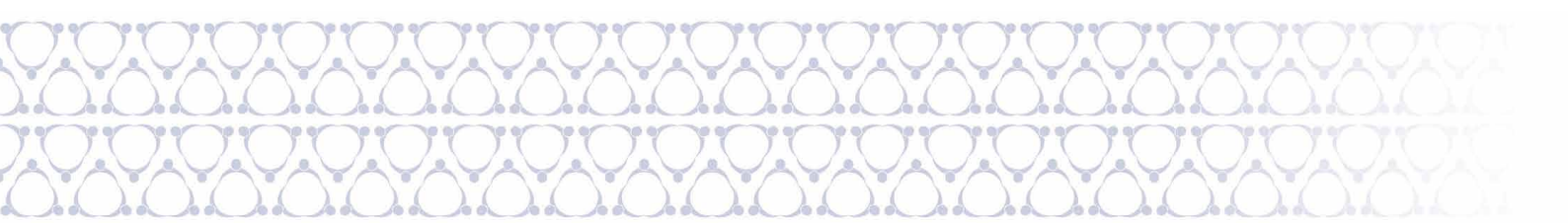
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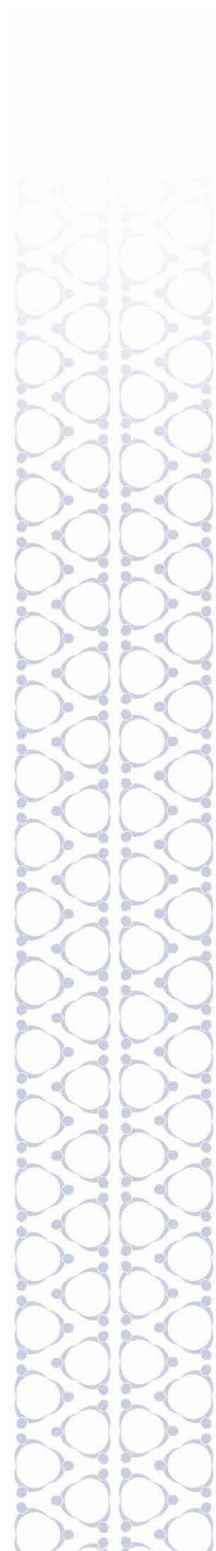
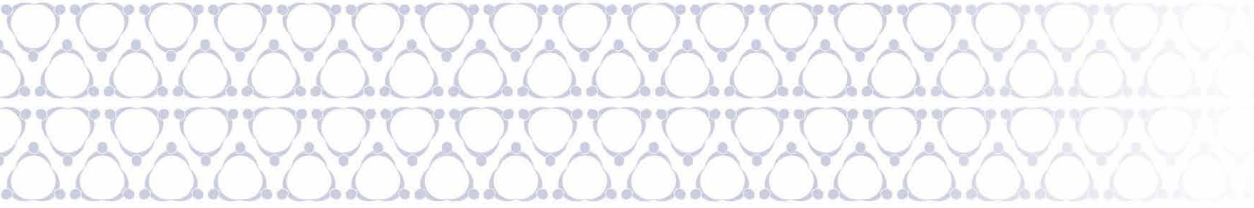
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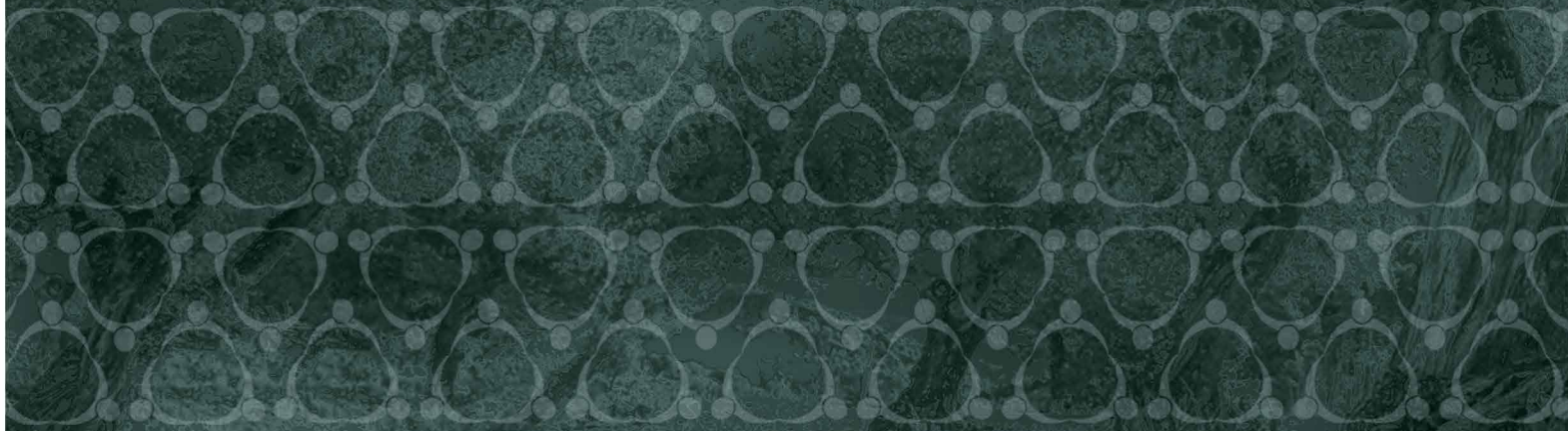
Miguel Antequera, Ghaleb Fansa and Jose Vicente Aparicio.

PERÚ:

*Luis Repetto Málaga, Amalia Castelli Gonzalez, Viviana Munguia Monterroso
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CHAPTER I

A MODEL OF EVALUATION OF THE CULTURAL HERITAGE

Authors:

*Sandra Mayordomo, Jorge Hermosilla
and Miguel Antequera*

01

Introduction

A MODEL OF EVALUATION OF THE CULTURAL HERITAGE FOR LATIN AMERICA AND EUROPE-EULAC-MUSEUMS

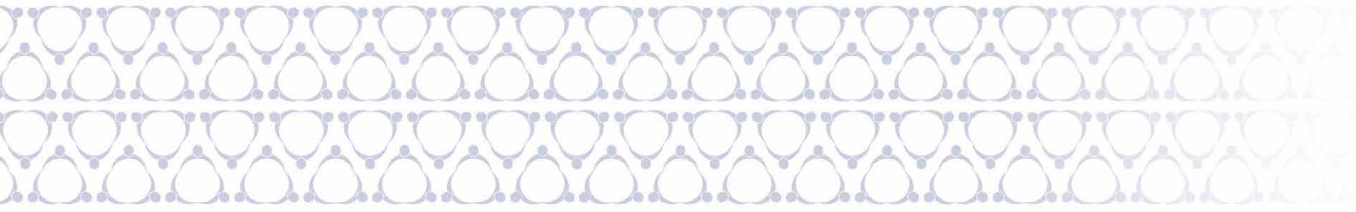
Cultural heritage acquires an increasingly evident importance in societies as a consequence of its multiple meanings, values and uses. The preservation and recovery of heritage assets require responsible and sustainable management. However, in the current situation, adequate cultural heritage planning is a complex task as a consequence of the existing challenges and circumstances. Aspects such as socioeconomic inequalities, mass tourism, agglomerations or globalization entail the need to design tasks that consider the benefit of the communities. Patrimonial management destined to the conservation and valorization is advisable, but with the participation of the society that guarantees the development and growth of the territory based on equity and sustainability.

In the present study, a GENERAL MODEL OF EVALUATION OF THE CULTURAL HERITAGE has been designed, from which three methods of patrimonial evaluation are developed that allow the valuation of the material, immaterial and landscape cultural elements. This allows the knowledge of

the heritage value of tangible and intangible goods and the landscapes to be evaluated for the benefit of the community, the decision makers and / or any interested users. The method is adaptable for different types of elements and cultural landscapes and in any geographical area. Its application enables a hierarchy of cultural elements and territories to be established according to their value and patrimonial interest. This information is relevant for the prioritization of adequate and coherent actions and strategies aimed at their protection, management, and valuation.

The proposed methodologies are configured as effective instruments of cultural asset management and decision-making. They have the potential to become systems recognized and widely used by the administrations for heritage management and planning. Institutionalization is essential for its implementation as useful tools for the valuation and management of heritage. We consider it is important to develop homogeneous, standardized and consensus-based methods.

The evaluation designed is a quantitative multi-criteria type. The data are based on objective and sometimes measurable parameters, although a certain degree of



subjectivity is inevitable. It is not possible, or even convenient, to suppress subjectivity completely; but it is desirable to achieve control of it and use criteria that are as objective as possible, in order to establish transparent and reproducible methods. The development of systematic procedures and the adequate definition of the indicators will allow a reduction of the subjectivity inherent to any evaluation method. The systems aim to cover the complexity of the cultural heritage and its landscapes, but with an application that is both practical and simple to use. Their values used consider factors that are specific to the heritage and to exogenous criteria. In addition, they contemplate the incorporation of complementary actions based on the participation of the community and other social agents. It is desirable, indeed essential, to involve the local population and other actors of the territory in the identification and assessment of their own heritage - cultural manifestations, nature and landscapes.

In short, the proposed patrimonial evaluation methodologies have been designed with the purpose of being used as tools to undertake the tasks inherent to the treatment of cultural heritage:

1. Research: cataloguing and inventories
2. Conservation
3. Dissemination and disclosure

4. Restitution and enhancement for any territory within the scope of influence of the EULAC-MUSEUMS project.

In this sense, it has been present from the first phase of the design of the GENERAL MODEL OF EVALUATION OF THE CULTURAL HERITAGE, the singularities of the Latin American cultural heritage compared to the European, as well as some experiences that in the matter of heritage assessment has been addressed in its museums and research centres. In particular, attention has been paid to:

- The unique characteristics of the Latin American cultural heritage, based on bibliography and documents generated by the Chilean and Peruvian partners of the EULAC-MUSEUMS project.
- The consultation of several methodologies that have originated in countries of South America and the Caribbean (LAC), focused on elements of their cultural heritage.
- The revision and subsequent validation of the GENERAL MODEL OF EVALUATION OF THE CULTURAL HERITAGE, by the Scottish, Chilean and Peruvian partners, and the technical staff of the EULAC-MUSEUMS project.





Historical evolution of the concept and values of the Heritage

02

Historical evolution of the concept and values of the Heritage

2.1 INTRODUCTION

The notion of cultural heritage is an open concept in constant re-elaboration. It is not an immutable essence since its definition depends on the social, ideological and intellectual valuations of each moment, as well as on the relationships maintained with memory and history (GONZÁLEZ-VARAS, 2015). Each historical time and context has established preferences based on the dynamism of societies. The concept of heritage has been built over the centuries through a changing process of value assignment. The meaning of heritage has improved through time, which has made it possible to define the current concept of cultural heritage.

In origin, patrimony was the property of an individual or family. Its etymology is related to the property of the goods received from the ancestors. In Antiquity patrimony was constituted by a collection of riches and antiquities of extraordinary material value. Subsequently, aspects related to aesthetics and the historical value of goods were considered. These notions of heritage have evolved and nowadays heritage is not only constituted by monuments or ancient elements, with or without artistic value, but by something that refers to our identity (GARCÍA, 2012). The development of the concept throughout history has been related to the idea of social construction. It is a collective and communal property, it is the common heritage of a culture. Consequently, the idea of heritage has evolved from a particularist approach related to private and individual property

towards a diffusion of goods as elements of collective identity (LLULL, 2005). In this sense, the recognition of cultural assets by the community is fundamental, since it's local people who consider, identify and assign those values and meanings.

In the 20th century, the concept of Heritage encompasses different and varied goods. The UNESCO World Conference held in Mexico in 1982 included in its definition of cultural heritage the set of tangible and intangible property that defines a town: *"The Cultural Heritage of a people includes the works of its artists, architects, musicians, writers and wise men, as well as the anonymous creations, arisen from the popular soul, and the set of values that give meaning to life, that is, the material and non-material works that express the creativity of this town; language, rituals, beliefs, historical places and monuments, literature, works of art and archives and libraries"*. The concept of cultural property has been broadened and not only considers monuments and historical-artistic works but also intangible, documentary, and bibliographic, heritages that are valuable to represent the activity of human beings.

Likewise, the Council of Europe Framework Convention on the Value of Cultural Heritage for Society (Faro Convention), promulgated in 2005, offers a comprehensive definition of cultural heritage and includes a novel interpretation of the term "patrimonial communities": "a) cultural heritage is understood as a group of resources inherited from the

past which people identify, independently of ownership, as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. It includes all aspects of the environment resulting from the interaction between people and places through time; b) a heritage community consists of people who value specific aspects of cultural heritage which they wish, within the framework of public action, to sustain and transmit to future generations". In this sense, the "patrimonial communities" are constituted not only by experts and holders of a cultural heritage, but also by those individuals who, without being united by language, ethnic origin or a shared past, join a certain cultural heritage (CANTON, 2014).

In the following paragraphs an analysis of the evolution of the meaning and values of cultural heritage from the first civilizations to the present is made. Reference is made to the main regulations and international organizations related to the protection of heritage, as well as other references of interest. In this study, we approach the development of the concept of heritage and the main events linked both in Europe and Latin America, which will allow us to analyze the most significant values and meanings linked to cultural heritage in both contexts.

Consequently, the study carried out of the evolution of the concept of Heritage throughout history, details the valuation, use and function assigned to the elements and cultural manifestations in different periods, which makes possible the understanding of the cu-

rrrent implications of Cultural Heritage . The laws and international organizations destined to the protection of heritage assets are also analyzed. It is fundamental to know and appreciate the temporal and cultural evolution of the values considered in the different historical stages, as well as the institutions and measures related to safeguarding heritage. Reflection on this progression has made it possible to differentiate those qualities and significant values by their anthropological relevance, as well as the understanding of the criteria used in each period and society to value cultural assets. In this sense, the analysis of the constant redefinition of the concept of Heritage and its current meaning and values has been necessary to design the structure and indicators of the Cultural Heritage assessment method.

2.2 FROM THE FIRST CIVILIZATIONS TO THE NINETEENTH CENTURY

The origins of the history of the Heritage are related to the religious and funeral architecture in the Antiquity. Certain goods, fundamentally associated with the religious sphere, were appreciated by the inhabitants and enjoyed measures aimed at their conservation. These tangible objects possessed important material, artistic and religious values, and were guarded in temples or other enclosures. In Mesopotamia and in Ancient Persia, monarchs kept documents and other objects of significant educational, historical or political value in libraries (JOKILEHTO, 2016).

At this stage, the collection of paintings, sculptures or precious objects acquired in the market or coming from spoils and plundering stands out. The concept of heritage is therefore associated with the collection of wealth with a material value, ancient, beautiful or unique, such as jewellery, precious metals, and works of art or other treasures. Economic and monetary values are equally relevant. These objects were used to extract their most valuable components, they were also marketed, reused or moved to the temples or palaces. Its storage by the most powerful people entailed limited accessibility and only some objects had a greater projection (LLULL, 2005). In Greco-Roman antiquity, the patricians were interested in works of art and also adorned public roads, forums, and representative buildings. The Romans continued the tradition of the Hellenistic period to protect the architectures and the pieces they have inherited (GARCÍA, SOTO, MARTÍNEZ, 2017), and accumulated, copied and trafficked with the works from their conquests.

In short, the concept of heritage conservation in the classical world is linked to the preservation of assets of significant beauty, singularity or material value, with the aim of promoting admiration or as a sign of power, luxury, and prestige. However, it was about perpetuating the message, not about safeguarding the element or matter.

In the **European Middle Ages**, there is a combination between the Greco-Roman world and Christianity. Antiquity was a cultural reference at this stage and constituted a model for architecture and other artistic subjects. In the High Middle Ages, characterized by convulsion and devastation, actions linked to protection or patrimonial creation are not relevant. However, temples were preserved and their materials were used, and there was even a kind of legal protec-

tion for some ancient monuments, such as triumphal arches or commemorative columns in Rome (JOKILEHTO, 2016). The Church was one of the largest managers in the custody and protection of ancient objects, so it was a prominent collector of heritage at this stage. It kept assets of significant symbolic and material value, such as Visigothic goldwork, jewelry, ornaments, incrustations, miniatures, etc. In addition, this collection also entailed the custody of objects of all kinds, including pagans, as relics or exotic pieces, a fact that spread among the highest classes of society.

In the Late Middle Ages, numerous monuments and temples were built and pilgrims visited them to venerate the objects and relics they guarded. The Crusades to the Holy Places entailed the exchange of artistic influences and pieces. This property propitiated the construction of religious architectures that had to welcome the numerous visitors who wished to pay homage (GARCÍA, SOTO, MARTÍNEZ, 2017). The goods are safeguarded while they maintain their function or are guarded by religious architectures.

According to Ma P. García (2012) in her publication and following Françoise Choay (2007), for a building to acquire the concept of historical monument, it is necessary to understand it as a witness of the past, that is, as a key piece to understand historical moments. This awareness has its origin in Rome in the fifteenth century, when Pope Martin V decided to establish the papal seat in this city in order to recover its imperial past. However, this monument concept can be traced back to older civilizations such as the Egyptian one, with the presence of obelisks dedicated to their divinities. Even in Latin America, there were natural areas and representations of the gods that the Indians considered monumental, mainly in

the Mesoamerican and Andean civilizations (MORENO, 2016).

The **Renaissance** was a fundamental period in the process of valuation of the Patrimony. There is an awareness of the temporal distance that separates Antiquity from the Modern Age, and the classical monuments and ruins acquire the value of testimonies. The humanists of the Quattrocento took the architectures and works of the ancient time as inspiration, while the Middle Ages are considered a time interval that is sought to relegate and reject, particularly in Italy. However, in the Nordic countries, the resources of the Middle Ages were protected and investigated, since they constituted their ancient elements. The concept of heritage acquires a new meaning in this stage, with the recognition of artistic and historical values (JOKILEHTO, 2016), but also its remembrance and documentary characteristics.

Greco-Roman vestiges were considered the most significant artistic expressions and formed the idea of beauty in the Renaissance, so the artistic creations developed in this period were imitated and taken as an example. Meetings and gatherings were held by humanists, known as Academies since the 15th century. These institutions exalted classical culture and acquired a normative character that extended to cultural goods, so they were fundamental for the protection, analysis, inventory, and dissemination of the monuments of antiquity (LLULL, 2005).

Renaissance collecting specializes from the artistic point of view. The patrons admire the Roman model and create collections. Paintings and sculptures are acquired. The monarchs and the aristocracy formed artistic collections to show their culture and their desire to protect and restore the works and monuments. In this period the conser-

vation of the Heritage begins consciously and voluntarily, in order to preserve and accumulate it. The goods to be conserved vary according to the historical period and respond to a subjective selection based on the aesthetic and artistic aspect (GARCÍA, SOTO, MARTÍNEZ, 2017). The idea of protection is extended to different objects and testimonies.

According to most authors, the modern sense of heritage has its origin in the **Enlightenment**. In this stage, the concept of culture and the awareness of the existence of a past are born. Also in the eighteenth century historical sciences arose, archeology and interest in the landscape, culminating in Romanticism. The modern restoration and its national schools and tendencies were born (GARCÍA, 2012).

The **French Revolution** was a turning point in the concept and valuation of the Heritage. The most relevant event is linked to the change of ownership of the assets. In this period there is a destruction of the past, monuments, and urban plots since their possession is associated with the privileged estates. However, at this stage appeared the first public decrees dedicated to the institutional protection of heritage (GONZÁLEZ-VARAS, 2015). Cultural goods were considered a common and public good, so the need to protect them for the benefit of the general interest is felt. They were perceived as valuable elements for the community or the nation, and conservationist movements emerge. The range of values in this context includes its transcendence for the history of the nation, the arts and aesthetics or its economic and pedagogical value.

In the Latin American area, a law and bill arise during the first period of Benito Juárez

in Mexico. This is the Law of Nationalization of Ecclesiastical Assets of 1859, and the bill designed to conserve the patrimony of the country of 1865 (MORENO, 2016).

As a reaction to the patrimonial destruction of this period and with the aim of promoting the safeguarding of cultural goods, the institutionalization of museums took place. In this sense, the National Museums of Art and History are built, and private collections and libraries are open to the public. They constitute spaces that guard and exhibit heritage, but also make up pedagogical places. In Europe, there are, for example, the national museums of the Louvre in 1793 (the first European national museum) and the British Museum, or the Prado Museum in Madrid, founded in 1819. In Latin America, the Museum of Natural History (1790) or the National Museum in Mexico (1825), Colombia (1823) and Guatemala (1829) were opened.

The formation of new national states required the preparation of the national heritage catalogue. The monuments and national museums were configured as the dominant institutions of cultural heritage. In the **nineteenth century**, there is also the destruction of heritage linked to industrialization and other events such as confiscations in Spain. However, in this period there is a widespread growth of national museums, the concept of art is extended and the medieval heritage is valued. The concept of heritage was concentrated in the historical monument, an object of extraordinary symbolic value and identity. The monuments are perceived as a common and collective inheritance and become the identity goods of the peoples. The Board of Antiquities of the Government of New Spain was created in 1808, while in 1830 the first commission of historical monuments was created in Paris.

2.3 THE CONCEPT AND VALUES OF THE HERITAGE IN THE TWENTIETH CENTURY. THE CREATION OF UNESCO

As we have analysed in the previous section, the concept of the historical monument was consolidated during the 19th century. In 1903, the essay *The Modern Cult of Monuments* is published. Characters and origin, by Austrian art historian **Alois Riegl**. The importance of this work lies in the consideration of the monument as a sum of values, divided into two categories: remembrance values and values of contemporaneity. The first considers the monument as an object belonging to a past period. These include the value of antiquity, the historical value, and the intentional recall value. The values of contemporaneity are related to the role of the monument at the present time. They consider the value of use or instrumental and artistic value, which distinguishes between the value of novelty and the relative artistic value.

In Europe and Latin America, lists and laws were prepared for the conservation of monuments. In France, the Monuments Act of 1913 stands out. In the Latin American context, according to Moreno (2016), the Law on the Preservation of Historical, Artistic and Natural Beauties Monuments in Mexico (1914), the Law of National Monuments in Colombia, is promulgated (1918), the Law of National Monuments in Bolivia (1927), or the Law of Protection of the National Historical and Artistic Heritage in Brazil (1937). Also, in 1923, the Fifth Convention of the Pan American Union was held in Santiago, Chile. The most significant aspect is associated with the creation of institutes that look after national monuments. Institutions dedicated to this task were created in different coun-

tries of South America at this time (the Secretaria do Patrimônio Histórico e Artístico in Brasil in 1937, the Office of the Historian of Havana in 1938, the National Institute of Anthropology and History in Mexico in 1939, etc.). Similar events occurred in Europe (Direcção Geral dos Edifícios e Monumentos Nacionais in Portugal in 1929).

The most outstanding event that took place in the 20th century in patrimonial matters, mainly after the **First World War**, is the awareness of heritage from a supranational point of view. Its conservation and the recognition of its values were reflected in the international scope and cease to be a particular issue of the states. Progress was made in legislation and safeguarding instruments and different issues were debated in international forums.

After the First World War, various international institutions linked to culture and heritage were created. The League of Nations - the predecessor of the current United Nations organization- was born in 1919 with the purpose of guaranteeing the territorial and political independence of nations. This institution organized the International Commission of Intellectual Cooperation with the aim of promoting cultural relations between the states. It was joined with the Institute of Intellectual Cooperation and the International Office of Museums. This last organization convened the First International Conference of Experts on the Conservation of Monuments of Art and History, held in Athens in 1931. The most outstanding result of this event was the drafting of the so-called **Athens Charter** (1931). It is the first international document on heritage, referred primarily to its conservation and restoration in Europe. Although the Athens Charter did not use the term cultural heritage, it does mention its cultural value and the supranational

common interest. From this first document, the successive conventions, letters, and recommendations elaborated by international organizations and institutions were inspired.

After the Second World War, a greater awareness of the values of heritage is acquired and this is reflected in the creation of various international organizations. On June 26, 1945, the Charter of San Francisco of the United Nations was issued and ratified on October 24 of that year in what constitutes its founding act. Between November 1 and 16, 1945, a United Nations Conference was held in London, with the aim of forming an educational and cultural organization within it, aimed at establishing the "intellectual and moral solidarity of humanity". In 1946 the Constitution of the United Nations Organization for Education, Science, and Culture (UNESCO) became effective, based in Paris, and was ratified by 20 states, of which only 3 were Latin American: Brazil, Mexico and the Dominican Republic. At present (July 2018) it has 195 members and 11 associate members. Its distribution in the UNESCO regions is: Africa 26,2%, Asia 23,8%, Europe 20,9%, Latin America and the Caribbean 19,4%, Oceania 8,7% and North America the remaining 1%. (Data calculated from <http://www.unesco.org/new/en/member-states/countries/> -UNESCO-).

UNESCO generates texts with different legal status. The Conventions and Treaties are binding and therefore are mandatory for the States that ratify them, the Letters, Recommendations or Resolutions contain voluntary guidelines and constitute a frame of reference, while the Declarations have an ethical or moral commitment.

The first Convention prepared by UNESCO in patrimonial matters was **the Convention for the Protection of Cultural Property in**

the Event of Armed Conflict, of 1954, and known as the Hague Convention. It constitutes the first international agreement focused exclusively on the protection of the Cultural Heritage. It emerged with the purpose of not repeating the destruction and loss of heritage produced by the Second World War. Among his contributions, a new way of understanding heritage stands out, in which reference is made to the culture of the peoples and where it is relevant to study the historical context in which it was created. In this sense, the text indicates *“the damage caused to cultural property belonging to any people is a detriment to the cultural heritage of all humanity”* and *“the conservation of cultural heritage is of great importance to all the peoples of the world and that this patrimony has an international protection”*. In addition, the Hague Convention is the first international document in which the concept of the cultural property appears and its patrimonial protection is considered the humanitarian law.

The notion of cultural goods included in the Hague Convention has been expanded and nuanced, with the incorporation of new typologies and categories in the last 50 years. The first step in this evolution was made in Italy a decade later, with the Franceschini Commission, in which the idea of natural goods appears, and the documentary value and cultural asset of the historic centres of the cities, so that the idea of the isolated monument is overcome (GARCÍA, 2012).

In 1964 the International Charter for the Conservation and Restoration of Monuments and Historic-Artistic Ensembles was drawn up, known as **the Venice Charter**. This document synthesizes the conclusions of the II International Congress of Technical Architects of Historical Monuments, where the International Council of Monuments and Sites (ICOMOS) was founded. This Charter

continues in force and stands out because it determines that the goods do not present only historical and artistic values, but also cultural ones. It broadens the concept of a monument, where not only the isolated element is recognized, but it also includes the urban landscape and the cultural itineraries, that is, its surroundings and territory.

The next relevant UNESCO convention related to heritage was the **Convention on Measures to be Adopted to Ban and Prevent the Importation, Exportation, and Transfer of Illicit Property of Cultural Property**, signed in Paris in 1970. Its objectives include the curb on illicit trafficking in cultural property, the promotion of international cooperation to protect heritage and the establishment of measures against illegal transfer or export.

The Convention on the Protection of the World Cultural and Natural Heritage, signed in Paris in 1972, is the most relevant UNESCO treaty, at least in terms of its impact and recognition by society. This document arises in a context in which it is noted that the cultural and natural heritage is increasingly threatened and where there is growing international awareness. The text reaffirms the principle that the deterioration or disappearance of a patrimonial good constitutes a disastrous impoverishment of the patrimony of all the peoples of the world and that its loss affects all Humanity. Under this convention, a tool is proposed for the identification and protection of heritage assets that have an exceptional interest, with the aim of remaining as elements of the world heritage. One of its novelties was the attention to both cultural and natural heritage. In this sense, the text states what is to be considered cultural heritage (Article 1):

“Monuments: architectural works, sculptures or monumental paintings, elements or struc-

tures of an archaeological nature, inscriptions, caves and groups of elements, which have an exceptional universal value from the point of view of history, art or science,

Sets: groups of constructions, isolated or assembled, whose architecture, unity and integration in the landscape give them an exceptional universal value from the point of view of history, art or science,

Places: works of man or joint works of man and nature as well as the areas including the archaeological sites that have an exceptional universal value from the historical, aesthetic, ethnological or anthropological point of view”.

Consider natural heritage (Article 2):

“Natural monuments constituted by physical and biological formations or by groups of these formations that have an exceptional universal value from an aesthetic or scientific point of view,

The geological and physiographic formations and the strictly delimited zones that constitute the habitat of threatened animal and vegetal species, which have an exceptional universal value from the aesthetic or scientific point of view,

The natural places or the strictly delimited natural areas, which have an exceptional universal value from the point of view of science, conservation or natural beauty”.

The assets that respond partially or totally to the definitions of cultural heritage and natural heritage that appear in Articles 1 and 2 of the Convention will be considered “mixed cultural and natural heritage”.

As stated in Article 8 of the Convention, an Intergovernmental Committee for the Protection of Cultural and Natural Heritage of Exceptional Universal Value was created, known as

“the World Heritage Committee”, composed of 21 Member States elected by the General Assembly of Member States for a specific period. One of the functions of the Committee is the realization of the World Heritage List. As indicated in Article 11, each of the States Parties shall submit to the Committee an inventory of the assets located in its territory and fit for inclusion in the list. The inventories are based on criteria that determine the Outstanding Universal Value, and that is reviewed and updated by this body and collected by the Practical Guidelines. In addition, the Committee also draws up a List of Endangered World Heritage, “a list of assets listed in the World Heritage List, whose protection requires extensive conservation work for which assistance has been requested under this Convention”.

Currently, the Convention is signed by 193 countries. The World Heritage List is made up of 1.170 goods, of which 890 are cultural, 240 natural and 40 mixed. The inclusion of the concept of cultural landscape as a new category of cultural assets was carried out in 1992.

In table 2.1. the distribution of the goods included in the World Heritage List according to their type and region of UNESCO is shown. As seen, approximately half of the goods are located in the Europe and North America region. There is a greater presence of elements linked to the cultural tradition of the Christian West and a survival of the monumental concept. Given these imbalances, the so-called Global Strategy was carried out in 1994 in order to create a more balanced list that includes a greater diversity of goods. The proposals from regions and categories that are not sufficiently represented are prioritized.

TABLE 2.1. Distribution of the goods included in the World Heritage List according to their type and region of UNESCO.

Regions	Cultural	Natural	Mixed	Total	%
Europe and North America	473	84	12	569	48,6
Asia and the Pacific	185	67	12	264	22,6
Latin America and the Caribbean	103	39	7	149	12,7
Africa	53	44	6	103	8,8
Arab states	76	6	3	85	7,3
TOTAL	890	240	40	1.170	100,0
%	76,1	20,5	3,4	100	

Source: own elaboration (<https://whc.unesco.org/es/list/>).

The **Recommendation on the Safeguarding and Conservation of Moving Images**, agreed at the Belgrade Convention in 1980, and the **Recommendation on the Safeguarding of Traditional and Popular Culture** in 1989, completed the concept of cultural property with the consideration of technologies, the new artistic means and other immaterial testimonies (GARCÍA, 2012).

Following Moreno (2016), different conflicts developed in Latin America during the 20th century that fostered a concept of common identity of the continent, despite having different customs and cultures. In this sense, the **Quito Rules of 1967** stand out. They make a cultural claim for a Latin American identity, in the same way that it is collected in different publications of the second half of the 20th century. In 1972, the Latin American Regional Centre for Studies for the Conservation and Restoration of Cultural Assets was created in Mexico. Consequently, during the last decades of the last century and as mentioned by the aforementioned author, there is a cultural demand for a Latin American identity that extends to the cultural heritage.

During the twentieth century, **several international organizations** linked to UNESCO

related to cultural heritage were created. Among the most significant are, in chronological order of foundation:

ICOM: International Council of Museums. It was founded in 1946 and is heir to the International Office of Museums of the League of Nations, the predecessor of the UN. It was founded on the initiative of Chauncey J. Hamlin in Paris, director of the Science Museum of Buffalo, who became the first president of the organization. The first General Assembly was in Mexico. ICOM represents the global museum community as a whole and is committed to ensuring the preservation and transmission of cultural assets.

IUCN: International Union for the Conservation of Nature. It was created in 1948 and constitutes the most extensive and diverse environmental network in the world. It is the world authority in terms of natural resources and their status, as well as measures for their protection. Advises the Committee in the selection of natural heritage sites.

ICCROM: It is the International Centre for the Conservation and Restoration of Museum Objects. It was created by UNESCO in 1959, based in Rome. It is an intergovern-

mental organization aimed at promoting the conservation of all forms of cultural heritage. For this purpose, it studies and promotes the conservation of heritage, and provides training tools to strengthen the professional community.

ICOMOS: International Council of Monuments and Sites. It was founded in 1965 in Poland after the preparation of the so-called Venice Charter of 1964. Its purpose is to promote the theory, methodology, and technology applied to the conservation, protection, enhancement and appreciation of monuments, sets and sites.

OCPM: It is the Organization of World Heritage Cities, based in Quebec, Canada. It was created in 1993 at an International Colloquium of World Heritage Cities, held in the Moroccan city of Fez. It gathers the cities that have in their territory a site inscribed by UNESCO in the World Heritage List. Its objectives are to contribute to the implementation of the World Heritage Convention and facilitate the exchange of knowledge for the protection of monuments and sites.

2.4 HERITAGE IN THE TWENTY-FIRST CENTURY: NEW APPROACHES

During the 21st century, the concept of cultural heritage continues its expansion and focuses on the protection and conservation of expressions scarcely considered until now, as well as on the safeguarding of intangible assets. Next, we comment on the three conventions developed at the beginning of this century.

The **Convention on the Protection of the Underwater Cultural Heritage** was signed in Paris in 2001. Its objective is to guarantee

and improve the protection of underwater heritage. According to the UNESCO website, this Convention establishes essential principles for the protection of the Underwater Cultural Heritage and provides for a system of cooperation and standards for the treatment and research of this Heritage. Its principles are the obligation to preserve the said heritage, in situ preservation as a priority option, non-commercial exploitation and the cooperation and exchange of information associated by the States Parties. This convention is relevant for the Caribbean since a significant proportion of the 3 million wrecks that are undiscovered are located in its waters (UNESCO, 2004).

In 2003, **the Convention for the Safeguarding of the Intangible Cultural Heritage**, was presented in Paris, with a significant social impact. With its elaboration, it shows the need to recognize, on the part of the international community, the importance of intangible expressions and cultural manifestations that until that moment did not have a legal framework of protection. In its text, it points out the existence of other preceding documents, such as the UNESCO Recommendation on the safeguarding of traditional and popular culture of 1989, the Universal Declaration of UNESCO on Cultural Diversity of 2001, and the Istanbul Declaration of 2002. The purposes of this document are the safeguarding of intangible cultural heritage; the respect of this typology of the communities, groups, and individuals concerned; raising awareness at the local, national and international level of the importance of the intangible cultural heritage and of its reciprocal recognition; and international cooperation and assistance.

In its Article 2, it defines intangible cultural heritage as *"the uses, representations, expressions, knowledge, and techniques - to*

gether with the instruments, objects, artefacts and cultural spaces that are inherent to them - that communities, groups and in some cases individuals recognize as an integral part of their cultural heritage. This intangible cultural heritage, which is transmitted from generation to generation, is constantly recreated by communities and groups according to their environment, their interaction with nature and their history, instilling a sense of identity and continuity and thus contributing to promote respect of cultural diversity and human creativity "(...)" It manifests itself in particular in the following areas: a) oral traditions and expressions, including language as a vehicle of intangible cultural heritage; b) performing arts; c) social uses, rituals, and festive acts; d) knowledge and uses related to nature and the universe; e) traditional craft techniques."

In its Article 5, the Convention establishes the formation of an Intergovernmental Committee composed of representatives of 18 States Parties. It draws up different lists: "Representative List of the Intangible Cultural Heritage of Humanity", "List of Intangible Cultural Heritage that requires urgent sa-

feeguard measures", and "Register of good safeguarding practices". At present, there are 470 goods registered in these lists, of which 399 belong to the first of them, 52 to the second and 19 to the third. As can be seen in table 2.2., the distribution by regions does not show an imbalance as marked as it existed with the material cultural heritage (Table 2.1.), so that regions far from the Western tradition also have a prominent presence. There are 412 goods registered in the Representative List of the Intangible Cultural Heritage of Humanity (and not 399), and therefore, 483 are the total goods. This is because there are 7 assets that are located in more than one region and therefore are accounted for more than once. They are the following:

- "Hidrellez', a celebration of spring": Groups I and II.
- "The art of making and playing the kamanché or kamanchá, a stringed musical instrument": Grupos II y IV.
- "Falconry, a living human heritage": Grupos I, II, IV, V(b).
- "The Mediterranean diet": Grupos I, II, V(b).

TABLE 2.2. Distribution of intangible assets distributed according to the list in which they are integrated and UNESCO region.

Regions	Representative list	Urgent safeguard list	Safeguard good practices	Total	%
Group I. Western Europe and others	73	4	7	84	17,4
Group II. Eastern Europe	78	6	6	90	18,6
Group III. Latin America and the Caribbean	56	6	4	66	13,7
Group IV. Asia and the Pacific	140	21	2	163	33,7
Group V(a). Africa	34	11	-	45	9,3
Group V(b). Arab states	31	4	-	35	7,2
TOTAL	412	52	19	483	100
%	85,3	10,8	3,9	100	

Source: own elaboration (<https://ich.unesco.org/es/listas>).

- “The cultural tradition of making and sharing the flatbread called *lavash, katyrma, jupka or yufka*”: Grupos I, II, IV.
- “Knowledge and practices linked to the *imzad of the Tuareg communities of Algeria, Mali and Niger*”: Grupos V(a) y V(b).
- “*Nawruz, Novruz, Nowruz, Nowruz, Nawruz, Nauryz, Nuruz, Nowruz, Navruz, Nowruz, Nevruz and Navruz (New Year’s Day)*”: Grupos I, II, IV, V(b).

Finally, there is **the Convention on the Protection and Promotion of the Diversity of Cultural Expressions**, of the year 2005, which recognizes the double nature (cultural and economic) of contemporary cultural expressions, made by professionals of culture and artists. Its objective is the protection and promotion of the diversity of cultural expressions.

2.5 CHARACTERISTICS AND SINGULARITIES OF LATIN AMERICAN HERITAGE

Based on various readings made in the field of heritage in the Latin American area, a list of particularities of this territorial area has been prepared. Our work has also considered the Diagnosis of the Cultural Heritage of the Los Ríos Region, provided by the Chilean partner and prepared by the Universidad Austral de Chile (2010). The realities and singularities detected from the bibliographic analysis and the documents generated by partners of the EULAC- MUSEUMS project are incorporated into the definition and explanation of the different indicators that structure the Cultural Heritage assessment models. These include:

A. UNESCO’s Latin America and the Caribbean region is not sufficiently represented in the World Heritage List, either due to lack of interest or will, or due to political or technical issues. However, it has an outstanding and valuable heritage, with a wide diversity, a relevant natural value, and historical singularities, although relatively little recognized (PÉREZ and FERNÁNDEZ, 2015). It represents 12.7% of the material goods registered and 13.7% of the intangibles worldwide, with a significant concentration in the countries of Argentina, Mexico and Peru.

B. There is an awareness of Latin American cultural identity. The heritage of Latin America presents different cultural heritages, such as the pre-Columbian, the European colonial, the Creole or mestizo as well as the contributions of immigrants from different countries. The cultural assets of this territory have close ties, although each region shows differences. This diversity strengthens its authenticity and constitutes Latin American cultural identity, the result of transculturation (DÍAZ, 2010).

C. Latin American indigenous populations have important intangible and living cultural patrimonies, with remarkable historical roots. Numerous villages are in danger of extinction, so it is necessary to apply mechanisms designed to protect and revitalize this heritage and its traditions and beliefs (LEAL, 2008). In this sense, the UN Declaration on the Rights of Indigenous People (UNITED NATIONS, 2007), in its article 31.1, states: “Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human

and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions”.

D. The Latin American indigenous communities make efforts and complaints aimed at modifying existing legislation. Their objectives are to obtain the ownership of the lands they traditionally occupy, legal recognition, improve their living conditions, recover their sacred sites, return human remains of their ancestors, and dispose of the goods claimed as their own (WILLIAMS, 2014). In this sense, the creation of community museums is promoted, as are the recovery of heritage and the safeguarding of heritage in its original location. As C. Kreps states: “The work being done today in museums with source communities is clear evidence of how museums are key sites for the promotion and safeguarding of intangible cultural heritage”(KREPS, 2008).

E. The active presence of the community in the identification and conservation of cultural assets is considered fundamental. Heritage is defined by its inhabitants, so the management of cultural elements must have a direct participation of the community in which it is located (CARABALLO, 2008). It is advisable to strengthen the participation of local and indigenous populations in asset management. However, at various times in Latin American history, state agents and academics have managed the heritage without contemplating community participation (WILLIAMS, 2014). It emphasizes the importance of the patrimonial good as an

element that generates local identity (MORENO, 2016) since it is a society that assigns patrimonial character.

F. In public centres and cities in Latin America, public space is essential. They are dynamic, heterogeneous and they change places, with significant participation and social activity. It is essential to allocate goods and cultural spaces to social uses, where changes are necessary to improve the lives of its inhabitants and not convert them into static museums (GUTIÉRREZ, 2014).

G. In Latin America, but also in other world regions, the declaration of various urban areas as world cultural heritage has led to the gentrification of some of its historic centres. There have been social problems linked to the increase in poverty, inequality, real estate speculation, the expulsion of its traditional inhabitants or the threat to intangible heritage manifestations (LUQUE and SMITH, 2007; GUERRERO, 2012). However, there are positive experiences where the increase in tourism has led to the revitalization of historic centres.

H. The region of Latin America and the Caribbean has an outstanding wealth of intangible cultural manifestations. The countries are characterized as great defenders of this heritage typology and are fully aware of the need to safeguard it. This region of UNESCO is made up of 40 states, of which 32 have ratified the Convention for the Safeguarding of the Intangible Cultural Heritage. In this sense, for example, Latin America is one of the world’s regions with the greatest wealth of primitive dances, with the subsistence of numerous pre-Columbian dances. In the Caribbean, mythology stands out, with one of the most original of the continent (DÍAZ, 2010).

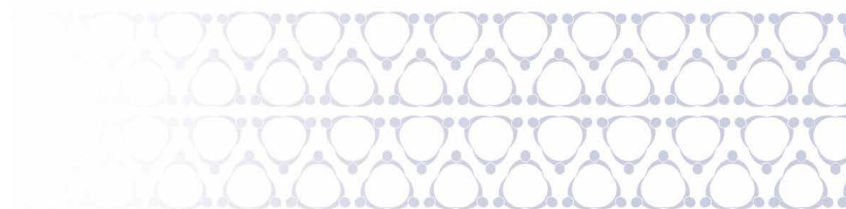
I. According to the guidelines for the creation of national systems of *“Living Human Treasures”* of UNESCO (1994), Living Human Treasures are *“individuals who possess to a high degree the knowledge and techniques necessary to interpret or recreate certain elements of intangible cultural heritage”* Some Latin American countries have implemented their own programs, such as Chile with the distinction of *“Living Human Treasure”*, or Argentina with that of *“Cultural Heritage Makers”*.

J. The Plan of Action for the World Heritage in Latin America and the Caribbean (2014-2024) of UNESCO, points out that this Region presents an outstanding vulnerability related to natural disasters such as earthquakes, hurricanes, torrential rains, etc., which have had significant impacts in patrimonial assets. An important example is the serious damage caused by the El Niño phenomenon last year in the territory of Peru, as stated in Deliverable D6.2 of our partner in this country. It is convenient to improve the mechanisms and tools designed to prevent their impacts. It also indicates risks derived from armed conflicts.

K. The Latin American Baroque presents singularities. The arrival of the baroque in Latin America occurred between the seventeenth and eighteenth centuries. The first artistic works followed the European guidelines but later each area incorporated its own particularities. The Latin American ethnic diversity determined the formation of the baroque of this region. In the architecture new materials, colours, techniques were incorporated, while in painting brighter colours were used, the drawing of angels of *“broken colour”*, the ornamentation of gold leaf or new clothes (ESPASA, 2018).

L. The Latin America and the Caribbean Region has outstanding potential related to natural heritage, with relevant marine sites (UNESCO, 2014).

M. Popular religiosity, mainly linked to the Catholic religion, has a relevant history in Latin America. There is a profuse material heritage, with chapels, hermitages, altars, etc., that are part of the landscape, as well as immaterial, with cults, rites, etc. (DÍAZ, 2010).







**Analysis of the bibliographic
references on the criteria
and methodologies
of patrimonial evaluation**

03

Analysis of the bibliographic references on the criteria and methodologies of patrimonial evaluation

The discussions and reflections related to patrimonial values have become one of the most relevant topics dealt with in discourses linked to Cultural Heritage and its conservation (LABADI, 2007). In recent decades there has been a progressive interest in the application of adequate management and protection of cultural elements and landscapes, which has led to the emergence of numerous theories and methodologies of patrimonial evaluation. In this sense, multiple methods have been developed related to the valuation of the Cultural, Geological, Architectural or Landscape Heritage, but also others related to the Paleontological, Tourist, Hydrological or even Bibliographic.

A search and bibliographic analysis of methodologies and patrimonial valuation criteria have been carried out with the objective of identifying its main aspects and assessed values, as well as those characteristics susceptible to improvement. Fifty conceptual and methodological works have been located for different typologies of cultural and natural heritage, of which a quarter come from Latin America. The treatment of the information consisted of three main tasks:

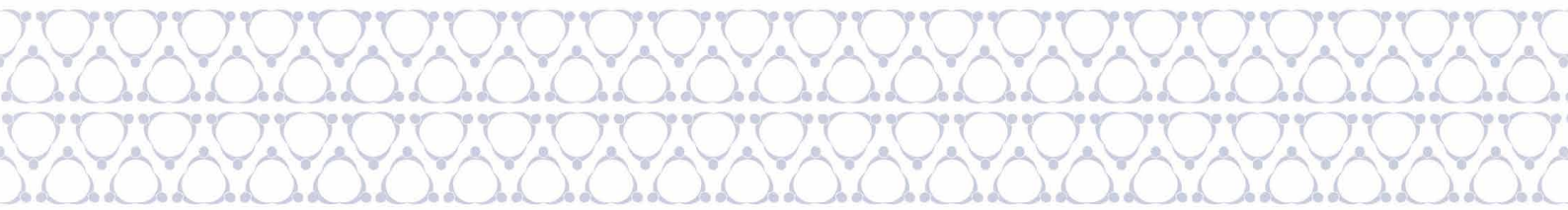
A. The study of the general aspects of the bibliographical references. An analysis is made of the common features presented by the publications. They address issues such as the typology and subject of the work, the objectives and structure of the indicators used, or their level of understanding.

B. The deepening of the evaluation criteria proposed in each of the localized bibliographic references. It deals with the evolution and similarities of the indicators used according to the type of heritage being analyzed.

C. The analysis of the methodologies of patrimonial evaluation that are applied in a practical way. Characteristics are detailed as the form of scoring used in each procedure, the degree of complexity in its application, the weighting of the values, etc.

Table 3.1. shows the distribution of the 50 bibliographic references located according to the type of heritage evaluated. Those works that develop a method applied in a practical way are indicated. The documents are distributed in 9 patrimonial typologies: Archaeological, Architectural, Bibliographic, Cultural, Geological and Geomorphological, Intangible, Landscape, Paleontological, and Tourist. The most numerous publications are related to the valuation of the Architectural and Cultural Heritage (general), with 13 works each (26%). Next, the studies linked to the Geological and Geomorphological Heritage are located, with 10 works (20%).

These three typologies represent 72% of the references analyzed. Of the totality of works, 30 (60%) have been found that perform a theoretical analysis without a quantitative representation. The remaining documents develop practical applications of the indicators used, with the aim of expressing in nu-



merical form the value of patrimonial assets. Our intention is to insist on the value or importance of quantifying in order to prioritize the elements and landscapes evaluated. Table 3.2 shows the bibliographic referen-

ces analysed, arranged in chronological order and classified according to the type of heritage evaluated. Each document is assigned a numerical code to facilitate its identification.

TABLE 3.1. Distribution of the bibliography consulted in terms of patrimonial valuation

Heritage	Theoric references	Applied references	Total References	
			Nº	%
Archaeological	1	2	3	6
Arquitectonic	9	4	13	26
Bibliographic	1	0	1	2
Cultural	13	0	13	26
Geological and Geomorphological	1	9	10	20
Intangible	1	0	1	2
Landscape	3	2	5	10
Paleontological	0	2	2	4
Touristic	1	1	2	4
TOTAL	30 (60%)	20 (40%)	50	100

Source: Own elaboration.

TABLE 3.2. Bibliographical references

Code	Document
Archaeological Heritage	
01	DARVILL, T. (1995): Value Systems in Archaeology. En COOPER, M.; FIRTH, A.; CARMAN, J.; WHEATLEY, D. (eds.): <i>Managing Archaeology</i> . Routledge, 38-48.
02	BARREIRO, D., VILLOCH, V. y CRIADO F. (1999): "El desarrollo de tecnologías para la gestión del patrimonio arqueológico: hacia un modelo de evaluación del impacto arqueológico". <i>Trabajos de Prehistoria</i> , 56, 13-26. http://tp.revistas.csic.es/index.php/tp/article/download/287/287
03	DEEBEN, J.; GROENEWOUDT, B.J.; HALLEWAS, D.P.; WILLEMS, W.J.H. (1999): "Proposals for a Practical System of Significance Evaluation in Archaeological Heritage Management". <i>European Journal of Archaeology</i> , 2(2), 177-199. https://openaccess.leidenuniv.nl/bitstream/handle/1887/9878/1_953_023.pdf?sequence=1

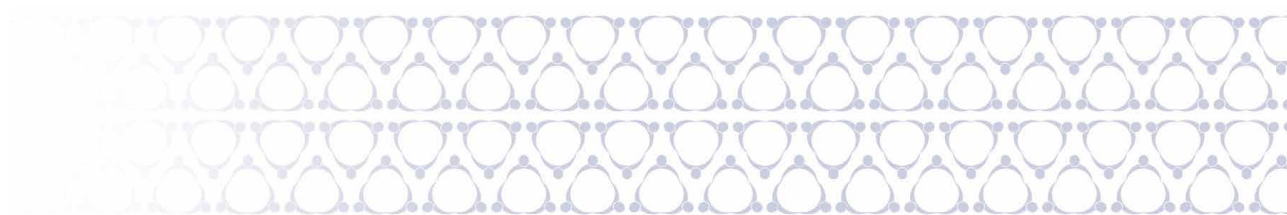
Code	Document
Architectonic Heritage	
04	KALMAN, H. (1980): The Evaluation of Historic Buildings. Environment Canada Parks Service. 40 p. http://www.historicplaces.ca/media/36196/the%20evaluation%20of%20historic%20buildings%20300%20dpi.pdf
05	LEE, P. (1997): "Criterios de valoración del patrimonio arquitectónico y urbano". Revista AUC, 11. Universidad Católica de Santiago de Guayaquil, 14-21. http://outucsg.com/observatorio/sites/default/files/AUC11%2C12-%20comprimido.pdf
06	BERNAL, B. (2002): "Propuesta de indicadores para evaluar el bien declarado patrimonio mundial: Catedral de Burgos". Estrategias relativas al patrimonio cultural mundial. La salvaguarda en un mundo globalizado. Principios, prácticas y perspectivas. 13th ICOMOS General Assembly and Scientific Symposium. Actas. Comité Nacional Español del ICOMOS. Madrid, 231-234. http://openarchive.icomos.org/583/
07	AUCKLAND REGIONAL COUNCIL: Assessing Historic Guidelines: Heritage Significance. 4 p. http://chi.net.nz/Documents/CH3_ASSESSING_CH_SIG.pdf
08	DELGADO, M.J. (2009): La arquitectura moderna en Loja: patrimonio y conservación. Trabajo Fin de Titulación. Universidad Técnica Particular de Loja. http://dspace.utpl.edu.ec/handle/123456789/1074
09	CIRVINI, S. y RAFFA, C. (2010): "El patrimonio cultural del área metropolitana de Mendoza (Argentina). Propuestas metodológicas para su evaluación como recurso en proyectos de desarrollo local". Apuntes: Revista de Estudios sobre patrimonio cultural, 23(2). Pp. 222-235. http://revistas.javeriana.edu.co/index.php/revApuntesArq/article/download/8904/7184
10	MINISTERIO DE VIVIENDA Y URBANISMO REGIÓN DE COQUIMBO (et al.) (2010): Plan regulador comunal La Serena, localidades: Algarrobito, Altovalsol, Quebrada de Talca, Las Rojas, Islon, Lambert y Huachalalume. Capítulo 5.V. Estudio de Patrimonio. 22 p. http://seia.sea.gob.cl/archivos/CAP_5.5_ESTUDIO_DE_PATRIMONIO.pdf
11	AGUILAR, I. (2011): "Arquitectura industrial: características básicas. Criterios para la valoración del Patrimonio arquitectónico industrial". X Congreso Internacional de la AEHE, Universidad Pablo de Olavide. 16 p. http://www.aehe.net/xcongreso/pdf/sesiones/patrimonio/arquitectura-industria-caracteristicas-basicas.pdf
12	MINISTERIO DE EDUCACIÓN, CULTURA Y DEPORTE (2011): "Documento de Madrid 2011". Conferencia Internacional "Criterios de Intervención para el Patrimonio Arquitectónico del Siglo XX - CAH 20thC", 23-28. http://www.todopatrimonio.com/actas-de-congresos/259-criterios-de-intervencion-en-el-patrimonio-arquitectonico-del-siglo-xx-actas-de-la-conferencia-cah20th
13	NEALE, S. (2011): Evaluating Heritage Resources in the City of Thorold. Heritage Thorold Lacac. 20 p. http://www.heritagethorold.com/EVALUATING%20HERITAGE%20RESOURCES%20MANUAL.pdf
14	MINISTERIO DE EDUCACIÓN, CULTURA Y DEPORTE (2015a): Plan Nacional de Arquitectura Defensiva. Secretaría General Técnica. 52 pp. http://www.mecd.gob.es/planes-nacionales/gl/dam/jcr:1c6991a0-aa01-4357-a98a-e788b245a877/03-maquetado-defensiva.pdf
15	MINISTERIO DE EDUCACIÓN, CULTURA Y DEPORTE (2015b): Plan Nacional de Arquitectura Tradicional. Secretaría General Técnica. 56 p. http://www.mecd.gob.es/planes-nacionales/gl/dam/jcr:02cebbae-83bc-4494-af6e-2d59bb67e90d/07-maquetado-arquitectura-tradicional.pdf
16	MINISTERIO DE EDUCACIÓN, CULTURA Y DEPORTE (2015c): Plan Nacional de Patrimonio Industrial. Secretaría General Técnica. 46 p. http://www.mecd.gob.es/planes-nacionales/gl/dam/jcr:88a504bd-a083-4bb4-8292-5a2012274a8c/04-maquetado-patrimonio-industrial.pdf
Bibliographic Heritage	
17	DEXEUS, M. (2003): "El enriquecimiento del patrimonio bibliográfico, su valoración y tasación". I Seminario sobre Patrimonio Bibliográfico Vasco: Fundación Sancho el Sabio. Vitoria-Gasteiz, 125-140 http://www.euskadi.eus/contenidos/evento/ondare_mintegia/eu_12730/adjuntos/eu_Mercedes%20Dexeus.pdf

Code	Document
Cultural Heritage	
18	RIEGL, A. (1903): The Modern Cult of Monuments: Its Essence and Its Development. En STANLEY-PRICE, N.; KIRBY, M.; MELLUCCO, A. (eds.) (1996): Historical and Philosophical Issues in the Conservation of Cultural Heritage. The Getty Conservation Institute, 63-83. https://marywoodthesisresearch.files.wordpress.com/2014/03/riegl_the-modern-cult-of-monuments_sm.pdf
19	ICOMOS (1979 [revisado en 1981, 1988, 1999, 2013]): The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance (the Burra Charter). Australia ICOMOS. https://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf
20	LIPE, W. (1984): Value and Meaning in Cultural Resources. En CLEERE, H. (ed.): Approaches to the Archaeological Heritage. A comparative Study of World Cultural Resource Management Systems. Cambridge University Press, 1-11.
21	LOSADA, J. M. (1999). "Teoría y praxis de la conservación: El rol del historiador del arte". Revista PH, 69-72. http://www.iaph.es/revistaph/index.php/revistaph/article/view/858/858#.W02sxLhx3IV
22	BALLART, J. y JUAN, J. (2001): Gestión del patrimonio cultural. Ariel Patrimonio, Barcelona. 240 p.
23	THROSBY, D. (2001): Economics and Culture. Cambridge University Press. 208 p.
24	MASON, R. (2002): Assessing Values in Conservation Planning: Methodological Issues and Choices. En DE LA TORRE, M. (ed.): Assessing the Values of Cultural Heritage. Research Report. Los Angeles, CA: The Getty Conservation Institute, 5-30. http://www.getty.edu/conservation/publications_resources/pdf_publications/pdf/assessing.pdf
25	AGUILAR, I. (2007): "El patrimonio cultural de la obra pública. Acciones del pasado, propuestas de futuro". Jornadas Patrimonio industrial y la obra pública. Gobierno de Aragón, Departamento de Educación, Cultura y Deporte, 205-224 http://www.dehuesca.es/~sipca/IMAGEN/documentos_web/BDPCA_12.pdf
26	O'CONNOR, Z. (2011): "Valuation of cultural heritage: Towards a conceptual model and potential evaluation strategies". EDRA 42 Chicago: make no little plans: proceedings of the 42nd annual conference of the Environmental Design Research Association, 189-196. https://www.academia.edu/699420/Valuation_of_cultural_heritage_Towards_a_conceptual_model_and_potential_evaluation_strategies_2011_
27	HERITAGE BRANCH, DEPARTMENT OF ENVIRONMENT AND HERITAGE PROTECTION (2013): Assessing cultural heritage significance. Using the cultural heritage criteria. Queensland Government. 88 p. https://www.qld.gov.au/environment/assets/documents/land/heritage/using-the-criteria.pdf
28	MRAK, I. (2014): "Evaluation methods in the protection of built heritage". Gradevinar, 66(2), 127-138. http://hrcak.srce.hr/file/173018
29	MINISTERIO DE EDUCACIÓN, CULTURA Y DEPORTE (2015d): Plan Nacional de Conservación del Patrimonio Cultural del Siglo XX. Secretaría General Técnica. 41 p. http://www.mecd.gob.es/planes-nacionales/eu/dam/jcr:fafab665-7e31-4da9-b897-180d8fd0eb0d/06-maquetado-patrimoniocultural-sxx.pdf
30	UNESCO (2017): Operational Guidelines for the Implementation of the World Heritage Convention. 172 p. https://whc.unesco.org/en/guidelines/
Geological and Geomorphological Heritage	
31	ARRANZ, E. (et al.) (1997): "Evaluación del Patrimonio Geológico: Propuestas de Nuevos Criterios Complementarios". Revista Zubía, 15, 95-99. http://dialnet.unirioja.es/servlet/articulo?codigo=110367
32	BARBA, F.J., REMONDO, J. y RIVAS, V. (1997): "Propuesta de un procedimiento para armonizar la valoración de elementos del patrimonio geológico". Revista Zubía, 15, 11-20. http://dialnet.unirioja.es/servlet/articulo?codigo=110356
33	GONZÁLEZ, J.J. (2006): "El macizo central de los picos de Europa: geomorfología y sus implicaciones geocológicas en la alta montaña cantábrica". Tesis doctoral. 751 p. http://www.tdx.cat/bitstream/handle/10803/10653/6de9.JJGT_cap6.pdf;jsessionid=FE26A71AD70BD29FEA-29F8EA0E8D99A6.tdx2?sequence=7

Code	Document
Geological and Geomorphological Heritage	
34	BRUSCHI, V.M. (2007): "Desarrollo de una metodología para la caracterización, evaluación y gestión de los recursos de la geodiversidad". Tesis doctoral. 355 p. http://repositorio.unican.es/xmlui/handle/10902/1291
35	PEREIRA, P. y PEREIRA, D. (2010): "Methodological guidelines for geomorphosite assessment". <i>Géomorphologie relief, processus, environnement</i> , 215-222. http://geomorphologie.revues.org/7942
36	HENAO, Á. y OSORIO, J. (2012): "Propuesta metodológica para la identificación y clasificación del patrimonio geológico como herramienta de conservación y valoración ambiental". Congreso Latinoamericano de prevención de riesgos y medio ambiente. 14 p. http://congresopryma.blogutem.cl/files/2012/12/A_11_Propuesta_Metod_Identificacion_Clasific_Patrimonio_Geolog_HENAO_OSORIO.pdf
37	IGME (2013): Documento metodológico para la elaboración del inventario español de lugares de interés geológico (IELIG). 64 p. http://www.igme.es/patrimonio/novedades/METODOLOGIA%20IELIG%20web.pdf
38	RENDÓN, A.J.; HENAO, A.M.; OSORIO, J.G. (2013): "Propuesta metodológica para la valoración del Patrimonio Geológico, como base para su gestión en el Departamento de Antioquia – Colombia". <i>Boletín de Ciencias de la Tierra</i> , 33, 85-92. http://www.scielo.org.co/pdf/bcdt/n33/n33a06.pdf
39	MOREIRA, L.C.; RODRIGUES, S.C. (2014): "Seleção de geossítios para uso turístico no parque estadual do Ibitipoca/MG (PEI): uma proposta a partir de metodologias de avaliação numérica". <i>Investigaciones Geográficas, Boletín del Instituto de Geografía</i> , 58, 33-46. https://www.sciencedirect.com/science/article/pii/S0188461114728183
40	MEDINA, W. (2015): "Importancia de la Geodiversidad. Método para el inventario y valoración del Patrimonio Geológico". <i>Serie Correlación Geológica</i> , 31(1), 57-72. http://www.scielo.org.ar/pdf/scgv/v31n1/v31n1a04.pdf
Intangible Heritage	
41	MINISTERIO DE EDUCACIÓN, CULTURA Y DEPORTE (2015e): Plan Nacional de Salvaguarda del Patrimonio Inmaterial. 55 p. http://www.mecd.gob.es/planes-nacionales/ca/dam/jcr:74b2f235-d9c0-41e0-b85a-0ed06c5429da/08-maquetado-patrimonio-inmaterial.pdf
Landscape Heritage	
42	MATA, R. (et al.) (2009): "Evaluación del paisaje de la Comunidad de Madrid: de la protección a la gestión territorial". <i>Urban</i> , 14, 34-57. http://polired.upm.es/index.php/urban/article/viewFile/306/308
43	RECHNER (et al.) (2011): "Cultural landscape evaluation and possibilities for future development – a case study of the island of Krk (Croatia)". <i>Acta geographica Slovenica</i> , 51, 129-150. https://ojs.zrc-sazu.si/ags/article/view/1305
44	MINISTERIO DE EDUCACIÓN, CULTURA Y DEPORTE (2012): Plan Nacional de Paisaje Cultural. 49 p. http://www.mecd.gob.es/planes-nacionales/eu/dam/jcr:55b779f7-037f-45a0-baa0-17f27bc2587a/05-maquetado-paisaje-cultural.pdf
45	VARJÚ, V., SUVÁK, A. y DOMBI, P. (2014): "Geographic Information Systems in the Service of Alternative Tourism – Methods with Landscape Evaluation and Target Group Preference Weighting". <i>International Journal of Tourism Research</i> . 16(5), 496-512. http://onlinelibrary.wiley.com/doi/10.1002/jtr.1943/pdf
46	DELGADO, A.M.; PANTOJA, F. (2016): "Valoración del paisaje en una propuesta de turismo sostenible: la "Ruta del Oro", Nariño (Colombia)". <i>Cuadernos de Geografía: Revista Colombiana de Geografía</i> . 25(1), 233-253. https://revistas.unal.edu.co/index.php/rcg/article/view/50157/54927

Code	Document
Paleontological Heritage	
47	<p>ENDERE, M.L.; PRADO, J.L. (2015): "Characterization and Valuation of Paleontological Heritage: A Perspective from Argentina". <i>Geoheritage</i>, 7(2), 137-145. https://link.springer.com/article/10.1007/s12371-014-0124-x</p>
48	<p>SÁ DOS SANTOS, W.F.; DE SOUZA, I.; BRILHA, J.B.; LEONARDI, G. (2015): "Inventory and Assessment of Paleontological Sites in the Sousa Basin (Paraíba, Brazil): Preliminary Study to Evaluate the Potential of the Area to Become a Geopark". <i>Geoheritage</i>, 8(4), 315-332. https://link.springer.com/article/10.1007/s12371-015-0165-9</p>
Tourist Heritage	
49	<p>MARTÍNEZ, P. (et al.) (1997): "Propuesta metodológica para la identificación, localización y evaluación del patrimonio turístico de las comunas costeras de la Octava Región del Biobío". <i>Revista de Geografía Norte Grande</i>, 24, 183-189 http://www.researchgate.net/publication/237314725_Propuesta_metodologica_para_la_identificacion_localizacion_y_evaluacion_del_patrimonio_turistico_de_las_comunas_costeras_de_la_Octava_Region_del_Biobo</p>
50	<p>VIÑALS, M.J., MORANT, M. y QUINTANA, R. (2011): "Análisis de los criterios para la valoración turística del patrimonio natural". <i>Investigaciones Turísticas</i>, 1, 37-50. http://rua.ua.es/dspace/bitstream/10045/18095/1/Investigaciones%20Turisticas_01_03.pdf</p>

Source: Own elaboration.



3.1 GENERAL ASPECTS OF THE BIBLIOGRAPHIC REFERENCES ON PATRIMONIAL VALUATION

This section includes the study of the characteristics that the consulted references have in common. The aspects developed below are summarized for each element in table 3.3., located at the end of the section for formal reasons.

A. Type of document

Table 3.4. lists the distribution of the different references analysed according to the type of document. The largest group corresponds to articles in journals, with 20 publications. Of particular note are those related to the Geological and Geomorphological Heritage, as well as the Landscape Heritage. Next, the books or book chapters and the papers in congresses or seminars are pla-

ced, with 7 copies each (14%). Next, there are 6 National Plans prepared by the Institute of Cultural Heritage of Spain (Ministerio de Educación, Cultura y Deporte, hereinafter MECD). These are heritage management instruments, whose objectives are linked to the development of common criteria and methods, and a programming of protection, conservation, restoration or dissemination activities. Finally, we find reports or web pages (5 documents), theses (3) and other typologies (2).

B. Themes of the documents

Table 3.5 shows the classification of the works analysed according to their subject. We have differentiated five sets:

1. The most numerous theme is related to the establishment of a 'wealth of heritage' management tool, which holds half of the works analysed. These documents analyse activi-

TABLE 3.4. Classification of bibliographic references (by code), according to the type of document

HERITAGE	Document							Total
	Book	Magazine	Seminar	National plan	Web page	Dissertation	Others	
Archaeological	01	02, 03	-	-	-	-	-	3
Architectonic	04	05, 09	06, 11, 12	14, 15, 16	07, 10, 13	08	-	13
Bibliographic	-	-	17	-	-	-	-	1
Cultural	18, 20, 22, 23, 24	21, 28	25, 26	29	27	-	19, 30	13
Geol. and Geom.	-	31, 32, 35, 38, 39, 40	36	-	37	33, 36	-	10
Intangible	-	-	-	41	-	-	-	1
Landscape	-	42, 43, 45, 46	-	44	-	-	-	5
Paleontological	-	47, 48	-	-	-	-	-	2
Touristic	-	49, 50	-	-	-	-	-	2
TOTAL	7	20	7	6	5	3	2	20
%	14	40	14	12	10	6	4	100%

Source: Own elaboration

ties and actions dedicated to assessment, planning, management, knowledge, control, and disclosure of heritage assets.

2. The second most numerous group corresponds to those works based on the description of criteria and variables, which represents the fifth part of the localized references. In these works, the definition of the proposed evaluation indicators constitutes the main or exclusive purpose of the reference.

3. The third segment is related to the development of an evaluation method, with 8 publications. A methodological system of patrimonial evaluation is exposed, with the development of its different phases, such as the analysis of indicators, their punctuation, description, and analysis, etc. These works have a special interest for our study, since they carry out a methodological deployment, which is an objective that we intend to achieve. However, they lack a series of contents that are included in other methodologies analyzed.

4. The next group is made up of 6 works related to patrimonial aspects, but its main objective is not the evaluation or patrimonial valuation.

5. Finally, there are 2 publications related to matters other than equity analysis, but they include a section dedicated to their valuation.

C. Management methodology developed

Half of the references analysed to develop a management methodology (table 3.3), which describes and analyses the different stages of inventory, cataloguing, and valuation of heritage elements. These works are not limited to the development of a patrimonial evaluation system or the explanation of its indicators.

TABLE 3.5. Classification of bibliographic references (by code), according to their subject

HERITAGE	Bibliographical reference					Total
	Heritage management tool	Values or criteria	Evaluation methodology development	Others	Non-heritage	
Archaeological	02, 03	01	-	-	-	3
Architectonic	09, 10, 11, 12, 14, 15, 16	05, 06, 07	04, 13	-	08	13
Bibliographic	-	17	-	-	-	1
Cultural	19, 20, 22, 24, 27, 29	18, 21	26	23, 25, 30, 28	-	13
Geol. and Geom.	34, 35, 36, 37, 38	31, 32	39, 40	-	33	10
Intangible	41	-	-	-	-	1
Landscape	42, 44	-	46	43, 45	-	5
Paleontological	48	-	47	-	-	2
Touristic	-	50	49	-	-	2
TOTAL	24	10	8	6	2	50
%	48	20	16	12	4	100%

Source: Own elaboration.

D. The objective of the evaluation criteria

Table 3.6 collects the grouping of the works consulted according to the main purpose of their patrimonial valuation indicators. The most numerous objective is the enhancement of the patrimonial element, with 72% of the references consulted. These publications propose criteria for the conservation and protection of goods. Next, there are the documents that aim to establish a methodology or referenced criteria. Then we find two publications whose indicators are intended to prepare a heritage diagnosis. Finally, there are three references with evaluation criteria for purposes other than those mentioned.

E. Adaptation of the criteria to the characteristics and/or particular geographical location

12 bibliographical references that present indicators adapted to the characteristics and/

or location of the patrimonial elements object of evaluation have been identified. They are criteria designed ad hoc according to the particularities of the goods located in specific territories. These are references that develop methodologies of patrimonial valuation applicable specifically to specific geographical areas. For example, Henao and Osorio (2012) adapt the indicators of the proposed method to the peculiarities of Geological Heritage in Colombia. In their document they point out *“the research developed, seeks the implementation of a guiding methodology (...) in the specific geological, environmental and social conditions of Colombia”*. Cirvini and Raffa (2010) intend to adapt to the characteristics of cities in Latin America: *“We sought to contribute with this pilot experience to the development of a replicable model for other cities in Argentina and Latin America.”* However, 75% of the publications considered use universal criteria, which are intended to apply to any element of a heritage typology regardless of its particularities or location.

TABLE 3.6. Classification of bibliographic references (by code), according to the main objective of the evaluation criteria

HERITAGE	Objective of the evaluation criteria				Total
	Value, conservation, and protection	Methodological development and references criteria	Diagnosis	Other	
Archaeological	02, 03	01	-	-	3
Archaeological	04, 05, 08, 10, 11, 12, 14, 15, 16, 13	07	06, 09	-	13
Bibliographic	17	-	-	-	1
Cultural	18, 19, 20, 21, 22, 23, 25, 27, 29, 30	24, 26, 28	-	-	13
Geol. and Geom.	31, 33, 34, 35, 37, 38, 40	32, 39	-	36	10
Intangible	41	-	-	-	1
Landscape	42, 43, 44	46	-	45	5
Paleontological	48	47	-	-	2
Touristic	50	-	-	49	2
TOTAL	36	9	2	3	50
%	72	18	4	6	100%

Source: Own elaboration.

F. Structure of the evaluation criteria

The bibliographic references consulted use different structures in the proposal of their indicators. 36% of the publications use criteria broken down into variables, most of them linked to the Geological and Geomorphological Heritage and the Architectural Heritage.

In the practical methods, we consider variables to those parameters to which numerical scores are attributed, while in the exclusively theoretical works they suppose specific indicators. Also with 17 documents are those that only use criteria, without the use of more specific categories or variables. Then there are 13 references that distinguish

TABLE 3.7 Classification of the bibliographic references (by code), according to the adaptation of the criteria to the patrimonial good.

HERITAGE	Criteria adaptation		Total
	Yes	No	
Archaeological	-	01, 02, 03	3
Architectonic	05, 06, 07, 08, 09, 10, 13	04, 11, 12, 14, 15, 16	13
Bibliographic	-	17	1
Cultural	27	18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 29, 30	13
Geol. and Geom.	36, 38	31, 32, 33, 34, 35, 37, 39, 40	10
Intangible	-	41	1
Landscape	-	42, 43, 44, 45, 46	5
Paleontological	47, 48	-	2
Touristic	-	49, 50	2
TOTAL	12	38	50
%	24	76	100%

Source: Own elaboration.

TABLE 3.8 Classification of bibliographic references (by code), according to the structure of the evaluation criteria.

HERITAGE	Structure of the evaluation criteria				Total
	Just criteria	General and specific criteria	Criteria and variables	Others	
Archaeological	-	01, 02	03	-	3
Architectonic	07, 08, 14, 15	11, 12, 16	04, 05, 06, 09, 10, 13	-	13
Bibliographic	-	17	-	-	1
Cultural	19, 20, 22, 23, 25, 26, 30	18, 21, 24, 27, 29	-	28	13
Geol. and Geom.	31, 38	-	32, 33, 34, 35, 36, 37, 39, 40	-	10
Intangible	41	-	-	-	1
Landscape	42, 43, 45	44	46	-	5
Paleontological	48	-	47	-	2
Touristic	-	50	49	-	2
TOTAL	18	13	18	1	50
%	36	26	36	2	100%

Source: Own elaboration.

general and specific criteria, without the use of parameters. The general indicators are homogeneous categories or sets of values. Finally, the reference of Mrak (2014) analyses various methodologies of patrimonial evaluation, so that the existing structures are diverse.

G. Formulation of the evaluation criteria

As can be seen in table 3.9, 37 bibliographic references define the indicators used for the patrimonial valuation, which represents 74% of the documents located. The remaining 13 works do not define their criteria, but in 6 of them, parameters are used for their quantification and understanding for the evaluator is facilitated.

H. Level of understanding of the evaluation criteria

Table 3.10. classifies the bibliographic references analysed according to the level of understanding of the proposed patrimonial valuation indicators. 86% (43) of the works define the evaluation criteria or variables or use parameters for their quantification, while in the rest they are only mentioned. Among the references that describe the indicators, 35 use understandable definitions, of which 21 are concrete and precise. However, there are 8 publications that have difficulty understanding or readability of the indicators. They use definitions that are too concise, imprecise or suggest the use of an excessive number of variables, so the indicators are not operational.

TABLE 3.9 Classification of bibliographic references (by code), according to the formulation of the evaluation criteria.

HERITAGE	Formulation of the evaluation criteria			Total
	Definition and description	With parameters but not defined	Non defined	
Archaeological	01, 02, 03	-	-	3
Architectonic	04, 05, 07, 08, 09, 10, 11, 13, 14, 15, 16	-	06, 12	13
Bibliographic	17	-	-	1
Cultural	18, 20, 21, 22, 23, 24, 30, 26, 27, 29	-	19, 25, 28	13
Geol. and Geom.	31, 32, 33, 37, 38, 39, 40	34, 35, 36	-	10
Intangible	41	-	-	1
Landscape	42, 46	45	43, 44	5
Paleontological	47	48	-	2
Touristic	50	49	-	2
TOTAL	37	6	7	50
%	74	12	14	100%

Source: Own elaboration.

TABLE 3.10 Classification of bibliographic references (by code), according to the level of understanding of the evaluation criteria.

HERITAGE	Level of understanding of the evaluation criteria				Total
	Understandable definitions		Difficulty of understanding	Non defined criteria	
	Concretes	Non concretes			
Archaeological	-	01, 02, 03	-	-	3
Architectonic	04, 09, 10, 11, 13, 14, 15, 16	07, 08	05	06, 12	13
Bibliographic	-	17	-	-	1
Cultural	21, 29, 30	18, 20, 22, 23, 24, 27	26	19, 25, 28	13
Geol. and Geom.	32, 33, 34, 37, 38, 39, 40	-	31, 35, 36	-	10
Intangible	-	41	-	-	1
Landscape	46	-	42, 45	43, 44	5
Paleontological	47, 48	-	-	-	2
Touristic	-	50	49	-	2
TOTAL	21	14	8	7	50
%	42	28	16	14	100%

Source: Own elaboration.

I. Defined practical application

Table 3.11. shows the distribution of the bibliographic references according to whether they apply the theoretical contents elaborated in a practical way or not. As it is observed, 20 documents (40%) develop practical

methods that allow obtaining a numerical valuation of the patrimonial elements. Each of these documents develops one or more evaluation methods that can be reproduced. The remaining 30 works are theoretical and descriptive, without a quantitative explanation or explanation.

TABLE 3.11 Classification of bibliographic references (by code), according to their practical application.

HERITAGE	Defined practical application		Total
	YES	NO	
Archaeological	02, 03	01	3
Architectonic	04, 08, 10, 13	05, 06, 07, 09, 11, 12, 14, 15, 16	13
Bibliographic	-	17	1
Cultural	-	18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30	13
Geol. and Geom.	32, 33, 34, 35, 36, 37, 38, 39, 40	31	10
Intangible	-	41	1
Landscape	45, 46	42, 43, 44	5
Paleontological	47, 48	-	2
Touristic	49	50	2
TOTAL	20	30	36
%	40	60	100%

Source: Own elaboration.



Ermita (Chapel) de Santa Ana. Albal. Religious heritage in La Huerta de València

Conclusions

The analysis of the general aspects considered in the different bibliographic references studied, has allowed us to acquire ideas and significant knowledge for the design of the proposed evaluation method. We consider it necessary to know and deepen the existing methodological background.

Based on the bibliographic review carried out, a wide variety of evaluation methodologies have been observed in the different types of heritage. All of these methods have some interest, either for the territory of appli-

cation, for the type of element to be evaluated or for the indicators used for the patrimonial valuation. The objective that we intend to achieve is the design of a common model, so we consider it convenient to standardize the diversity of methods. We do not know the existence of an comprehensive system. In this sense, it has been detected the need to elaborate a synthesis document that allows to systematize the effort collected in the previous methods. For this reason, aspects such as its subject matter, the objective of its criteria or its level of understanding, among others, have been detailed for each work.



Real Monasterio (Monastery) de Santa María. El Puig. Religious heritage, of symbolic character in La Huerta de València. L'Horta Nord.

Consequently, due to the need for systematization, we have considered convenient a classification of each methodology, indicating for each its main weaknesses and strengths, in order to design a common model consisting of categories, criteria and valua-

tion variables. From the analysis of the general aspects of each work and the systematization carried out, in the following section we detail the criteria proposed in each of the bibliographic references analyzed.

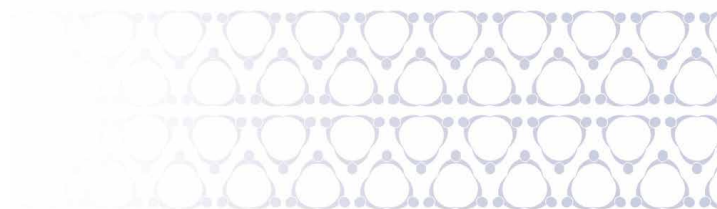


TABLE 3.3 General aspects of the bibliographical references consulted.

Code	Year	Document	Theme	Methodology	Objectives and criteria
Archaeological					
01	1995	Book	General theoretic model development of values system	No	Archaeological resources development
02	1999	Magazine	Heritage evaluation and management development. Identification, classification, and valuation	Yes	Heritage management application
03	1999	Magazine	Heritage management evaluation system development	Yes	Heritage management application
Architectonic					
04	1980	Book	Valorisation and evaluation methodology development	No	Protection and conservation
05	1997	Magazine	Heritage valorisation criteria	No	Future intervention and valorisation. Priorities
06	2002	Seminar	Diagnosis indicators proposal	No	Diagnosis elaboration and evolution
07	-	Web page	Heritage evaluation criteria development	No	directions for the coherent evaluative approach
08	2009	Dissertation	Analysis of modern architectonic, movements, authors and works. Conservation and valorization	Yes	Valorisation and preservation.
09	2010	Magazine	Patrimonial valorisation and activation. Methodology development. Identification phases, relevance, catalogation and analysis	Yes	Patrimonial activation. Conservation and state diagnosis
10	2010	Web page	Patrimonial evaluation and valorisation. Management tools development. Analysis, diagnosis and protection. Methodology.	Yes	Conservation and protection
11	2011	Seminar	National plan importance for classification, valorisation, preservation and rehabilitation	No	Criteria unification. Valorisation, protection and preservation
12	2011	Seminar	Patrimonial management tools. Patrimonial conservation questions.	No	Adequate management. Conservation
13	2011	Web page	Evaluative, valorisation methodology development. Criteria explanation, punctuation and classification.	No	Heritage classification for preservation and protection
14	2015	National plan	Analysis, preservation, valorisation and conservation.	Yes	Conservation, restoration and valorisation
15	2015	National plan	Patrimonial safeguard. Protection, conservation and restoration. Documentation and diffusion	Yes	Protection and safeguard
16	2015	National plan	Patrimonial study, conservation and diffusion.	Yes	Unified criteria. Valorisation, protection and conservation.
Bibliographic					
17	2003	Seminar	Desarrollo de criterios de valoración patrimonial. Tasación Patrimonio	No	Valorisation and goods valuation
Cultural					
18	1903	Book	Plan de reorganización de la conservación de monumentos públicos. Posibilidades de conservación	No	Goods conservation
19	1979	ICOMOS charter	Guía para la conservación y gestión de los sitios de significación cultural	Yes	Management and conservation
20	1984	Book	Propuesta de modelo de valoración para el Patrimonio Cultural. Bienes culturales como recursos. Protección y conservación	Yes	Protection, conservation and valorisation

Criteria adaptation	Criteria and variable structure	Criteria formulation	Understanding of criteria	Defined applications
Archaeological				
No	3 generals; 9, 2 and 2 specifics	Criteria definitions	Understandable	No
No	2 generals; 4 and 2 specifics	Criteria definitions	Understandable but sometimes with confuse definition.	Yes
No	3 criteria (2, 2 and 4 variables)	Criteria definitions and variables	Understandable	Yes
Architectonic				
No	5 criteria (6, 3, 3, 5, and 3 variables)	Criteria definitions	Understandable. Concretes. Use of parameters.	Yes
Yes (Guayaquil, Ecuador)	8 criteria (with variables)	Criteria definitions	Too many criteria. Tediouswith long definition.	No
Yes (Catedral Burgos)	2 generals; 7 and 7 specifics (with variables)	Non defined, with indicators	Without definition. Too many criteria and nonoperatives	No
Yes (Auckland, New Zeland)	13 criteria	Criteria definitions	Understandable. Defined trough questions	No
Yes (Loja, Ecuador)	8 criteria	Criteria definitions	Understandable with confused definitions sometimes	Yes
Yes (Mendoza, Argentina)	4 criteria (4, 3, 3 and 2 variables)	Variable definitions and descriptions	Understandable. Concretes. Descriptions	No
Yes (La Serena, Chile)	2 methodology. Criteria with variables.	Variables definitions	Understandable. Concretes. Descriptions	Yes
No	3 generals; 4, 6 and 4 especifics	Criteria definitions	Understandable. Concretes.	No
No	2 generals; 7 and 5 specifics	Non defined	Without definition	No
Yes (Thorold, Canadá)	3 criteria (6, 6 and 4 variables)	Variables definitions	Understandable. Concretes. Use of parameters.	Yes
No	10 criteria	Criteria definitions	Understandable. Concretes	No
No	3 criteria	Criteria definitions	Understandable. Concretes	No
No	3 generals; 4, 6 and 5 specifics	Criteria definitions	Understandable. Concretes	No
Bibliographic				
No	2 generals; 3 and 2 specifics	Criteria definitions	Understandable	No
Cultural				
No	2 generals; 3 and 2 specifics (and 2 variables)	Criteria definitions	Understandable	No
No	5 criteria	Non defined	Without definition	No
No	4 criteria	Criteria definitions	Understandable	No

Code	Year	Document	Theme	Methodology	Objectives and criteria
Cultural					
21	1999	Magazine	Cultural assets conservation	No	Cultural assets conservation
22	2001	Book	Patrimonial management tool	No	Selection and valorisation
23	2001	Book	Value theory. Economic and cultural relationship	No	Value evaluation
24	2002	Book	Patrimonial values evaluative tools and strategies. Comprehensive conservation planning.	Yes	Conservation and valorisation
25	2007	Seminar	Problematic heritage, historiography and new lines of action.	No	Valorisation
26	2011	Seminar	It proposes a conceptual model for the evaluation of the cultural heritage. Proposal of strategies, methods, and values	No	Establishment of a conceptual model for evaluation
27	2013	Web page	Provide a framework for the incorporation of places in the Queensland Heritage Registry. Explanation of criteria.	No	Heritage Law Application. Valuation and protection.
28	2014	Magazine	Description of various evaluation methods and their uses	No	Comparison between methodologies
29	2015	National Plan	The methodology of action for the conservation and restoration of goods. Research, knowledge, protection, and dissemination	Yes	Conservation, restoration and enhancement
30	2018	Directions	Heritage World Convention Application	No	Registration of goods, protection and conservation
Geological and Geomorphological					
31	1997	Magazine	Article dedicated to the explanation of patrimonial valuation criteria.	No	Integration in National Heritage
32	1997	Magazine	Proposal of a Patrimonial valuation procedure. Article dedicated to the explanation of patrimonial valuation criteria and their application.	No	Methodological standardization and objective comparison
33	2006	Dissertation	Thesis. Geomorphology Picos Europa.	Yes	Management, conservation and valorisation
34	2007	Dissertation	Thesis characterization, evaluation, and management of biodiversity resources	Yes	Optimization of evaluation methods and criteria. Protection and sustainable use.
35	2010	Magazine	Methodological proposal for Heritage evaluation	Yes	Protection and patrimonial promotion
36	2012	Seminar	Establish a methodology for identification and classification Heritage.	Yes	Potential evaluation geodiversity
37	2013	Web page	Methodology for preparation of Heritage inventory	Yes	Selection and identification, prioritization for protection.
38	2013	Magazine	Development of valuation methodology	Yes	Formulation of management plans
39	2014	Magazine	Application method for the selection of geosites for Touristic use	No	Selection of geosites
40	2015	Magazine	Development methodology in its stage of inventory and quantification of potential geosites	Yes	Inventory and valuation

Criteria adaptation	Criteria and variable structure	Criteria formulation	Understanding of criteria	Defined applications
Cultural				
No	2 generals; 3 and 5 specifics	Criteria definitions	Understandable. Concretes	No
No	3 criteria	Criteria definitions	Understandable	No
No	6 criteria	Criteria definitions	Understandable	No
No	2 generals; 5 and 2 specifics (con 3 variables)	Criteria definitions	Understandable	No
No	5 criteria	Non defined	Without definition	No
No	6 criteria	Criteria definitions	Criteria not operative. Definitions not precise, confusing and extensive.	No
Yes (Queensland, New Zeland)	8 generals; with specifics	Criteria definitions and indicators	Understandable	No
No	Various methodologies	Various. Non defined or in a terse way	Without a definition or concise definitions.	Various
No	2 generals; 4 and 3 specifics	Criteria definitions	Understandable. Concretes	No
No	10 criteria, + 2	Criteria definitions	Understandable. Concretes	No
Geological and Geomorphological				
No	7 criteria	Definition of 4 criteria	Criteria not operative. Extensive definitions.	No
No	3 criteria (1, 5 and 5 variables)	Variables definitions	Understandable, concretes. Use of parameters. Technicalities.	Yes
No	3 criteria (10, 10 and 9 variables)	Variables definitions	Understandable, concretes. Use of parameters. Technicalities.	Yes
No	3 methodologies. Criteria with variables.	Non defined, but variables with parameters	Understandable, concretes. Use of parameters. Technicalities.	Yes
No	2 general criteria; 2 and 2 specifics (7, 3, 6, 2 variables)	Non defined, but variables with parameters	Need for a broader definition. Use of parameters. Technicalities.	Yes
Yes (Colombia)	2 criteria (5 and 7 variables)	Non defined, but variables with parameters	Necesidad de definición más amplia. Uso de parámetros. Tecnicismos.	Yes
No	3 criteria (18 variables)	Variables definitions. Paramerters	Need for a broader definition. Use of parameters. Technicalities	Yes
Yes	5 criteria (+ 2)	Definition criteria. Use of descriptors	Need for a broader definition. Use of parameters. Technicalities.	Yes
No	2 criteria; 4 and 5 specifics	Criteria definitions, variables with parameters	Understandable. Concretes. Use of descriptors.	Yes
No	4 criteria (4, 6, 7 and 5 variables)	Criteria definitions and variables	Understandable	Yes

Code	Year	Document	Theme	Methodology	Objectives and criteria
Intangible					
41	2011	National Plan	Analysis, identification, consensual methodology, dissemination and adequate management	Yes	Delimitation object of protection. Preservation.
Landscape					
42	2009	Magazine	Identification, characterization, diagnosis and evaluation Heritage. Management and management	Yes	Regulation, uses and management protection
43	2011	Magazine	Agrarian landscape evaluation and its revitalization and protection	No	Protection and revitalization
44	2012	National Plan	Identification, protection, and management of the Heritage	Yes	Identification, enhancement.
45	2014	Magazine	Analysis potential alternative tourism and preservation Heritage	Yes	Alternative tourism importance evaluation
46	2016	Magazine	Prioritization of sites to be integrated. Sustainable tourism proposal	No	Visual quality assessment of the landscape
Paleontological					
47	2015	Magazine	Proposal of methodology to evaluate the patrimonial values of Palaeontological sites. Protection and management	No	Protection and management
48	2016	Magazine	Strategy for the protection of the geological heritage	No	Evaluate scientific, educational, tourist and vulnerability value. Protection
Tourist					
49	1997	Magazine	Identification, location, analysis, and evaluation of heritage elements	Yes	Objective and clear evaluation. Determination of potential use
50	2011	Magazine	Article dedicated to the explanation of patrimonial valuation criteria. Asset Management.	No	Decision making in asset management. Precautionary measures.

Source: Own elaboration.

3.2 AN ANALYSIS OF THE EVALUATION CRITERIA FOR DIFFERENT TYPES OF HERITAGE

In this section, a detailed analysis of the evaluation indicators proposed in the bibliographic references is made. It looks at the evolution and similarities that exist depending on the evaluated heritage typology. Table 3.12 (at the end of this section for formal reasons) shows the list of the criteria

proposed in each work. They are classified according to the type of heritage being evaluated and ordered chronologically, with the purpose of analyzing their development and the possible relationships. It is advisable to consult table 3.12 to understand the contents and statements of this part.

In the following sections different terms are used to designate the valuation indicators used in each work, designated according to the hierarchical level that comprise: categories, criteria and variables. In this way, the

Criteria adaptation	Criteria and variable structure	Criteria formulation	Understanding of criteria	Defined applications
Intangible				
No	12 criteria	Criteria definitions	Understandable	No
Landscape				
No	4 criteria + questionnaire	Criteria definitions	Missing concretion	No
No	6 criteria	Non defined	Without definition	No
No	3 generals; 6, 4 and 3 specifics	Non defined	Without definition	No
No	7 criteria	Non defined, pero variables with parameters	Need for a broader definition. Use of parameters.	Yes
No	2 criteria; 5 and 3 variables	Definition criteria. Use of descriptors	Understandable. Concrete and precise	Yes
Paleontological				
Yes (Argentina)	6 criteria (21 variables)	Definition criteria and variables with parameters	Understandable. Concretos. Use of parameters	Yes
Yes (Cuenca de Sousa, Brasil)	21 criteria	Non defined, but variables with parameters	Understandable. Concretos. Use of parameters	Yes
Tourist				
No	4 methodologies (with criteria and variables)	Non defined, but variables with parameters	Need for a broader definition. Use of parameters. Technicalities.	Yes
No	2 generals; 5 and 6 specifics	Criteria definitions specifics	Understandable	No

categories (or general criteria) refer to the nature of the patrimonial element and constitute the higher level, which is why they include criteria and variables. The criteria are the second level, and are related to the values of each element according to its intrinsic (singularity, authenticity ...) or extrinsic (artistic, technological ...) component. Finally, the variables are in the third level, and are more detailed and concrete conceptual instruments that allow us to evaluate the criteria and, therefore, the categories

1. Archaeological Heritage

The three references on the evaluation of the Archaeological Heritage have been published between 1995 and 1999. They are constituted by general criteria disaggregated into specific or variable indicators and are described by comprehensive definitions.

The proposed evaluation criteria show some similarities since they contemplate aspects related to the representativeness, the state of conservation and the research potential

that the element presents. However, most of the criteria are different depending on the methods analyzed and, due to the apparent disconnection between these methodologies, there is no evolution over time in the complexity of their indicators.

2. Architectural Heritage

The bibliographic references linked to the evaluation of the Architectural Heritage are the most numerous (together with the Cultural Heritage) with 13 publications, representing a quarter of the works analyzed. The chronology is comprised between the years 1980 and 2015, but it increases as of 2009, with 9 publications. In the analysis of the criteria, an evolution in its complexity is not perceived, due to the general decoupling between the works and their different geographical origin.

These criteria show relevant similarities. The majority are linked to historical and architectural aspects, architectural, sociocultural, originality and use. The similarities detected for the two works that value architectural goods in the Ecuadorian cities of Guayaquil and Loja, published in 1997 and 2009 respectively (LEE, 1997 and DELGADO, 2009) are relevant. The basis of the indicators of the second is based on those proposed in the previous work. It occurs in a similar way in the practical references applied in Canada (KALMAN, 1980 and NEALE, 2011), which show similar indicators and in which a certain evolution is detected.

In the structures of the criteria used in the works, significant differences are observed. Six publications constituted by criteria and variables have been counted, 4 that use exclusively criteria, and 3 in which general and specific are distinguished. These dissi-

imilarities are a consequence of the different applications of the theoretical contents since quantitative methods generally use measurable parameters and variables, and not only criteria.

3. Cultural Heritage

13 valuation references of the Cultural Heritage have been counted, although the criteria of 12 of them have been analyzed since the publication of Mrak (2014) deals with different evaluation methodologies. Its chronology covers from 1903 to 2017, although it has accentuated the period since 2001. Most works define the proposed criteria and none employ variables with parameters. This aspect is due to the fact that the indicators are not proposed for a later practical application or quantitative evaluation.

The comparison of the works allows observing a temporal evolution and of the different cultures. As it is observed, the social value is not mentioned in the publication of Riegl (1903), the oldest of the analysed ones, nor in that of Lipe (1984). However, this value is contemplated in the Burra Carta (ICOMOS, 1979), which shows the originality of this work (LABADI, 2007). This criterion and those linked to the identity value are mentioned more and more from the nineties. Other evaluation criteria are also frequently used by numerous references, such as the aesthetic, singularity, historical or symbolic. However, the economic or market value is considered as a criterion in few methodologies (LIPE, 1984, LOSADA, 1999, MASON, 2002).

4. Geological and Geomorphological Heritage

In the assessment of the Geological and Geomorphological Heritage, a dozen bibliogra-

phic references have been identified. These works show significant similarities in the criteria used and an evolution in their variables and concepts is observed. This progression is a consequence of the numerous existing antecedents linked with the identification and evaluation of the Geological Heritage. Based on the previous studies, a list of indicators has been established that is widely used by researchers from different sources.

Publications studied are between the years 1997 and 2015. The totality of works, with the exception of Arranz et al. (1997), is applied in a practical way. They describe one or more methodological systems of patrimonial evaluation destined to obtain a numerical value. There is an evolution in the concretion of the criteria and variables used as well as in the objectification of the evaluations.

Most publications are structured with criteria and variables, resulting from the practical application of the proposed methods. A list of parameters that assess geological assets is grouped into three or four types of criteria. Among the most common indicators are the intrinsic quality, the scientific value, the potential for use, the need for protection or added value. The most frequent variables are related to the state of conservation, diversity, abundance, representativeness, accessibility, vulnerability or cultural interest.

5. Landscape Heritage

The valuation of the Landscape Heritage includes 5 references published between 2009 and 2016. These publications analyse the landscape from different points of view. The two most recent (VARJÚ et al., 2014; DELGADO and PANTOJA, 2016) propose practical evaluation methods and the criteria used are oriented towards tourism analy-

sis. Most of their indicators evaluate exclusively physical characteristics (relief, water, vegetation ...) or related to visibility (visible points, visual depth, etc.)

The three remaining references (MATA et al., 2009, RECHNER et al., 2011, MECD, 2012) analyse the landscape from different perspectives (landscape sets, agrarian landscape, and cultural landscape) but their indicators show similarities. Social and integrity values are present while others such as fragility, uniqueness or territorial importance are also frequently mentioned. They do not use definitions in their criteria or they are concise, nor do they use parameters or variables since they are exclusively theoretical references. There is no evolution in the use of the indicators or in their complexity.

6. Paleontological Heritage

The valuation of paleontological goods supposes a very specific typology in terms of patrimonial valuation. Two works have been located, both of the year 2015 and applied in South America. The structures used are different since that of Endere and Prado (2015) uses criteria and variables defined in a concise way, while that of Sá Dos Santos et al. (2015) uses 21 indicators without explaining, although with parameters. However, relevant similarities are observed, since many evaluated values are used in the two evaluation methodologies, such as geodiversity, didactic interest, scientific potential, vulnerability, aesthetics and geographical context.

7. Tourist Heritage

The localized references on tourism evaluation have been published in the years 1997

and 2011. The structures of the indicators show relevant differences. The oldest one does not describe the proposed criteria, although it uses variables with numerical scales for the subsequent evaluation. The publication by Viñals et al. (2011) defines the indicators but uses quantitative parameters. The indicators used in both methods also show significant differences and no evolution or relationship is observed. The 1997 publication assesses elements of different types (historical, natural, landscape and infrastructures), while the subsequent one focuses on the tourist evaluation of the Natural Heritage, which entails the aforementioned differences.

8. Others

In the valuation of the Bibliographic and Intangible Heritage, a single reference has been located for each one of them, so it has not been possible to analyse the evolution and similarities with other works of the same type.

Conclusions

The bibliographical references considered employ numerous and varied criteria, so it was necessary to systematize and classify them according to the types of heritage studied. Based on the analysis of the evaluation indicators, the most frequently used values have been identified and the different approaches have been considered. This revision has allowed to configure the design of the method that we propose and to establish the basic parameters in our methodology. We opted for a hierarchical structure, which starts from the general to the particular. This vision is usually used by the classifications consulted and obeys a methodological logic. In this sense, we have established three levels of indicators: categories, criteria and variables, whose definitions are developed in section 4.2. of the present report. This structure is used by several revised methodologies, such as those of the Ministerio de Educación, Cultura y Deporte (2015c), Bernal (2002), Aguilar (2011) or Pereira and Pereira (2010). In addition, the ESTEPA (Studies of Territory, Landscape and Heritage) research group developed a heritage evaluation methodology for hydraulic elements, designed with the aforementioned structure and used in various projects with satisfactory results (HERMOSILLA, MAYORDOMO, 2016 and 2017).

TABLE 3.12 List of the evaluation criteria in the bibliographic references consulted.

Archaeological		
01. DARVILL (1995)	02. BARREIRO, VILLOCH and CRIADO (1999)	03. DEEBEN, GROENEWOUDT, HALLEWAS, WILLEMS (1999)
<p>3 generals (9, 2 and 2 specifics)</p> <p>1. Value of use</p> <ul style="list-style-type: none"> • Archaeological research • Scientific investigation • Creative arts • Education • Recreation and tourism • Symbolic representation • Legitimization of the action • Social solidarity and integration • Monetary and economic gain <p>2. Option value</p> <ul style="list-style-type: none"> • Stability • Mystery and enigma <p>3. Value of existence</p> <ul style="list-style-type: none"> • Cultural identity • Resistance to change 	<p>2 generals (4 and 2 specifics)</p> <p>1. Archaeological evaluation</p> <ul style="list-style-type: none"> • Significance • Representativeness • Exceptionality • Diversity <p>2. Financial situation</p> <ul style="list-style-type: none"> • State of conservation • Vulnerability 	<p>3 criteria (2, 2 and 4 variables)</p> <p>1. Perception</p> <ul style="list-style-type: none"> • Aesthetic value • Historical value <p>2. Physical quality</p> <ul style="list-style-type: none"> • Integrity • Preservation <p>3. Intrinsic quality</p> <ul style="list-style-type: none"> • Rarity • Research potential • Value of Group • Representativeness

Source: Own elaboration.

Architectonic				
04. KALMAN (1980)	05. LEE (1997)	06. BERNAL (2002)	07. AUCKLAND REGIONAL COUNCIL	08. DELGADO (2009)
<p>5 criteria (6, 3, 3, 5 y 3 variables):</p> <p>1. Architecture</p> <ul style="list-style-type: none"> • Style • Building • Age • Architect • Design • Inside <p>2. History</p> <ul style="list-style-type: none"> • Person • Event • Context <p>3. Environment</p> <ul style="list-style-type: none"> • Continuity • Atmosphere • Hito <p>4. Use</p> <ul style="list-style-type: none"> • Compatibility • Adaptability • Public • Services • Cost <p>5. Integrity</p> <ul style="list-style-type: none"> • Location • Alterations • Condition 	<p>8 criteria (with variables):</p> <ul style="list-style-type: none"> • General architectural characteristics • Particular architectural characteristics • Urban characteristics • Antiquity • Historical facts • Significance • Maintenance of original features • Formal syntax 	<p>2 generals (7 specifics each with variables):</p> <p>1. Indicators referring to the values of good</p> <ul style="list-style-type: none"> • Landscape importance • Environmental importance • Qualitative importance • Historical importance • Social and cultural importance • Functional importance • Management <p>2. Indicators referring to the interventions that affect the good</p> <ul style="list-style-type: none"> • Monument interventions • Interventions around monument • Significant changes in values • Economic and financial resources • Advantages for the population • Use of the Good • New management mechanisms 	<p>13 criteria:</p> <p>1. Historical</p> <p>2. Place</p> <p>3. Community association</p> <p>4. Memorial</p> <p>5. Symbolic</p> <p>6. Educational</p> <p>7. Archeological</p> <p>8. Scientist</p> <p>9. Technological</p> <p>10. Architectonic</p> <p>11. Context</p> <p>12. Rarity</p> <p>13. Integrity</p>	<p>8 criteria:</p> <ul style="list-style-type: none"> • Chronological assessment • Historical • Urbanism • Conceptual • Functional • Technological • Author • Original features

Architectonic					
09. CIRVINI and RAFFA (2010)	10. MINISTERIO DE VIVIENDA Y URBANISMO REGIÓN DE COQUIMBO et al. (2010)		11. AGUILAR (2011)		
<p>4 criteria (4,3,3 and 2 variables):</p> <p>1. Architectural</p> <ul style="list-style-type: none"> • Environment • Use • Materiality • Style <p>2. Ingenieril</p> <ul style="list-style-type: none"> • State • Typology • Answer <p>3. Historical</p> <ul style="list-style-type: none"> • Antiquity • Meaning • Singularity rarity <p>4. Socio-cultural</p> <ul style="list-style-type: none"> • Identity • Memory 	<p>Methodology 1. Historical Preservation Properties</p> <p>4 criteria (3, 3, 2 and 3 variables):</p> <p>1. Urban</p> <ul style="list-style-type: none"> • Image • Set • Heritage environment <p>2. Architectonic</p> <ul style="list-style-type: none"> • Representativeness • Singularity • Morphology <p>3. Historical</p> <ul style="list-style-type: none"> • Relevance • Specialized recognition <p>4. Social Economy</p> <ul style="list-style-type: none"> • Real estate conservation status • State conservation environment • Community recognition 		<p>Methodology 2. Historical Conservation Areas</p> <p>5 criteria (3, 3, 2, 1 and 1 variables):</p> <p>1. Urban</p> <ul style="list-style-type: none"> • Image • Set • Heritage environment <p>2. Architectonic</p> <ul style="list-style-type: none"> • Representativeness • Singularity • Morphology <p>3. Historical</p> <ul style="list-style-type: none"> • Relevance • Specialized recognition <p>4. Economic</p> <ul style="list-style-type: none"> • State conservation of the area <p>5. Social</p> <ul style="list-style-type: none"> • Community recognition 		<p>3 general criteria (4, 6 and 4 specifics):</p> <p>1. Intrinsic value</p> <ul style="list-style-type: none"> • Testimonial value • Singularity / Typological representativeness • Authenticity • Integrity <p>2. Patrimonial value</p> <ul style="list-style-type: none"> • Historical • Social • Technological • Artistic • Architectonic • Territorial <p>3. Potential value</p> <ul style="list-style-type: none"> • Restoration possibility • State conservation • Viability plan • Legal status
12. MECD (2011)	13. NEALE (2011)	14. MECD (2015a)	15. MECD (2015b)	16. MECD (2015c)	
<p>2 general criteria (7 and 5 specifics)</p> <p>1. Tangible values:</p> <ul style="list-style-type: none"> • Location • Design • Construction systems • Facilities • Material • Esthetic • Use <p>2. Intangible values:</p> <ul style="list-style-type: none"> • Historical • Social • Scientists • Spiritual • Creative genius 	<p>3 criteria (6, 6 and 4 variables):</p> <p>1. Historical</p> <ul style="list-style-type: none"> • Construction date • Association with trends /patterns/historical reasons • Association with events • Association with a person or Group • Archeological Resources (Bonus) • Historical grouping (Bonus) <p>2. Architectonic</p> <ul style="list-style-type: none"> • Design • Construction style • Architectural integrity • Designer / Constructor • Physical condition • Interior elements (Bonus) <p>3. Environmental (cultural)</p> <ul style="list-style-type: none"> • Compatibility with the design of the urban landscape/ surroundings • Community context • Reference point • Location 	<p>10 criteria:</p> <ol style="list-style-type: none"> 1. Historical 2. Symbolic 3. Functional 4. Typological 5. Systemic 6. Landscape 7. Structural 8. Constructive 9. Formal 10. Aesthetic 	<p>3 criteria:</p> <ol style="list-style-type: none"> 1. Historical and identity value 2. Intangible and symbolic value 3. Scientific value 	<p>3 general criteria (4, 6 and 5 specifics):</p> <p>1. Intrinsic value</p> <ul style="list-style-type: none"> • Testimonial value • Singularity / Typological representativeness • Authenticity • Integrity <p>2. Patrimonial value</p> <ul style="list-style-type: none"> • Historical • Social • Technological • Artistic • Architectonic • Territorial <p>3. Potential value</p> <ul style="list-style-type: none"> • Possibility of integral action • State conservation • Management and maintenance • Social profitability • Legal status 	

Source: Own elaboration.

Bibliographic

17. DEXEUS (2003)

2 general criteria (3 and 2 specifics):

1. Testimonial interest for History

- The importance attributed to the object on which it provides testimony
- Guarantee and completeness degree (autograph, first editions)
- Rarity

2. Aesthetic quality

- Material characteristics
- State conservation

Source: Own elaboration.

Cultural

18. RIEGL (1903)	19. ICOMOS (1979)	20. LIPE (1984)	21. LOSADA (1999)	22. BALLART and JUAN (2001)
<p>2 general criteria (3 and 2 specifics, and 2 variables):</p> <p>1. Rememorative values</p> <ul style="list-style-type: none"> • Value of seniority • Historical value • Intentional remembrance value <p>2. Values of contemporaneity</p> <ul style="list-style-type: none"> • Value of use or instrumental • Artistic value <ul style="list-style-type: none"> • Novelty value • Relative artistic value 	<p>5 criteria:</p> <ol style="list-style-type: none"> 1. Aesthetic 2. Historical 3. Scientist 4. Social 5. Spiritual 	<p>4 riteria:</p> <ol style="list-style-type: none"> 1. Economic 2. Aesthetic 3. Associative / Symbolic 4. Informative 	<p>2 general criteria (3 and 5 specifics):</p> <p>1. Cultural values</p> <ul style="list-style-type: none"> • Identity value • Relative technical or artistic value • Value of originality <p>2. Socio-economic values</p> <ul style="list-style-type: none"> • Economic value • Functional value • Educational value • Social value • Political value 	<p>3 criteria:</p> <ol style="list-style-type: none"> 1. Value of use 2. Formal value 3. Symbolic value
23. THROSBY (2001)	24. MASON (2002)	25. AGUILAR (2007)	26. O'CONNOR (2011)	
<p>6 criteria:</p> <ul style="list-style-type: none"> • Aesthetic value • Spiritual value • Social value • Historical value • Symbolic value • Authenticity value 	<p>2 general criteria (5 and 5 specifics):</p> <p>1. Sociocultural values</p> <ul style="list-style-type: none"> • Historical • Cultural/symbolic • Social • Spiritual/religious • Aesthetic <p>2. Economic values</p> <ul style="list-style-type: none"> • Market use value • Value of non-use of the market • Existence • Option • Legacy 	<p>5 criteria:</p> <ul style="list-style-type: none"> • Aesthetic • Historical • Symbolic • Use • Scientific 	<p>6 criteria:</p> <ol style="list-style-type: none"> 1. Significance in relation to a certain Group 2. Historical interpretation 3. Rarity, Quality, and Representativeness 4. Aesthetic qualities 5. Context 6. Sustainability 	
27. HERITAGE BRANCH, DEPARTMENT OF ENVIRONMENT AND HERITAGE PROTECTION (2013)		29. MECD (2015)	30. UNESCO (2017)	
<p>8 general criteria (with specifics):</p> <ol style="list-style-type: none"> 1. Historical (evolution) 2. Rarity, exceptionality 3. Historical 4. Architectonic 5. Aesthetic 6. Technological 7. Social 8. Historical (person or Group) 		<p>2 general criteria (4 and 3 specifics):</p> <p>1. Intrinsic values</p> <ul style="list-style-type: none"> • Authenticity • Integrity • Artistic/expressive • Technical <p>2. Social or cultural</p> <ul style="list-style-type: none"> • Singularity • Symbolic • Historical, documentary or representative 	<p>10 additional criteria + 2:</p> <ol style="list-style-type: none"> 1. Exceptionality 2. Technological 3. Ethnographic singularity 4. Architecture 5. Use of the medium 6. Artistic-Patrimonial 7. Landscape 8. Geological 9. Ecobiological 10. Biodiversity <p>Authenticity Integrity</p>	

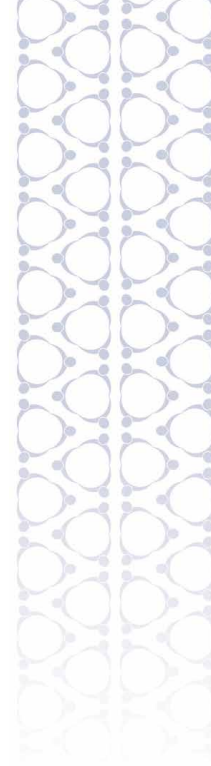
Source: Own elaboration.

Geological and Geomorphological		
<p>31. ARRANZ <i>et al.</i> (1997)</p> <p>7 criteria:</p> <ol style="list-style-type: none"> 1. Content quality 2. Documented and accepted publication 3. Specific interest (composition, constitutive process, time value and spatial meaning) 4. Vulnerability risk 5. Originality 6. Utility as a social good 7. Communicability 	<p>32. BARBA, REMONDO and RIVAS (1997)</p> <p>3 criteria (1, 5 and 5 variables):</p> <ol style="list-style-type: none"> 1. State of Conservation <ul style="list-style-type: none"> • Degree of deterioration 2. Intrinsic quality <ul style="list-style-type: none"> • Relative abundance • Diversity • Size • Representativeness • Degree of knowledge 3. Potential of use <ul style="list-style-type: none"> • Associated activities • Number of inhabitants • Accessibility • Services • Observation conditions 	<p>33. GONZÁLEZ (2006)</p> <p>3 criteria (10, 10 and 9 variables):</p> <ol style="list-style-type: none"> 1. Scientific or intrinsic <ul style="list-style-type: none"> • Genesis • Morfostructures • Erosion forms • Accumulation forms • Legacy elements • Current elements • Timeline • Lithology • Geological structures • Sedimentary structures 2. Cultural or added values <ul style="list-style-type: none"> • Landscape and aesthetic evaluation • Association elements heritage value • Cultural content • Historical content 3. Use and management <ul style="list-style-type: none"> • Pedagogical resources • Pedagogical levels • Scientific value • Scientific representativeness • Real Touristics contents • Potential tourist attraction • Accessibility • Fragility • Vulnerability • Intensity use • Risk degradation • State conservation • Impacts • Observation conditions • Acceptable change limit
<p>34. BRUSCHI (2007)</p>		
<p>Methodology 1:</p> <p>19 criteria:</p> <ul style="list-style-type: none"> • A good example of a process • Rarity / abundance • State conservation • Educational interest • Naturalness • Landscape Interest • Observation conditions • Fragility • Variety elements • Cultural interest • Interrelation with Other processes • Process / man interrelation • Recreational interest • Accessibility • Protected natural space • Degree knowledge • Environmental education services • Size • Economic importance 	<p>Methodology 2:</p> <p>3 criteria (1, 5 and 5 variables):</p> <ol style="list-style-type: none"> 1. State of Conservation <ul style="list-style-type: none"> • Degree of deterioration 2. Intrinsic quality <ul style="list-style-type: none"> • Relative abundance • Diversity • Size • Representativeness • Degree of knowledge 3. Potential of use <ul style="list-style-type: none"> • Associated activities • Number of inhabitants • Accessibility • Services • Observation conditions 	<p>Methodology 3:</p> <p>3 criteria (9, 6 and 6 variables):</p> <ol style="list-style-type: none"> 1. Intrinsic quality: <ul style="list-style-type: none"> • Abundance / rarity • The degree of scientific knowledge • Example of process • Diversity elements • Age (history) • Type of locality • Association with another heritage (artistic, historical, Archeological) • Association with other natural heritage • State of conservation 2. Potential use <ul style="list-style-type: none"> • Activities that can be carried out • Observation conditions • Accessibility • Extension • Proximity to service centers • Socioeconomic condition of the area 3. Need for protection <ul style="list-style-type: none"> • Inhabitants in the vicinity • Present or potential threats • The possibility of collecting objects • Relationship with existing plans • Interest in mining exploitation • Land ownership

Source: Own elaboration.

Geological and Geomorphological		
35. PEREIRA and PEREIRA (2010)	36. HENAO and OSORIO (2012)	37. IGME (2013)
<p>2 generals, 4 specifics (7, 3, 6, 2 variables):</p> <p>Geomorphologic value</p> <p>1. Scientific value</p> <ul style="list-style-type: none"> • Rarity • Integrity • Representativeness • Diversity • Other geological features with heritage value • Scientific knowledge • Rarity at the national level <p>2. Additional value</p> <ul style="list-style-type: none"> • Cultural value • Aesthetic value • Ecological value <p>Management value</p> <p>3. Value of use</p> <ul style="list-style-type: none"> • Accessibility • Visibility • Current use of geomorphological interest • Current use Other interests • Legal protection and limitations • Support equipment and services <p>3. Protection value</p> <ul style="list-style-type: none"> • Integrity • The vulnerability of use as a geomorphological place 	<p>2 criteria (5 and 7 variables):</p> <p>1. Sufficiency matrix</p> <ul style="list-style-type: none"> • Diversity • Geological Age • Geological Processes • Geological framework • Scientific value <p>2. Matrix of use</p> <ul style="list-style-type: none"> • Educational Potential • Potential Touristic • Relationship with the Natural Environment • Recognition of the Community • Type of Responsible Administration • Access • Vulnerability 	<p>3 criteria (divided into 4) (18 variables):</p> <p>1. Intrinsic:</p> <ul style="list-style-type: none"> • Representativeness • City of the type locality • The degree of scientific knowledge of the place • State of conservation • Observation conditions • Rarity • Geological diversity • Spectacular or beautiful <p>2. Intrinsic and use:</p> <ul style="list-style-type: none"> • Informative content • Teaching content • Possible activities to be carried out <p>3. Use:</p> <ul style="list-style-type: none"> • Logistics infrastructure • Socioeconomic environment • Association with other heritage elements <p>4. Use and protection:</p> <ul style="list-style-type: none"> • Population density • Accessibility • Intrinsic fragility • Closeness to recreational areas
38. RENDÓN et al. (2013)	39. MOREIRA and RODRIGUES (2014)	40. MEDINA (2015)
<p>5 criteria (+ 2 indexes)</p> <p>1. Scientific value</p> <p>2. Diversity</p> <p>3. Didactic value</p> <p>4. Aesthetic value</p> <p>5. Geological age</p> <p>Potential Use Index</p> <p>Threat Index</p>	<p>2 criteria (4 and 5 variables):</p> <p>1. Educational value</p> <ul style="list-style-type: none"> • Abundance and rarity • Variety of geodiversity • Diversity • Teaching potential <p>2. Didactic value</p> <ul style="list-style-type: none"> • Aesthetic appearance • Accessibility • Observation conditions • Use in progress • Cultural relevance 	<p>4 criteria (4, 6, 7 and 5 variables):</p> <p>1. Intrinsic value</p> <ul style="list-style-type: none"> • Extension • Observation conditions • State of conservation <p>2. Scientific / educational value</p> <ul style="list-style-type: none"> • Scientific knowledge • Representativeness • The possibility of carrying out scientific activities • Utility as a model to illustrate geological processes • The possibility of didactic activities • Informative knowledge <p>3. Touristic value</p> <ul style="list-style-type: none"> • Association with elements of a cultural nature • Association with elements of a natural nature • The possibility of carrying out tourist activities • Accessibility • The proximity of populations that would be beneficiary with the disclosure of the geosite • Proximity to service centers • Scenic ability <p>4. Value in vulnerability</p> <ul style="list-style-type: none"> • The possibility of collecting geological objects • Current or potential threats • Interest in mining • Fragility • Protection of the premises

Source: Own elaboration.



Intangible
41. MECD (2015)
<p>12 criteria:</p> <ol style="list-style-type: none"> 1. The inescapable protagonism of the community 2. The Imminent danger of disappearance 3. Specificity 4. Continuity 5. Ways of transmission 6. Own traditional organization 7. Involvement of participants 8. Diversity of multisensory expressions 9. Own space frames 10. Temporal integrity and internal rhythm 11. Relevance of objects 12. Autonomy

Source: Own elaboration.

Landscape		
42. MATA <i>et al.</i> (2009)	43. RECHNER <i>et al.</i> (2011)	
<p>4 criteria:</p> <ol style="list-style-type: none"> 1. Ecological bases of the landscape 2. Coherence 3. Aesthetic values 4. Fragility <p>Survey. Social participation</p>	<p>6 criteria:</p> <ol style="list-style-type: none"> 1. Traditionally cultivated land and adaptability to the natural structure 2. Associates with symbolic, cultural and other values 3. Rarity 4. Special values of its structure 5. Significance for regional identity 	
44. MECD (2012)	45. VARJÚ, SUVÁK and DOMBI (2014)	46. DELGADO and PANTOJA (2016)
<p>3 generals (6, 4 and 3 specifics):</p> <ol style="list-style-type: none"> 1. Intrinsic values <ul style="list-style-type: none"> • Typological representativeness • Exemplary • Territorial significance • Authenticity • Integrity • Singularity 2. Patrimonial values <ul style="list-style-type: none"> • Historical significance • Social meaning • Environmental significance • Procedural significance 3. Potential values and feasibility <ul style="list-style-type: none"> • Legal status • Fragility and vulnerability • Viability and social profitability 	<p>7 criteria:</p> <ol style="list-style-type: none"> 1. Absolute relief 2. Relative relief 3. Dissection index 4. Points visibility 5. Water surface 6. Relative evaluation of vegetation / land use 7. Protected areas 	<p>2 criteria (5 and 3 variables):</p> <ol style="list-style-type: none"> 1. Intrinsic landscape <ul style="list-style-type: none"> • Physiography • Water • Vegetation • Artificial elements • Composition 2. Extrinsic landscape <ul style="list-style-type: none"> • Visual depth • Quality of the theme • Altitudinal position

Source: Own elaboration.

Paleontological

47. ENDERE and PRADO (2015)

6 criteria (21 variables):

1. Paleontological Criterion

- Nature of fossils
- Preservation
- Diversity of fossils
- Type of locations
- Taxonomic information

2. Geological criteria

- Geological meaning
- The geological integrity of the site
- Scientific potential

3. Contextual criteria

- Context
- Visual contribution to the landscape
- Association with Archeological remains

4. Integrity criterion

- Geographic situation
- Vulnerability to damage related to fossil harvesting

5. Sociocultural criterion

- Historical value
- Educational interest and interpretation
- Touristic interest
- Complementary value
- A community association or public esteem

6. Socioeconomic

- Urban value
- Mineral value
- Public Works

48. SÁ DOS SANTOS *et al.* (2015)

21 criteria:

1. Representativeness

2. Local character

3. Integrity

4. Rarity

5. Scientific knowledge

6. Geological diversity

7. Teaching potential

8. Geodiversity of elements

9. Observation conditions

10. Vulnerability

11. Accessibility

12. Security

13. Logistics infrastructure

14. Association with Other values 15- Scenic beauty

16. Scope potential

17. Proximity to recreational areas

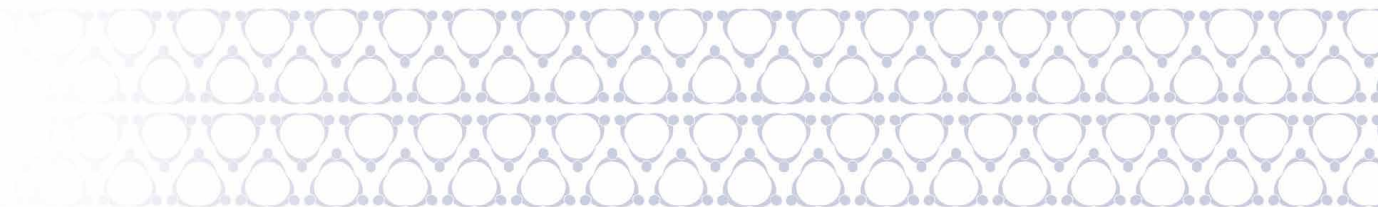
18. Deterioration by natural and anthropic action

19. Proximity to potentially degraded areas

20. Protection regime

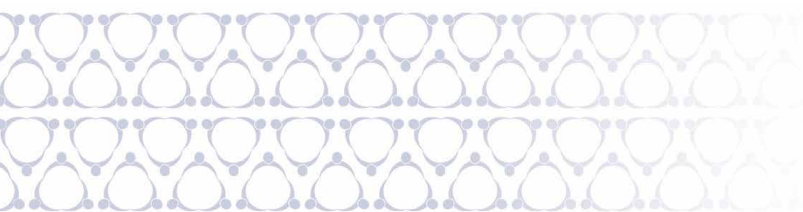
21. Accessibility for vulnerability analysis

Source: Own elaboration.



Touristic					
49. MARTÍNEZ <i>et al.</i> (1997)					
<p>Methodology of historical elements: 5 criteria:</p> <ol style="list-style-type: none"> 1. Military typology 2. Antiquity element 3. Graphic fonts 4. Current status 5. Current recognition 	<p>Methodology of natural elements: 7 criteria:</p> <ol style="list-style-type: none"> 1. Protection situation 2. Representativeness and exclusivity 3. Wealth species in precarious conservation status 4. Pristinity 5. Maintenance of vital processes between species 6. Size 7. Classified in Natural heritage System 	<p>Methodology Elements Landscapes: 6 criteria:</p> <ol style="list-style-type: none"> 1. Variety elements 2. Visual amplitude 3. Variety of colors 4. Variety forms 5. Landscape aesthetic quality 6. Attractive level 	<p>Infrastructure evaluation methodology: 3 criteria (9, 2 and 2 variables):</p> <ol style="list-style-type: none"> 1. Decisive factors <ul style="list-style-type: none"> • Roads • Transportation • Security • Traffic intensity • Time to urban centers • Communications • Water availability • Electric power • Sewerage 2. Important <ul style="list-style-type: none"> • Accommodation • Food 3. Desirable <ul style="list-style-type: none"> • Recreation • Services 		
50. VIÑALS, MORANT and QUINTANA (2011)					
<p>2 generals; 5 and 6 specifics:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>1. Intrinsic valuation</p> <ul style="list-style-type: none"> • Significance • Representativeness • Singularity • Naturalness • Integrity </td> <td style="width: 50%; vertical-align: top;"> <p>2. Recreational Assessment</p> <ul style="list-style-type: none"> • Fragility • Attractive • Accessibility • Availability of time and space • Feasibility • The potential for education and heritage interpretation </td> </tr> </table>				<p>1. Intrinsic valuation</p> <ul style="list-style-type: none"> • Significance • Representativeness • Singularity • Naturalness • Integrity 	<p>2. Recreational Assessment</p> <ul style="list-style-type: none"> • Fragility • Attractive • Accessibility • Availability of time and space • Feasibility • The potential for education and heritage interpretation
<p>1. Intrinsic valuation</p> <ul style="list-style-type: none"> • Significance • Representativeness • Singularity • Naturalness • Integrity 	<p>2. Recreational Assessment</p> <ul style="list-style-type: none"> • Fragility • Attractive • Accessibility • Availability of time and space • Feasibility • The potential for education and heritage interpretation 				

Source: Own elaboration.



3.3 APPLIED EVALUATION METHODOLOGIES

In this section, the patrimonial evaluation methodologies that are applied in a practical way are analyzed. These methods numerically express the value of the patrimonial elements evaluated. Consequently, the set of methodologies selected in this section follow a quantitative approach, and respond to one of the objectives of the methodological system that we have developed: the design of a method that will serve as an instrument for decision making of those actors in the territory with competences for this, from civil society, to the government of public administration. However, we understand that the quantitative approach does not substitute the qualitative one. Moreover, the quantitative vision requires the criteria and parameters of the qualitative approach.

Table 3.13 shows the distribution of the evaluation methodologies applied according to the heritage object of valuation. A score of publications have been identified that present one or more methods applied, so there are 26 differentiated methodological systems. References that have more than one applied method have been assigned the same code assigned to their reference

and an additional number is added for their identification. The most numerous are the evaluation methodologies of Geological and Geomorphological Heritage, with 11 systems, representing 42.3% of those located. Then there are the Architectural Heritage with 5 methods, and the Tourist Heritage, with 4. These 3 typologies represent 77% of the analyzed methodologies.

Below there is an analysis of the 26 practical methodologies. It details aspects such as weighting methods, the level of complexity in its application, the way of scoring, etc. Table 3.14 (at the end of this section for formal reasons) summarizes the main characteristics of each practical evaluation procedure.

1. Implementation of the evaluation: homogeneous or uniform scoring of the indicators

Table 3.15 classifies the methodological systems according to the homogeneity in the scoring of their indicators. We have identified 22 methods (84.6%) that give different maximum score to the proposed criteria and/or variables so that the considered values have a different relevance. The remaining 4 methods (DELGADO, 2009, BRUSCHI, 2007 -method 1-, RENDÓN et al., 2013, SÁ DOS

TABLE 3.13 Classification of applied evaluation methodologies (by code), according to the assets subject to valuation.

HERITAGE	APPLIED EVALUATION METHODOLOGIES	TOTAL	%
Archaeological	02, 03	2	7,7
Architectonic	04, 08, 10.1, 10.2, 13	5	19,2
Geological and Geomorphological	32, 33, 34.1, 34.2, 34.3, 35, 36, 37, 38, 39, 40	11	42,3
Landscape	45, 46	2	7,7
Paleontological	47, 48	2	7,7
Touristic	49.1, 49.2, 49.3, 49.4	4	15,4
TOTAL		26	100

Source: Own elaboration.

SANTOS et al., 2015) establish an homogeneous scoring (same maximum scoring) for their criteria.

2. Interpretation and quantification of indicators

We have identified 14 practical procedures that do not require an interpretation of the indicators for the assignment of scores. The proposed indicators and variables are objective and precise so that the final value will be the same regardless the evaluator.

For example, in the methodology of Endere and Prado (2015), the variable called “mineral value” of the socioeconomic criterion, is scored with 0 points if there are no fossils, with 1 point if fossils have been located in abandoned mines, and with 2 points if the fossils are in mines in exploitation. Consequently, this variable is objective, since it does not give rise to subjective interpretations. However, 12 systems require an interpretation of the indicators for their score, so the attribution of values is done according to the judgment of the evaluator himself, a sub-

TABLE 3.15 Classification of the evaluation methodologies applied (by code), according to the equitable score of the criteria and/or variables.

HERITAGE	Homogeneous score of the criteria and/or variables				Total
	Yes	No	Criteria no / variables Yes	Criteria Yes / variables no	
Archaeological	-	02	03	-	2
Architectonic	08	04	10.1, 10.2	13	5
Geol.I and Geom.	34.1, 38	32, 33, 35, 36	34.2, 34.3, 37, 39, 40	-	11
Landscape	-	45	46	-	2
Paleontological	48	47	-	-	2
Touristic	-	49.1, 49.2, 49.3, 49.4	-	-	4
TOTAL	4	12	9	1	26
%	15,4	46,2	34,6	3,8	100%

Source: Own elaboration.

TABLE 3.16 Classification of the evaluation methodologies applied (by code), according to the interpretation and quantification of the criteria/variables.

HERITAGE	Interpretation and quantification criteria / variables		Total
	Interpretation is not required for quantification	Interpretation is required for quantification	
Archaeological	-	02, 03	2
Architectonic	-	04, 08, 10.1, 10.2, 13	5
Geol.I and Geom.	32, 33, 34.2, 34.3, 37, 39	34.1, 35, 36, 38, 40	11
Landscape	45, 46	-	2
Paleontological	47, 48	-	2
Touristic	49.1, 49.2, 49.3, 49.4	-	4
TOTAL	14	12	26
%	53,8	46,2	100%

Source: Own elaboration.

jective view. This approach assumes that if the methodology is applied by different people, the final result may also be different.

3. Implementation of the evaluation: weighted scores

The purpose of the weighting of the values is the hierarchy of the indicators used according to their relative importance considered. As can be observed in table 3.17, 16 systems have been located that apply some method of weighting or attribution of weights to the criteria and/or determined variables.

The following table shows the weighting methods used in the different systems of patrimonial evaluation. We found 11 methodologies, 69%, where the different weights attributed to the indicators are assigned based on the judgment or criterion of the author of the method. Then there are 4 methodologies that weight the values from the importance assigned by different experts, which is a quarter of the systems. For example, as Delgado and Pantoja (2016) point out, *“both the criteria and the weighting were previously established with the GEL -Group of Local Experts-”*. Finally, the me-

TABLE 3.17 Classification of applied evaluation methodologies (by code), based on the use of weighting methods.

HERITAGE	Weighting (weight)		Total
	Yes	No	
Archaeological	-	02, 03	2
Architectonic	10.1, 10.2, 13	04, 08	5
Geol. and Geom.	32, 34.2, 34.3, 37, 38, 40	33, 34.1, 35, 36, 39	11
Landscape	45, 46	-	2
Paleontological	48	47	2
Touristic	49.1, 49.2, 49.3, 49.4	-	4
TOTAL	16	10	26
%	61,5	38,5	100%

Source: Own elaboration.

TABLE 3.18 Classification of applied evaluation methodologies (by code), according to the weighting method.

HERITAGE	Weighting method			Total
	Author Criterion	Expert evaluations	Criterion Other authors	
Architectonic	10.1, 10.2, 13	-	-	3
Geol. and Geom.	37, 38, 40	32, 34.2, 34.3	-	6
Landscape	-	46	45	2
Paleontological	48	-	-	1
Touristic	49.1, 49.2, 49.3, 49.4	-	-	4
TOTAL	11	4	1	16
%	68,8	25,0	6,3	100%

Source: Own elaboration.

thodology of Varjú et al. (2014) establishes the weighting of its indicators based on the criteria of another author.

4. Method of obtaining the final value

Most of the analysed methodologies (77%) obtain the final value of the patrimonial elements by means of the sum of the scores granted to each indicator, either with the application of some weighting method or not. Other 5 procedures employ other mathematical formulas different from the simple sum of the values and are usually consti-

tuted by more complex expressions. Finally, there is a system that uses the Delphi method to obtain the final grade. It is based on expert judgment, in which the consensus of their opinions is sought through the completion of successive questionnaires.

5. The complexity of obtaining the final value

Table 3.20 shows the degree of complexity presented by the methods applied to obtain the final scores for each of the elements. As indicated in the previous point, 20 systems use simple methods based on the sum of

TABLE 3.19 Classification of applied evaluation methodologies (by code), according to the method of obtaining the final value.

HERITAGE	Method of obtaining the final value			Total
	Summation criteria / variables	Other formulas	Delphi method	
Archaeological	02	03	-	2
Architectonic	04, 08, 10.1, 10.2, 13	-	-	5
Geol.I and Geom.	33, 35, 36, 37, 38, 39	32, 34.2, 34.3, 40	34.1	11
Landscape	45, 46	-	-	2
Paleontological	47, 48	-	-	2
Touristic	49.1, 49.2, 49.3, 49.4	-	-	4
TOTAL	20	5	1	26
%	76,9	19,2	3,9	100%

Source: Own elaboration.

TABLE 3.20 Classification of applied evaluation methodologies (by code), according to the degree of complexity of obtaining the final value.

HERITAGE	Complexity obtaining the final value			Total
	Easy	Medium	Difficult	
Archaeological	02, 03	-	-	2
Architectonic	04, 08, 10.1, 10.2, 13	-	-	5
Geol.I and Geom.	33, 35, 36, 37, 38, 39	32, 34.2, 34.3	34.1, 40	11
Landscape	45	46	-	2
Paleontological	47, 48	-	-	2
Touristic	49.1, 49.2, 49.3, 49.4	-	-	4
TOTAL	20	4	2	26
%	76,9	15,4	7,7	100%

Source: Own elaboration.

the scores of each indicator. Numerous procedures use numerical scales for the attribution of qualifications, which facilitates the application. There are 4 methods that have an average degree of complexity since the total score is the result of more complicated mathematical formulas or more laborious procedures. Finally, we find two methods with high difficulty. Methodology 1 of Bruschi (2007) uses the Delphi method to obtain the final grade. Obtaining the final value has been considered complex due to the execution time involved in its implementation, the necessary participation of different experts and the completion of questionnaires. The method of Medina (2015) has also been determined as difficult since it involves the achievement of 4 steps, the calculation of various values and indices and the use of different formulas.

6. The complexity of application and the level of specific knowledge required

Methods analysed present varying degrees of complexity according to the level of knowledge required of the evaluator for the application of the procedures. Most methodologies develop understandable definitions, but on occasion, the use of technicalities makes it difficult for the operator to correctly attribute scores. More than half of the methods use simple criteria and/or variables that do not require specialization or the study of any subject for their readability. However, 7 systems have been detected that implies an average complexity since many indicators use technicalities and specific knowledge is needed in some patrimonial aspect. Finally, we found 5 methodologies considered difficult. The operator must be a specialist in some subject to be able to correctly assign the qualifications since they use specific and technical vocabulary. In addition, the method of Pereira and Pereira (2010) does not define the indicators.

TABLE 3.21 Classification of applied evaluation methodologies (by code), according to the degree of complexity of the application.

HERITAGE	Complexity of application			Total
	Easy	Medium	Difficult	
Archaeological	03	-	02	2
Architectonic	04, 10.1, 10.2, 13	-	08	5
Geol.I and Geom.	34.1, 38, 39, 40	32, 34.2, 34.3, 37	33, 35, 36	11
Landscape	45, 46	-	-	2
Paleontological	47	48	-	2
Touristic	49.3, 49.4	49.1, 49.2	-	4
TOTAL	14	7	5	26
%	53,9	26,9	19,2	100%

Source: Own elaboration.

TABLE 3.14 Characteristics of evaluation methodologies applied.

Code	Year	Location	Number criteria (and variables)	Homogeneous score criteria and / or variables	Punctuation	
Archeological						
02	1999	Santiago de Compostela	2 generals; 4 y 2 specifics	No	CG1: Each specific criterion is rated from 1 to 8 points (2 criteria are mutually exclusive). CG2: It is scored from 0 to 2 points (medium joint interpretation of the 2 specifics).	
03	1999	Holland	3 criteria (2, 2 and 4 variables)	They do not score the same criteria, the variable does	C1: is not scored. If it is fulfilled, the good is preserved, if C2 is not evaluated. C2: its variables are scored from 1 to 3 and the arithmetic medium is calculated. If it is 5-6 it goes to C3. C3: their variables are scored from 1 to 3. If the medium is 7 or greater, the good is preserved, if C4 is not evaluated. C4: not scored. If it is done, the good is preserved.	
Architectonic						
04	1980	Canada	5 criteria (6, 3, 3, 5 and 3 variables)	No	The maximum sum of the criteria is 100, but each one is assigned a different score. The variables use different scoring sequences of 4 values	
08	2009	Loja (Ecuador)	8 criteria	Yes	Each criterion is rated with 0, 50 or 100 points.	
10	2010	La Serena (Chile)	1	4 criteria (3, 3, 2 and 3 variables)	They do not score the same criteria, the variable does	Each criterion has a different maximum score (6, 6, 4 and 6 points). The variables are scored from 0 to 2 points
			2	5 criteria (3, 3, 2, 1 and 1 variables)	They do not score the same criteria, the variable does	Each criterion has a different maximum score (6, 6, 4, 2 and 2 points). The variables are scored from 0 to 2 points
13	2011	Thorold (Canada)	3 criteria (6, 6 and 4 variables)	The criteria score the same, the variable doesn't	Each criterion is valued with a maximum of 100 points. The variables use different scoring sequences of 4 values. There are bonus variables that grant additional points	
Geological and Geomorphological						
32	1997	Cantabria (Spain)	3 criteria (1, 5 and 5 variables)	No	The variables are rated from 0 to 4 points (with the exception of the first criterion, whose variable is scored from 0 to 1)	
33	2006	Picos de Europa (Cantabria, Spain)	3 criteria (10, 10 and 9 variables)	No	C1: 100 points. Each variable is rated with a maximum of 10 points. C2: 70 points. Each variable is rated with 5 or 10 points. C3: 18 points. Each variable is rated from 0 to 2 points.	

Interpretation and quantification of criteria / variables	Weighting (weight)	Weighting method	Method of obtaining of the final value	Final value	Application
Archeological					
Interpretation of the definitions is required for the quantification of the criteria. Assignment of value according to evaluating judgment	No	-	Summ of the general criteria (CG1: Variable arithmetic mean CG2: Score assigned according to the evaluator criterion)	Easy	Difficult
Interpretation of some of the variables is required for their quantification. Assignment of value according to evaluating judgment	No	-	A final value is not obtained. The method determines if the evaluated good must be preserved.	Easy	Easy
Architectonic					
Interpretation of most variables is required for their quantification. Assignment of value according to evaluating judgment	No	-	Summation score criteria (variables)	Easy	Easy
Interpretation of the definitions is required for the quantification of the criteria. Assignment of value according to evaluating judgment	No	-	Summation score criteria	Easy	Difficult
Interpretation of most variables is required for their quantification. Assignment of value according to evaluating judgment	Yes (to each criterion)	Prevalence of architectural and historical values over urban and economic-social values. Greater relevance according to author	Summative score criteria (variables). Weighing	Easy	Easy
Interpretation of most variables is required for their quantification. Assignment of value according to evaluating judgment	Yes (to each criterion)	Prevalence of Architectonics, historical and social values, on urban and economic values. Greater relevance according to author	Summative score criteria (variables). Weighing	Easy	Easy
Interpretation of most variables is required for their quantification. Assignment of value according to evaluating judgment	Yes (to each criterion)	Ranking according to whether the building is evaluated individually (greater significance of Architectonic and historical value) or in a district/heritage area (greater significance to environmental value). Author Criterion	Summative score criteria (variables). Weighing	Easy	Easy
Geological and Geomorphological					
Use of measurable parameters, punctuate specific and precise characteristics. Reproducible results by different evaluators	Yes (to each variable)	Weight allocated based on the importance granted by specialists. Simple sum and reduction to 100 of the evaluations of the experts to the variables	Formula C1 (2C2 + C3) The score of each criterion is obtained by adding the sum of the products of each variable by its weight	Medium	Medium
Use of measurable parameters (except the third criterion), punctuate specific and precise characteristics. Reproducible results by different evaluators	No	-	Triple rating (one score per criterion). Some of the variables (after calculation on a maximum of 10 points)	Easy	Difficult

Code	Year	Location	Number criteria (and variables)	Homogeneous score criteria and / or variables	Punctuation	
Geological and Geomorphological						
34	2007	Cantabria (España)	1	List of criteria based on expert surveys	Yes	The criteria are scored based on the assessment of the expert surveyed
			2	3 criteria, (1, 5 and 5 variables)	They do not score the same criteria, the variable does	The variables are scored from 0 to 4 points
			3	3 criteria (9, 6 and 6 variables)	They do not score the same criteria, the variables do	The variables are scored from 0 to 4 points
35	2010	Portugal	2 generals; 2 and 2 specifics (7, 3, 6 and 2 variables)	No	The general criteria are worth 10 points, but the maximum value of the specifics is different (5'5, 4'5, 7 and 3). The variables are also scored with different maximum scores (0.5, 1 and 1.5)	
36	2012	Colombia	2 criteria in 2 matrices with 5 and 7 variables	No	The variables are scored with different scores	
37	2013	España	3 criteria (18 variables)	They do not score the same criteria, the variable does	The variables are rated with 1, 2 or 4 points	
38	2013	Departamento Antioquia (Colombia)	5 criteria + 2 indexes	Yes	The criteria are scored from 1 to 5	
39	2014	Parque Estatal de Ibitipoca (Brasil)	2 criteria (4 and 5 variables)	They do not score the same criteria, the variable does	The variables are scored from 0 to 3 points	
40	2015	Argentina	4 criteria (4, 6, 7 and 5 variables)	They do not score the same criteria, the variable does	The variables are scored from 1 to 3 points	
Landscape						
45	2014	Hungría-Croacia	7 criteria	No	The criteria are scored with different scores	
46	2016	El Tambo, Nariño (Colombia)	2 criteria (5 and 3 variables)	They do not score the same criteria, the variable does	The variables are scored with a maximum of 5 points	

Interpretation and quantification of criteria / variables	Weighting (weight)	Weighting method	Method of obtaining of the final value	Final value	Application
Geological and Geomorphological					
Value assignment according to the synoptic judgment of experts surveyed	No	-	Delphi method. Some of the criteria based on the scores assigned by experts surveyed (other formulas indicated)	Difficult	Easy
Use of measurable parameters, punctuate specific and precise characteristics. Reproducible results by different evaluators	Yes (to each variable)	Pesos allocated based on the importance granted by specialists. Simple sum and reduction to 100 of the evaluations of the experts to the variables	Formula $C1 (2C2 + C3) / 48$ (final value between 0 and 1). The score of each criterion is obtained by adding the sum of the products of each variable by its weight	Medium	Medium
Use of measurable parameters, punctuate specific and precise characteristics. Reproducible results by different evaluators	Yes (to each variable)	Pesos allocated based on the importance granted by specialists. Simple sum and reduction to 100 of the evaluations of the experts to the variables	Formula $(C1 + C2 + C3) / 3$ (final value between 0 and 1). The score of each criterion is obtained by adding the sum of the products of each variable by its weight	Medium	Medium
Interpretation of the variables is required for their quantification. Assignment of value according to evaluating judgment	No	-	Summation score criteria (variables)	Easy	Difficult
Interpretation of most variables is required for their quantification. Assignment of value according to evaluating judgment	No	-	Double rating (one score per criterion). Summ score variables	Easy	Difficult
Majority use of measurable parameters punctuate concrete and precise characteristics. Reproducible results by different evaluators	Yes (to each variable)	Criteria author according to the interest to be evaluated (scientific, didactic or Touristic/recreational)	Summative score criteria (variables). Weighting according to the interest rate to be valued	Easy	Medium
Interpretation of the definitions is required for the quantification of the criteria. Assignment of value according to evaluating judgment	Yes (to each variable)	Author Criterion	Summative score criteria. Weighing	Easy	Easy
Use of measurable parameters, punctuate specific and precise characteristics. Reproducible results by different evaluators	No	-	Summative score criteria (variables). You get an evaluation by criterion and a final	Easy	Easy
Interpretation of most variables is required for their quantification. Assignment of value according to evaluating judgment	Yes (to each variable)	Author criterion according to the value or index to obtain	Different weights and formulas are applied according to the value or index to be obtained	Difficult	Easy
Landscape					
Use of measurable parameters, punctuate specific and precise characteristics. Reproducible results by different evaluators	Yes (to each variable)	Weights from other authors' criteria. It is weighted according to the importance for alternative tourism	Summative score criteria. Weighing	Easy	Easy
Interpretation of most variables is required for their quantification. Assignment of value according to evaluating judgment	Yes (to each criterion and variable)	Pesos granted by a group of local experts	Summative score criteria. Weighing	Medium	Easy

Code	Year	Location	Number criteria (and variables)	Homogeneous score criteria and / or variables	Punctuation	
Patrimonio Paleontológico						
47	2015	Argentina	6 criteria (5, 3, 3, 2, 5 and 3 variables)	No	Each criterion has a different maximum score. The variables are also scored with different scores.	
48	2016	Cuenca de Souza (Brasil)	21 criteria	Yes	The variables are scored with points from 1 to 4	
Patrimonio Turístico						
49	1997	Octava Región del Biobío (Chile)	1	5 criteria	No	The criteria are scored with different scores. Values between 1 and 5 or between 0 and 5
			2	7 criteria	No	The criteria are scored with different scores. Values between 1 and 5 or between 1 and 4
			3	6 criteria	No	The criteria are scored with different scores
			4	3 criteria (9, 2 and 2 variables)	No	The variables are scored with different scores

The table 3.14 includes the synthesis of the most significant aspects that characterize the heritage evaluation methodologies applied in a practical way. It shows features such as the scoring system used, the weighting method and the complexity of its imple-

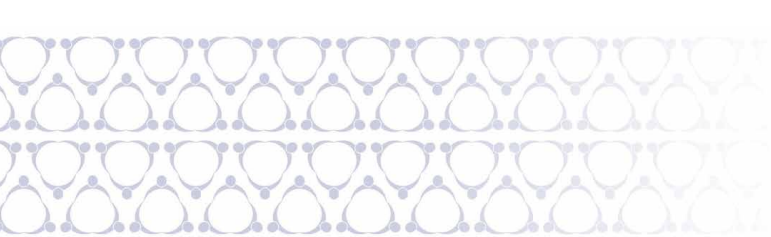
mentation. We have considered convenient the elaboration of a table that synthesizes the main difficulties and advantages that each of the applied methods possesses, in order to design an easy evaluation methodology based on a simple scoring system.

Interpretation and quantification of criteria / variables	Weighting (weight)	Weighting method	Method of obtaining of the final value	Final value	Application
Patrimonio Paleontológico					
Use of measurable parameters, punctuate specific and precise characteristics. Reproducible results by different evaluators	No	-	Summative score criteria (variables).	Easy	Easy
Use of measurable parameters, punctuate specific and precise characteristics. Reproducible results by different evaluators	Yes (to each criterion)	Author criterion according to the interest to be evaluated (scientific value, educational value, Touristic value, and vulnerability)	Summative score criteria. Weighting according to the interest rate to be valued	Easy	Medium
Patrimonio Turístico					
Majority use of measurable parameters punctuate concrete and precise characteristics. Reproducible results by different evaluators	Yes (to each criterion)	Criterion author for the later use of the patrimonial asset as Touristic attractive and not in its existence value	Summative score criteria. Weighing	Easy	Medium
	Yes (to each criterion)			Easy	Medium
	Yes (to each criterion)			Easy	Easy
	Yes (to each criterion)	Criteria author to avoid distortion between a large city and a lower-ranking urban center	Summative score criteria (variables). Weighing	Easy	Easy

Conclusions

The analysis of the applied methods has allowed to observe that the majority of systems grant maximum qualifications different to the indicators, for which reason there are criteria considered more relevant than others. Also, in many occasions, the indicators require an interpretation of the evaluator for assigning marks, so that the final score of each item may vary depending on the evaluator. In

addition, the evaluation methods do not contemplate, in general, the participation of the community for the allocation of scores. However, it is common to use simple mathematical formulas aimed at obtaining the overall value of the good. The study of these aspects has given us ideas and suggestions aimed at designing a practical and effective implementation method, which can be applied by different evaluators and does not require outstanding knowledge in any subject.



3.4 CONCLUSIONS EXTRACTED FROM THE ANALYSIS OF THE BIBLIOGRAPHIC REFERENCES

The detailed analysis of fifty bibliographical references in terms of patrimonial evaluation has allowed us to identify their most significant characteristics and values. The indicators used in each type of localized heritage have been studied, and various aspects have been detected that should be improved. The works are developed in multiple geographical spaces, which gives us a vision of the valuation of heritage from different territories and cultures.

Our main conclusions are as follows:

1. Numerous references are limited to the development of a methodological system of patrimonial evaluation or to the proposal of values or indicators. We consider convenient the establishment of an effective asset management instrument with the incorporation of inventory, cataloguing, valuation and dissemination phases of the heritage elements.
2. The valuation indicators show similarities according to the type of heritage assessed,

although the criteria and variables differ according to the method analyzed. The structure and treatment of the different procedures also present relevant differences. These aspects are linked to a lack of homogenization and normalization of the indicators as well as to the different applications of the theoretical contents.

3. The definition and treatment of the indicators are usually understandable, although sometimes the use of technicalities and specific vocabulary makes it difficult for the evaluator to correctly assign the scores.

4. In some typologies of patrimonial evaluation, we observe a temporal and cultural evolution of the values and indicators used, mainly those related to the Geological and Geomorphological and Cultural Heritage. These typologies present relevant similarities due to the numerous existing antecedents and the relationship between the works.

5. Most applied methods do not determine homogeneous scores for their indicators, due to the importance assigned to the criteria or variables. In general, the value of each indicator is assigned based on the criterion

of the author of the method, without the use of any systematic analysis.

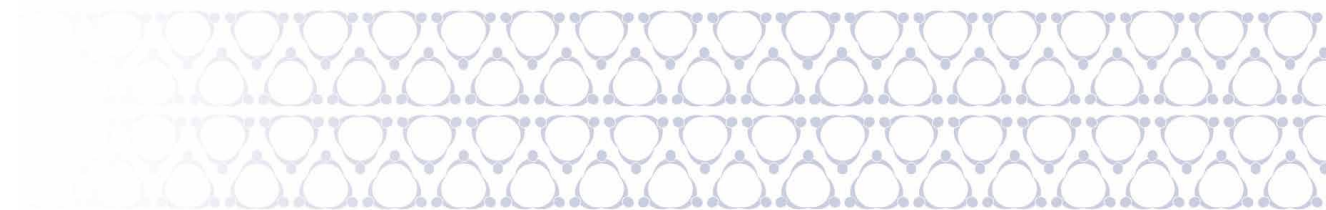
6. Approximately half of the evaluation methodologies analyzed require an interpretation of the criteria by the evaluator for the assignment of scores. In this sense, if the procedure is performed by different operators, the qualification of the property may also be different. We are aware that it is not always possible to quantify the indicators in a totally objective way, so it is convenient to establish a control of subjectivity.

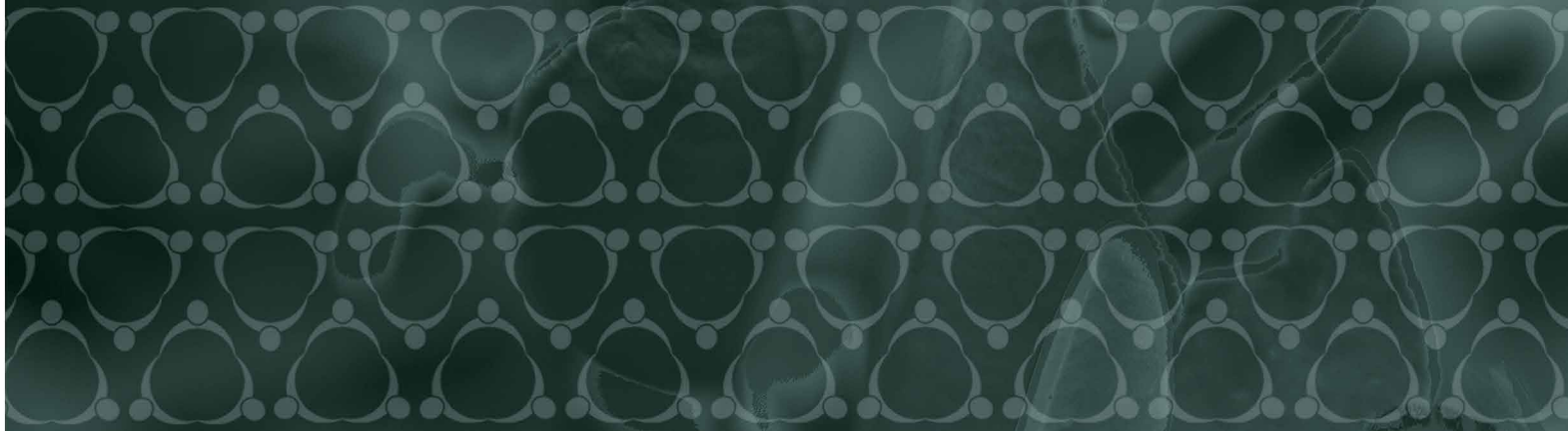
7. The formula to obtain the final qualification of the patrimonial elements is usually simple, usually based on the sum of the scores assigned to the indicators.

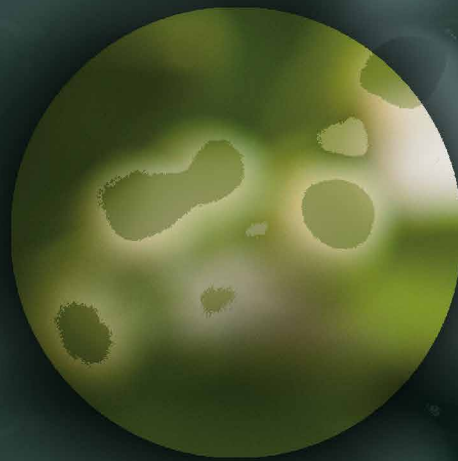
8. With few exceptions the methodological systems do not contemplate the participation or involvement of the local or indigenous community in the patrimonial valuation of their goods and landscapes.

Based on the bibliographic review carried out, we have designed a proposal of methodology for the evaluation of cultural heritage, in which a hierarchical and clear indicators structure is stated: categories,

criteria and variables. This basic structure constitutes the main proposal of the three methodologies designed, adapted to the material, immaterial and landscape cultural heritage. The valuation categories represent a first level of valuation and are the following three: "Intrinsic values", "Heritage values" and "Potential and viability values". These categories are constituted by criteria, which, in general terms, include values such as representativeness, authenticity, integrity, historical, social, symbolic or identity, artistic or vulnerability. The criteria are also broken down into variables, such as functionality, state of conservation, visibility and accessibility ... This structure, made up of categories, criteria and variables, involves the technical evaluation of the element. The evaluation method also includes the realization of complementary actions based on the participation of social agents.







**A methodology
of evaluation for Cultural
and Landscape Heritage**

04

A methodology of evaluation for Cultural and Landscape Heritage

The analysis of bibliographic references analyzed in terms of patrimonial valuation, combined with the wide experience of the ESTEPA research group (Studies of the Territory, Landscape and Heritage) in patrimonial and landscape studies have made possible the design and development of methodological proposals on Cultural and Landscape Heritage. Specifically, the aforementioned team carried out a methodology of patrimonial evaluation for hydraulic elements, used in various projects with satisfactory results (HERMOSILLA, MAYORDOMO, 2016 and 2017).

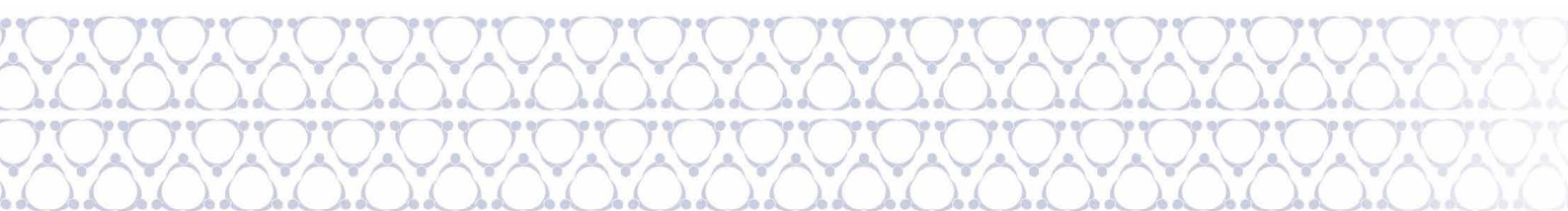
The analysis of the evolution of the values of cultural elements and of the various laws and international organizations for their conceptualization and protection has allowed us to contemplate the main social aspects of each historical period. Likewise, the evolution of the conception of heritage in Latin America and Europe has been compared with the aim to investigate the peculiarities and evolution of both visions and consider the most significant values in both socio-cultural contexts.

4.1 CONCEPTUALIZATION AND DEFINITION OF THE METHOD

The purpose of the proposed evaluation system is the objective evaluation of the different material and immaterial elements of the Cultural Heritage and of the landscape

units. These are multi-criteria quantitative methods, which recognize the multidisciplinary nature required by the studies and evaluation of this typology of goods and territories. The employed indicators contemplate aspects of structural and functional type and make possible the comprehension of patrimonial works and landscapes from different dimensions: historical, artistic, social, symbolic, cultural and scientific. They are based on the general principles that allow us to define and value the Cultural Heritage.

Our proposed common methodology for the valuation of tangible and intangible goods and landscapes are structured into three categories: "Intrinsic values", "Heritage values", and "Potential and viability values". These homogeneous sets of values are used in various national plans of the Institute of Cultural Heritage of Spain (MECD, 2012, MECD, 2015c) and show certain similarities with those employed in other methodological systems analysed (AGUILAR, 2011; GONZÁLEZ, 2006; IGME, 2013; MEDINA, 2015). The three categories are each constituted by a different set of criteria: the methodologies of evaluation of the material cultural elements and the landscapes are composed of 15 criteria or indicators, while the one dedicated to assessing the immaterial manifestations is structured in 13 criteria. Each one of these criteria is broken down into three specific variables. Likewise, attempts have been made to maintain the same criteria and variables in all three me-



thods, although they have been adapted, suppressed or expanded according to the particular characteristics of the material, immaterial and landscape elements.

Quantification proposal

The proposed evaluation method is quantitative. As mentioned and after the analysis of the previous documents, we consider relevant a proposal that allows the quantification of the heritage value of the cultural elements, in order to establish their hierarchy. One of the objectives of the evaluation method is the design of a useful tool for decision making, so it is necessary to qualify the elements and landscapes considered through a quantitative approach. However, this quantitative vision requires the criteria and indicators from the qualitative point of view.

The variables that structure the different methods are valued for each of the elements or landscapes evaluated. If the quality is fulfilled, the value "1" it is assigned, if not, the value "0", without weighting some indicators over others. Each category ("*Intrinsic values*", "*Heritage values*" and "*Potential and viability values*") and criterion is evaluated separately so that three modalities of qualifications are obtained for each cultural element or landscape unit: scores by criterion, scores by category and a global score. The individual qualifications allow a precision of the most significant sets of values and a comparison of their features and particularities.

The valuation of each criterion is established by the sum of the scores awarded to the variables that constitute it. For each indicator, a figure of 0 to 3 is obtained in this way depending on the compliance or not of the proposed qualities. Four levels of valuation are established according to the patrimonial interest: High (3), Medium (2), Low (1) and Very Low (0).

The score of each category is obtained through the sum of the scores for each criteria. The maximum score will depend on the number of variables that structure each category. The result is expressed based on a decimal scale (0-10 points) and 6 levels of valuation are proposed based on the equity value: Very High (8.6-10); High (7.2-8.5); Medium (5.8-7.1); Low (4.4-5.7); Very Low (3-4.3); and No Interest (0-2.9).

Finally, a global assessment is calculated as a result of adding the scores awarded to the three categories. The value obtained is also transformed to a decimal scale and the same 6 levels of valuation are proposed.

Table 4.1 shows an example of how to quantify the scoring modalities in a cultural element. As noted, the variables are scored with "1" or "0" depending on their compliance or not. The scoring of each criterion is obtained by adding the scorings of its variables, while the scoring of the category is calculated through the summation of the results of its criteria. The final assessment

is the result of adding the scores of all the variables. The general structure of the method can be found on page 66.

Complementary actions

The proposed methodological systems allow the technical evaluation of the cultural elements and landscapes of the Cultural Heritage and are applicable in any geographical area. Likewise, the methods also contemplate the implementation of complementary actions based on the participation of the community and social agents. The active involvement of the population in the management and valuation of their heritage assets and territories constitutes a fundamental and necessary action. These additional tasks are constituted by two types of actions: the completion of surveys by local inhabitants, and the formation of a panel of experts made up of specialists from the area considered. Both procedures are structured according to the indicators that make up the

evaluation methods, which allows an analysis of the results by categories and criteria and their comparison with the scores obtained in the technical assessment. Its application would reveal the opinions and valuation of the community about its heritage.

In addition to the aforementioned proposals for complementary actions, the evaluation method is open to any additional action that implies the participation and involvement of the community and social agents. In this way, and at the suggestion of the Chilean partner, it is possible to incorporate some of the experiences described by Caraballo (2008) in Latin America, in which social participation acquires a significant importance. In its publication, it describes the organization of participatory workshops, in which the opinion of the actors directly related to the good is collected. From the vision of each participant, the patrimonial values of the collective are built.

TABLE 4.1 Example of scoring for a category in a tangible cultural element

Categories	Criteria	Variables	Scores				
			Variables	Criteria	Categories		
Intrinsic Values	1. Representativeness	Typological representativeness	1	2	Medium	6 (6,7/10)	Medium
		Association to ways of communities/indigenous life	1				
		Traditional or community uses	0				
	2. Authenticity	Morphology and the primary image	1	1	Low		
		The credibility of the processes that influence the physical and morphological characteristics	0				
		No environmental or locational modifications	0				
	3. Integrity	Optimal conservation	1	3	High		
		Conservation of the constitutive attributes	1				
		Functionality	1				

Source: Own elaboration.

Surveys of the local population

Surveys of the local population can be gained by the use of questionnaires which would allow quantifying the degree of knowledge and assessment that the community has about its heritage elements and landscapes. We are aware that the selection of goods and landscape units to be evaluated will depend on various social processes, and may be carried out by technicians, institutions, decision makers, the community itself, etc. In this sense, it is possible that the local population does not always know all the goods that need to be evaluated – or have very different views of what their ‘heritage’ is-

For each evaluation method, a questionnaire composed of questions formulated according to the proposed criteria has been prepared. These are closed dichotomous issues, with answers of “yes”, “no” and “do not know”. This type of question requires less effort to the respondent for their response and are easier to quantify and analyze. At the beginning of the survey, several identification questions are included, referring to the characteristics of the subject such as age, sex, level of studies, occupation, etc. These questions allow us to analyze the main sociodemographic characteristics of the sample and make a more profuse and detailed statistical exploitation of the data.

Respondents should only answer the questions for those elements and landscapes they identify, which will allow quantifying the proportion of inhabitants who know them. The answers answered with a “yes” suppose favourable opinions. The scores of each element or landscape unit are obtained through the relationship between the number of positive responses and the total number of responses, without counting the category of “does not know”. The result is expressed in

a decimal scale and according to the levels of patrimonial interest proposed in the technical evaluation.

The application of questionnaires can be a difficult task, mainly in those areas with a high number of inhabitants. The formulas indicated by Oncins de Frutos (1991) in their work allow to determine the minimum number of inhabitants that a survey should have:

- For an infinite population:
(population bigger than 100,000 inhabitants)
 $n = z^2_{\alpha}pq/e^2$,
provided that $np \geq 5$ y $nq \geq 5$
- For a finite population:
 $n = Nz^2_{\alpha}pq/[e^2(N-1) + z^2_{\alpha}pq]$,
provided that $np \geq 5$ y $nq \geq 5$

Where:

n = sample size.

N = size of the population.

α = level of confidence chosen.

z_{α} = the value of z (where z is a normal centered and reduced variable), which leaves out of the range $\pm z_{\alpha}$ a proportion α of the individuals.

p = proportion in which the variable studied is given in the population.

$q = 1 - p$.

e = estimation error.

The following tables show the size of the sample for finite and infinite populations according to different margins of error with the risk conditions:

$\alpha = 0,05$; $z_{\alpha} = 1,96 \approx 2$; $p = q = 0,50$

These sampling procedures will be followed whenever possible. If we want the evaluation method we have designed to have a scientific basis, our proposal must address the population sizes of the surveys, according to the expected error regime. We are aware that

TABLE 4.2 Determination of the size of the sample in the case of finite populations.

Population	Error margins					
	1%	2%	3%	4%	5%	10%
500	-	-	-	-	222	83
1.000	-	-	-	385	286	91
5.000	-	1.667	909	556	370	98
10.000	5.000	2.000	1.000	588	385	99
50.000	8.333	2.381	1.087	617	397	100
100.000	9.091	2.439	1.099	621	398	100

Note: Cells without data obtain values higher than half of the population, so it is advisable to take the total population directly.
Source: *Oncins de Frutos, M. (1991).*

TABLE 4.3 Determination of the size of the sample in the case of infinite populations.

Error in %	Sample size
0,1	1.000.000
0,5	40.000
1,0	10.000
2,5	1.667
5,0	400

Source: *Oncins de Frutos, M. (1991).*

the implementation of these complementary actions entails greater complexity and additional costs.

Expert Panel

Using an Expert Panel is another method to gain additional information. Seeking advice from them makes it possible to know the opinion of local specialists and technicians in the patrimonial elements and landscapes of the study area. The experts will be knowledgeable about a relevant subject in depth. Such an approach consists of two phases:

A. 1st phase: local specialists should apply the proposed methodological system in the same way, i.e. the allocation of 1 point is made for each variable that is met and 0 points if it is not met. The quantification method follows the same guidelines as the aforementioned assessment process and the results obtained are adapted to a decimal scale. The 6 levels of interest proposed in the technical assessment and in the community surveys are used, which facilitates the comparison of qualifications: Very High (8.6-10); High (7.2-8.5); Medium (5.8- 7.1); Low (4.4-5.7); Very Low (3-4.3); and No Interest (0-2.9).

B. 2nd phase: roundtable. The specialists will meet together to discuss aspects related to the heritage elements and landscapes evaluated. This procedure allows the obtaining of qualitative information of interest since the specialists present their opinions and considerations from their point of view. A moderator structures the debate and controls the time allocated for discussion.

4.2 METHOD OF EVALUATION: DETAILS OF CATEGORIES, CRITERIA AND VARIABLES

Below, the structure and explanation of the three methods proposed for the evaluation

of the three areas under consideration – Tangible Cultural Heritage, Intangible Heritage and Cultural Landscapes are given. Using these same structures complementary actions can be developed using questionnaires with the local communities and panels of experts.

A. Tangible Cultural Heritage

Categories	Criteria	Variables
Intrinsic Values	1. Representativeness	Typological representativeness
		Association to ways of communities/indigenous life
		Traditional or community uses
	2. Authenticity	Morphology and the primary image
		The credibility of the processes that influence the physical and morphological characteristics
		No environmental or locational modifications
3. Integrity	Optimal conservation	
	Conservation of the constitutive attributes	
	Functionality	
Heritages Values	4. Historical	Link to historical figures, civilizations or institutions
		The provision of traces of the community's history and culture
		Testimony of a moment or historical place
	5. Social	Expression of a living heritage
		Link to traditional ways of life
		Procedural significance (productive activities, traditional knowledge, rituals)
	6. Symbolic / Identity	Identification and knowledge by local communities
		Association of the tangible asset with popular and community customs and traditions
		The feeling of identity and belonging to the group or community
	7. Artistic	Creative action: artistic authorship and collective authorship
		Aesthetic values
Capacity for expression		
8. Technical	Techniques used in the construction of the element	
	Formal and structural beauty	
	Innovations and technological improvements	
9. Territorial	Territorial culture linked to communities	
	Integration in the territory	
	Participation of communities in the knowledge and mediation of local cultural heritage	
10. Landscape	Natural, environmental, protected, interesting landscape	
	The degree of environmental sustainability linked to the element	
	Heritage visibility and accessibility	
11. Educational / Scientific	Incorporation in inventories or heritage catalogues	
	Presence and impact on references and documentary, artistic or literary works	
	Integration and transmission in the educational and training field	

Categories	Criteria	Variables
Potential and Feasibility Values	12. Awareness of social agents	Administration and other groups' investments and actions
		Inclusion in sustainable cultural and tourism programs and routes
		Dissemination and communication strategies
	13. Participation and integration of local communities	Participation in cultural property management
		Participation in the documentation, research and interpretation processes
		Participation as a social actor in the story
	14. Socioeconomic profitability	The possibility of integral action. The contribution of the heritage asset to the development of the community
		The asset as a support for socio-economic activities that contribute to the sustainable endogenous development
		Legal status and ownership of the territory and the patrimonial elements
	15. Vulnerability	The absence of natural threats
		The absence of anthropogenic threats
		The absence of intrinsic vulnerability or abandonment situation

Source: Own elaboration.

DEFINITIONS AND EXPLANATIONS FOR THE USE OF THESE CATEGORIES, CRITERIA AND VARIABLES

Below we provide detailed descriptions of the terms used in the table above. We have used the same numbering system as in the table.

INTRINSIC VALUES

Intrinsic values decide the inherent value of the cultural element itself, regardless of its context. They consider the attributes or characteristics of the heritage feature and its importance in relation to similar elements, hence it is a comparative analysis of the cultural asset (MECD, 2015c, MECD, 2015d).

1. REPRESENTATIVENESS

Representativeness considers the testimonial value and the singularity of the cultural element, as well as its typological represen-

tativeness. This criterion establishes the intrinsic value of the element, its importance in relation to others of the same typology. It is about evaluating the good as a testimonial vestige in a more or less immediate environment, either because of its singularity or because it is the most representative model in its kind, or because it responds to the characteristics that define a building, artistic, ethnological type. As a singularity, the representative aspects of those cultural elements that are part of the life of the communities, especially the indigenous ones, have to be taken into account, and they have value as living heritage linked to the traditional use or to the evolutionary permanence linked to the local development of the communities.

Variable 1.

Typological representativeness

It values the testimonial degree and the singularity of the cultural element regarding other tangible or intangible elements of its immediate surroundings. Within this assessment, the following aspects would be taken into account: form and design or concep-

tion, tangibles and substance, uses and functions, traditions, techniques and management systems, location and environment, language and other forms of links with the intangible heritage, and spirit and sensitivity.

Variable 2.

**Association to ways of communities/
indigenous life**

This variable values the representativeness of the cultural asset as an element that plays important social and economic roles for the community, maintaining close links with the community and contributing to the local development of society. The value of heritage in the protection of the nearby natural environment (ecosystems in the sites and their surrounding areas) must be taken into account and serves as a driving force for the injection of vitality into communities. This variable takes especial regard to high value areas, such as places that contain outstanding, special or unique features (historical sites or important natural areas of conservation value because of their biodiversity or geodiversity), especially those related to areas inhabited by indigenous peoples or that are important as anthropological or unique cultural niches.

Variable 3.

Traditional or community uses

This variable values the link with other expressions, tangible and intangible, in relation to its nearby territory, landscape, culture, and heritage. The attributes considered make reference to the existence of a systemic link with other heritage assets, allowing the protection of less tangible assets of the goods (communities, cultures, and knowledge), being an important promoter of cultural diversity and agent in the continuation of compatible uses of land or economic activity.

2. AUTHENTICITY

Authenticity values the conservation and maintenance of the original characteristics and values of the element, although inevitable there will have been interventions and subsequent processes (MECD, 2015d). The attributes considered are related to tangible and morphological features, but are also linked to the processes and activities that affect their physical qualities or their original location. The nature of the constructive elements must be considered since the tangibles of some goods must be replaced in a cyclical way as a consequence of their fragile nature.

It is convenient to consider the meaning of Authenticity contemplated in the Regional Document of the Southern Cone, known as the Charter of Brasilia and prepared at the V Regional Meeting of ICOMOS Brazil. This document relates authenticity to the idea of truth and contemplates the peculiarities of architecture based on the ephemerality of its tangibles. In this sense, the vernacular architecture is constituted by ephemeral tangibles (earth, wood, etc.), so “the replacement of some elements with traditional techniques, is an authentic response”. Also, in the Inter-American Symposium on Authenticity in the Conservation and Management of Cultural Heritage, held in Texas in 1996, “the concept of authenticity had been limited to its Eurocentric interpretation (...). With the expansion of the concept of cultural heritage including new categories, such as vernacular architecture and cultural landscapes, authenticity has demanded a new definition that goes beyond physical matter”. Consequently, the concept of authenticity should not be applied to the vernacular heritage in the same way as to the monumental one. It is convenient to take into account the tangibility but also the intangible values of the heritage element (GARCÍA, 2012).

Variable 1

Morphology and the primary image

This variable assesses the degree of fidelity that the element maintains compared with its original appearance. It contemplates aspects related to the structure and morphology of the work, its image, design and the tangibles used in a traditional way (UNESCO, 2017). The work should keep its original values intact, and any interventions that have been carried out should have used traditional techniques in a respectful manner. The presence of overlapping contaminations from other periods is evaluated negatively (MECD, 2015c), as well as mimetic and historicist falsifications (MECD, 2015b). The value associated with originality compares the cultural good with others of the same type, style, author, period, region or combination of them and define the representativeness or originality of the good. This group of values is related to the previous one (representativeness) and may have an influence on the level of protection that is established.

Variable 2

The credibility of the processes that influence the physical and morphological characteristics

This variable refers to the veracity or credibility of the processes associated with the care of the element against damage to its physical qualities. It considers changes in agricultural or natural practices, traditions, techniques and management systems, forms of social organization, cultural practices or characteristics linked to the spirit and sensitivity of the place (UNESCO, 2017).

Variable 3

No environmental or locational modifications

This variable refers to the modifications that the territory in which the property has traditionally been located has experienced; it

values continuity and the preservation of a traditional landscape. It contemplates in a negative way the transformations of the original landscape that could have damaged the harmony and integrity between the work and its original environment. For example, it refers to the existence of processes linked to urban expansion, the construction of new buildings, the development of activities, etc., that influence the historical relationship of the element with the territory. The change of the original location of the element is also considered harmful.

3. INTEGRITY

Integrity refers to the state of conservation of the patrimonial element and its attributes, as well as to the functionality currently available. It values that none of the essential parts of the work has lost its worth or is without any of its constituent elements or attributes (UNESCO, 2017).

Variable 1

Optimal conservation

The patrimonial element has an excellent or satisfactory state of preservation overall and has suffered no serious damage or deteriorations derived from its use and function (MECD, 2015d). Optimal conservation is a significant component of the asset's attractiveness and can lead to its inclusion in value-added policies.

Variable 2

Conservation of the constitutive attributes

The element has all the relevant attributes and constituent parts which have not been damaged or have deteriorated. The cultural element shows a unitary character, complete and intact, and its essential or constitutive parts haven't lost their inherent values or characteristics.

Variable 3 Functionality

The considered element maintains its original function or has another alternative use, adapted to the peculiarities and characteristics of the vernacular heritage of each area or region (MECD, 2015b). If the element has a new functionality, it must be compatible with the culture and sustainable development of the communities. The continuity of traditional functions reinforces the meaning of the element. Proper use will favour the preservation of the element, while incompatible functionality can lead to its loss of value. Unused works are susceptible to abandonment and degradation due to lack of maintenance (MECD, 2015a). To maintain functionality of primitive and wild areas they must be specially preserved from deleterious natural processes, and from infrastructure development or techniques of manipulation of the territory that are prohibited.

HERITAGES VALUES

The patrimonial values contribute to the descriptive analysis of the heritage element (MECD, 2015c). The cultural and environmental attributes that condition and enrich the intrinsic characteristics and particularities of the element are considered.

4. HISTORICAL

This criterion considers the history of the patrimonial property or object itself and the history of the community as a witness to its creation and evolution. Historical value relates to the ability to transmit knowledge and cultural aspects, as well as the events and experiences that occur in or around it. It acts as a testimony to the history and ways of life

in which it was built and offers cultural, social or economic evidence of the periods and societies who lived alongside it (MECD, 2015a).

Variable 1 Link to historical figures, civilizations or institutions

This element is associated with relevant historical figures, civilizations of interest or significant organizations of historical character (MECD, 2015d). This variable is important for its ability to explain and recall the life of a famous person, an ethnic group or a local or indigenous community, or an institution.

Variable 2 The provision of traces of the community's history and culture

This variable refers to the ability of the element to transmit events considered significant in the history and culture of a community. It contemplates the existence of testimonial traces of the past activity of humankind, experiences, knowledge, traditions, and aspects associated with cultural diversity or democratic culture (MECD, 2015b).

Variable 3 Testimony of a moment or historical place

Values the association of the patrimonial work with a relevant historical phase, event or with significant spaces of a certain period and culture. It considers the historical value of the element as a testimony or reflection of a historical moment or past place framed in a specific culture (MECD, 2015d).

5. SOCIAL

This criterion values the current social use of the heritage element, as well as its capacity to provide the tools and framework to help

shape and direct the development of tomorrow's societies. It is related to the "living" sites as part of the heritage because of its condition as testimonies to the relevance of ancient traditions in today's culture, and giving implicit proof of its sustainability. The social value of a cultural asset is related to traditional social activities (and therefore to intangible cultural heritage – see page 87), and to the current compatible use, and plays a fundamental role in the establishment of social and cultural identity, but especially in the strengthening of values in the culture of peace and democracy. Social value is understood as a vehicle for the improvement of living conditions, especially on new equipment, infrastructures and ways of living.

This value as an exceptional element will be estimated for traditional and indigenous users, in which development should be linked to provide basic services for traditional users within protected areas (*primitive or wilderness areas*), in which development should have a minimum impact and serve only to the immediate users of the designated area.

On the other hand, change is an element in all societies, so it is important to avoid exclusive visions that favour manifestations of certain movements or times, to the detriment of others.

Variable 1 **Expression of a living heritage**

This variable addresses social and community aspects that are integrated into the governance structures and in the innovation processes that contributed to the creation of heritage elements. It recognises the significance of the integration and participation of the community in the design of places. These variables are important for the understanding of one's own place from a social,

active and participative point of view. Within the social values granted to the cultural element, its originality and evolution within society and its development are especially important.

Variable 2 **Link to traditional ways of life**

This variable assesses the heritage element as a dynamic process within the territory and its importance to the community in their definition of their culture and heritage. It reflects on how the element is used, rooted in the living culture of its inhabitants. It appreciates the fact that the heritage element serves as a permanent laboratory of research or experimentation in order to use it as a cultural, social and economic resource. It will be considered of importance to the community as a group carrier of knowledge, but also as an agent in decision making. Balance and sustainability within the territory will also be considered.

Variable 3 **Procedural significance** **(productive activities,** **traditional knowledge, rituals)**

This variable assesses the relationship of the heritage element with its territorial and social environment, based on the concern and connection of local communities with the local environment. The interests of community origin are taken into account as creators of civic action movements that facilitate the conservation of cultural, tangible and intangible goods, based on coherence and social appreciation.

6. SYMBOLIC / IDENTITY

This criterion relates to the bonds and emotions of local communities towards their cultural elements and sites. It considers the sentimental, spiritual or religious ties with

the heritage feature, but also the symbolic, patriotic or other types of values originated in emotional or identity perceptions (LOSA-DA, 1999). It refers to the recognition of the element by local communities, its association with popular customs and traditions, and the feeling of identity and belonging to the group or community.

Variable 1
Identification and knowledge
by local communities

This variable assesses how the cultural element is identified and recognized by the different sectors of the local community, using oral sources closely linked to the preservation of historical memory. The local and indigenous community and the traditional settlers give the work its patrimonial character and consolidate the idea that it is a significant element in society (GUTIÉRREZ, 2014).

Variable 2
Association of the tangible asset with
popular and community customs
and traditions

This variable explores the relationship between the heritage element with popular traditions and intangible manifestations that create the local memory of the community (MECD, 2015a). It contemplates the maintenance of traditional social and productive activities linked to the cultural element. Consequently, the conservation of customs by its inhabitants, who sustain the traditional activities associated with the element is relevant. It considers the contemporary use of the heritage by cultural groups, the impact of heritage on everyday life, as well as the processes that constitute the identity of a community.

Variable 3
The feeling of identity and belonging
to the group or community

This variable assesses if and how the patri-

monial element arouses a sense of identity and belonging to the local or indigenous group or community in which it is located. It is the affective and emotional bond attributed by the population to the heritage which generates and makes visible a local identity (CARABALLO, 2008). The community recognizes the element as an integral part of its cultural heritage with a significant value, transcending even its authenticity. It is related to the emotional and identity perceptions and the symbolism that the element has for all the local population, leading to an appreciation of cultural diversity and the understanding of others.

7. ARTISTIC

The artistic value is related to the aesthetic and cultural value of the cultural element, alluding to its visual qualities, expressed in its composition and its relationship to the environment, whether natural or urban, in which the expression of the artist, the skills and materials used are fundamental, as well as excellently executed. In addition to traditional appreciations of aesthetics relating to formal beauty, balance, and proportions, their capacity for expression, the manifestation of feelings, ideas or emotions, and the expression of the worldview of the author through resources perceptible through the senses, are considered. Artistic value relates not only to the formal beauty of the content but also the capacity for expression linked to the creativity of the author.

Variable 1
Creative action: artistic authorship
and collective authorship

This variable considers the element for its universality rather than making a comparison to specific artists or technical or stylistic processes of well-known buildings or works of art.

Even the most mundane, anonymous works of art, including the built heritage, (urban, rural and territorial), must be addressed expressly. Any value given to this variable should consider the ideological implications of colonialism, imperialism and the totalitarianism.

Variable 2 **Aesthetic values**

This variable considers the aesthetic or artistic value of the good, based on scientific and historical assessments, the consequences of investigations that have identified the outstanding features that mark the element in relation to its own time, other periods and the present. Importance is given to the design, aesthetics and tangible values of the cultural asset, but bearing in mind the relevance of its conception in technical, structural and functional terms.

Variable 3 **Capacity for Expression**

This variable asks that the artistic value be weighed in relation to the era when it was created, that is, associated with the forms and ways of constructing and creating representative of the paradigms of the societies when it was made. This may be the deep past, the industrial era, or of the current communities, or made by someone from a surviving indigenous society. The capacity for expression not only refers to the artistic/ expressive value for its aesthetic qualities or formal beauty but also alludes to its capacity for expression and transcendence from tangible to the conceptual world – what stories can the object tell us?.

8. TECHNICAL

The technical criterion considers the technological value of the heritage asset as a response to the development and evolution

of the art of construction and the specific techniques used. It contemplates the design, the forms and structure of the work as well as the innovations and interventions made. The aspects evaluated here are the technique used in the construction of the work, its relevance in formal and structural terms, and the innovations made to recover or improve its morphology and performance.

Variable 1 **Techniques used in the construction of the element**

This variable evaluates the techniques used in the construction or elaboration of the cultural property or object. It reflects the technology of an era and a society that has allowed the construction of the element. A higher value is assigned if the technique used is complex, new or exceptional within the framework of the historical and social period in which the element was built.

Variable 2 **Formal and structural beauty**

This variable refers to the formal beauty of the element, in terms of balance and proportions (MECD, 2015d). It evaluates the design and value of the image and considers the relevance of its result according to its structural and morphological aspects.

Variable 3 **Innovations and technological improvements**

It considers the innovations and improvements that have been included in the work, as well as the incorporation of technology solutions aimed at the recovery or improvement of its performance or image. The interventions carried out must respect the original design or the harmonious balance between appearance and structure. The improvements made involve the contribution of a certain degree of innovation in the techniques and procedures used.

9. TERRITORIAL

This criterion refers to the areas that correspond to the territory and the management of heritage and natural resources, and territorial and cultural identity, as well as the community and their family histories (*collective memory*¹).

Variable 1

Territorial culture linked to communities

This criterion relates to the interaction of the cultural property with the territory. This relationship between the traditional uses of the territory and the structures spread over it is inseparable from the traditional landscape, as we perceive it today, linked to the community's territorial culture.

Variable 2

Integration in the territory

This variable assesses the systemic organization and geographical distribution of the cultural asset as part of a group without which it partially or totally lacks meaning. The safeguarding of the systemic value must thus imply the protection of all the elements through the analysis, understanding, and articulation of the links that compose it. It will be important to address cases associated with indigenous communities and their relationship with the territory they inhabit.

Variable 3

Participation of communities in the knowledge and mediation of local cultural heritage

This variable considers the connection of the community with the cultural heritage of its territory through the different channels of participation in its management and conservation. The formation of a territorial vision, or 'sense of place' and the notion of the territory in relation to collective memory is significant.

10. LANDSCAPE

This criterion relates to the interaction between the patrimonial element and the landscape of the territory where it is located. It values the combination of the physical presence of the work with the visible elements that surround it and that characterise the territory (MECD, 2015a). It considers the natural or environmental interest of the settlement in which the heritage asset is found, the characteristics associated with the sustainability of the site and the relationship of the property with its visual and accessible environment.

Variable 1

Natural, environmental, protected, interesting landscape

This variable refers to the location of the heritage asset in a space of natural and environmental interest. Biotic values, such as the presence of water or forests, contribute to the landscape value of the element. The location of the element in an environment that has official recognition and protection is also important since its declaration limits the performance of activities that are harmful to its conservation and that of its environment. Landscape and environmental protection figures are considered at an international, national, regional or local level, the most relevant to this project are the Biosphere Reserves declared by UNESCO, or the protected areas of the International Union for Conservation of Nature (IUCN), such as nature reserves, wild natural areas, national parks and natural monuments.

¹It refers to the knowledge and memories that treasure two or more members of a social group, which can be shared and passed on (Halbwachs, 1950).

Variable 2

The degree of environmental sustainability linked to the element

This variable considers the presence of activities associated with the element that may harm the sustainability of the territory. The damaging actions linked to the work are valued in a negative way, such as agricultural overexploitation, the excessive generation, and accumulation of waste, tourist pressure and uncontrolled overcrowding generated by the attraction of the good, and the noise, light, atmospheric or any other type of pollution.

Variable 3

Heritage visibility and accessibility

This variable concerns the relationship of the heritage feature with its visual environment and the other visible elements located in the territory. It assesses the visibility of the good and its easy access since both aspects facilitate the identification, analysis, and evaluation of the patrimonial element by the territorial agents. However, in those assets affected by mass tourism, access will be assessed in a positive manner, provided that the load or reception capacity is low. Likewise, in territories and elements belonging to or claimed by the indigenous communities as their own, there should be planning tools and controls on access, given the fragility of these spaces. One example of this type of critical situation is the one suffered by the population in the Moche countryside, Peru, due to a new access road to the huacas, by cutting off the freedom of the settlers to circulate freely and graze their cattle (PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ, 2017).

11. EDUCATIONAL / SCIENTIFIC

This criterion relates to the scientific qualities of the heritage asset associated with the creation of knowledge in any thematic area and its educational potential and dissemination. Its registry in inventories or patrimonial catalogues is valued positively, as is the influence of the work in the development of disciplines and professional practices, its presence in references or scientific studies, and the disclosure of its values in the educational field.

The educational value understands the cultural asset as an intermediary to transmit and generate empathy with messages that have to do with the highest concerns and aspirations of our vital interests: peace, education, sustainability, development or solidarity.

Variable 1

Incorporation in inventories or heritage catalogues

This variable refers to different types of declaration, cataloguing or protection coming from official bodies. The objective of including the patrimonial elements in inventories and patrimonial catalogues is to promote their viability and value. The inventories contribute to the awareness of the population regarding their heritage and promote their identity and self-esteem. It is necessary to involve the local and indigenous community in the identification and assessment of their patrimonial elements and in the preparation of catalogues. The preparation of an inventory requires the participation of local communities, groups or individuals whose heritage must be identified and defined (UNESCO, s.a.1, MACHUCA, 2010, GARCÍA, (Dir.) 2008.

Variable 2

Presence and impact on references and documentary, artistic or literary works

This variable values the existence of works, publications or documents that expressly mention the patrimonial element considered. It includes the existence of any type of reference, either through bibliographical consultation (monographs, contrasted studies, scientific articles, Ph.D. dissertations), planimetric (cartography, topographic elevations), photographic (collections of old photographs), artistic, literary, etc. Their contribution to the development of any discipline or subject will be valued, as well as the creation and consolidation in later goods (MECD, 2015d). In some EU-LAC partners' countries, such as Chile, such documentation may be scarce. A review of the Cultural Heritage of the Los Ríos Region, prepared by the Universidad Austral de Chile (2010), notes there are few indigenous or local researchers who disseminate or publish information related to the indigenous communities of the country.

Variable 3

Integration and transmission in the educational and training field

This variable refers to the appropriate integration of heritage studies in the educational field, whether in formal or non-regulated education. It evaluates the development of pedagogical projects related to the disclosure of the values associated with heritage assets. It also contemplates the presence of museums of any type or other organized cultural associations, dedicated to the transmission of knowledge and traditions linked to the work.

POTENTIAL AND FEASIBILITY VALUES

These values determine the potential value of the asset and make references to their future prospects (MECD, 2015c). They value the possibilities of the element linked to their restitution and value. It considers the involvement and awareness of the social agents, the participation of the local communities, the socioeconomic profitability and the vulnerability of the element.

12. AWARENESS OF SOCIAL AGENTS

This criterion refers to the involvement, commitment, and awareness that social agents have in the protection, conservation and enhancement of the elements of cultural heritage. This participation can be developed in different ways: through investments and actions aimed at the conservation and feasibility of the work, its insertion in tourist-cultural routes and programs, or the existence of graphic, documentary and audiovisual tangibles and mechanisms for dissemination and signaling.

Variable 1

Administration and other groups' investments and actions

This variable considers the involvement and investments of administrations, public and private entities, associations or the local and native communities, aimed at the implementation of actions for the conservation of the element and its feasibility. It is necessary that the heritage asset is valued by local communities and the administration. Ignoring the asset could lead to its progres-

sive abandonment and deterioration. The investments and actions carried out must involve the community itself and preserve the values that this heritage represents. It appreciates the presence of organized and knowledgeable cultural groups in favour of the good and its protection and value. As an example of positive action, in 2008 the Regional Heritage Table was created in Chile, an entity in charge of identifying investment initiatives that could be financed by the Heritage Value Program (UNIVERSIDAD AUSTRAL DE CHILE, 2010).

Variable 2 **Inclusion in sustainable cultural and tourism programs and routes**

This variable refers to the inclusion of the patrimonial asset in programs or routes of cultural or tourist typology. This may be done by a) reconditioning of the installation and its surroundings for the controlled and sustainable reception of visitors; b) the presence of approved routes and trails that make access to and dissemination of information about the property easy; and c) the existence of interpretive routes that have as one of their main attractions the visit to the patrimonial element. In those spaces where growing tourism poses a significant threat, the absence of planning tools aimed at controlling visitor flows will be negatively assessed. Numerous monuments and tourist environments are subject to high pressure derived from the development of mass tourism. For example, one of the most relevant reasons that have motivated the recovery of historic centres in Latin American and Caribbean cities has been the promotion of tourism and its associated cultural activities. However, in some cases, these activities led to real estate speculation, the expulsion of local communities or the loss of intangible heritage (LUQUE and SMITH, 2007). Unplanned tourism can mean the economic

exploitation of the asset and the loss of its traditional values and meanings.

Variable 3 **Dissemination and communication strategies**

This considers the existence of informative and didactic supports such as information panels, signs, guides, brochures, leaflets or triptychs, as well as another documentary, graphics and audiovisual equipment. These instruments contribute to the dissemination of information about the cultural element and the explanation of its meaning, values, and uses. The presence of an efficient network of information and dissemination is viewed favourably (AREA, 2010). It contemplates in a positive way the elaboration of strategies for the communication of the element through mechanisms that improve the collaboration between public and private institutions, as well as the presence of regional networks to improve the exchange of information (UNESCO, 2014).

13. PARTICIPATION AND INTEGRATION OF LOCAL COMMUNITIES

The active participation of local communities in policies that preserve cultural heritage is considered under this criterion. This criterion will take into account the existence of programs based on social agreement, collaborative work and the full participation of interested parties. It is about valuing the link between the social actors and those who study, value and work on heritage, from the social commitment leading to its preservation and conservation. There are different levels of participation, including educational and training programs integrated into the socio-educational and cultural structures of the territory. However, participation in the decision-making processes themselves, the

management of the property or in the tasks and processes linked to it (documentation, research or interpretation) are especially important. Participation demands three basic actors: heritage professionals, the local community, and heritage researchers.

Variable 1

Participation in cultural property management

This refers to the assessment of community participation in the cultural, economic and social management processes of the property or object, defining uses, donations, deposits, exhibition, and contributions to the development of the community and the sustainability of natural and cultural heritage resources.

Variable 2

Participation in the documentation, research and interpretation processes

This variable contemplates the participation of the community in the processes of investigation, documentation and local knowledge, through the interpretation of the patrimonial resources, the participation in educational contents, diffusion and activities, or mediation from the social function of heritage. An example is the research work developed in the Heritage Value Program in Chile. This makes a diagnosis of cultural assets in the Los Ríos Region, identified in workshops of citizen participation and consultation with specialists, among other sources (UNIVERSIDAD AUSTRAL DE CHILE, 2010).

Variable 3

Participation as a social actor in the story

It considers the participation of the members of the community as actors in the construction of the story about the heritage asset, using mechanisms to exchange information regarding family histories of engagement with the site. It includes the interpretation

and mediation in the decision making in the management of the oral history (script, sample, contents), and in the sort of story as a reflection of the territorial and cultural identity, keeping in mind the information coming from the community.

14. SOCIOECONOMIC PROFITABILITY

This criterion refers to the possibility of carrying out actions linked to the recovery and enhancement of the cultural asset, as well as its contribution to the development of local communities. The variables are associated with the possibility of integral action of the element, its contribution to the sustainable growth of the communities, and its legal and property situation and that of the territory in which it is located, from a perspective associated with sustainable development.

Variable 1

The possibility of integral action.

The contribution of the heritage asset to the development of the community.

This variable refers to the ease with which the value or restitution of the patrimonial element is valued. It is linked to the presence of revaluation projects and management institutions. For example, the Los Ríos Region of Chile has a significant diffusion and support to the tangible heritage. There are several initiatives in the tourism sector, which are the main driving force behind the enhancement of the territory's heritage, linked to visitor attraction and patrimonial promotion, as well as other valuation mechanisms related to public works plans and improvement of connectivity (UNIVERSIDAD AUSTRAL DE CHILE, 2010). This criterion contemplates the management and intervention on the heritage element in a negative way, without the direct participation of the local, traditional and native communities that coexist with it.

One of the objectives contemplated in the Action plan for World Heritage in Latin America and the Caribbean (2014-2024) (UNESCO, 2014) is to strengthen the participation of communities (local, traditional and natives) in the identification and management of World Heritage.

Variable 2

The asset as a support for socio-economic activities that contribute to the sustainable endogenous development

This variable considers the value of production and the sources of income generated by the heritage asset that contributes to sustainable development and the improvement of life of local communities. It refers to the element as support for socio-economic activities aimed at the growth of the place in which it is located, such as trade, tourism, agriculture, employment, etc. The generation of economic income derived from the patrimonial work as long as they create local and sustainable development for the community in which they are located is positively valued. For example, in Latin America and also in Europe, the declaration of various urban spaces as world cultural heritage has generated significant economic flows and productive reactivation, but has led to a worsening of social problems, the loss of collective identity and new gaps of social exclusion, poverty and inequality (GUERRERO, 2012). In many situations, the benefits generated by heritage have not improved the living conditions of the community. The Action plan for World Heritage in Latin America and the Caribbean (2014- 2024) (UNESCO, 2014) has as its general objective the use of heritage as a factor for sustainable development, which contributes to a) improving the quality of life of people and communities, b) poverty reduction; c) gender equality; d) promotion of cultural and natural diversity. The plan includes among

its actions the development of sustainable opportunities aimed at the benefit of local, traditional and indigenous peoples.

Variable 3

Legal status and ownership of the territory and the patrimonial elements

This variable considers the legal framework linked to the protection, conservation, and dissemination of the heritage. It appreciates the presence of mechanisms and legal instruments aimed at the protection of heritage assets against their improper use. If an adequate legal framework is applied, the possibility of exploiting the goods for commercial purposes by people outside the communities is reduced. The analysis of the type of property of a good and its relationship with the public or private sector is a fundamental indicator, mainly due to its connection to different legal natures (UNIVERSIDAD AUSTRAL DE CHILE, 2010). In Latin America, the legitimacy of administrations and other entities to manipulate and dispose of property claimed by native communities as their own has been questioned in recent years. As a result, there are claims from these communities and organizations aimed at obtaining the ownership of the territory they occupy and to recover their sacred places and patrimonial elements (WILLIAMS, 2013). The native communities of Latin America make efforts to obtain legal recognition and ownership of the lands they inhabit, as well as the recovery of the claimed property. For example, the knowledge and natural resources of the Mapuche community have generated the interest of transnational pharmaceutical companies, which has led to the theft of information or biopiracy, allowed by a legal vacuum on the heritage of the original peoples of Chile (UNIVERSIDAD AUSTRAL DE CHILE, 2010). In short, it is necessary to have legal instruments for the protection of the property rights of local

and indigenous communities (protection of intellectual property, patent registration, copyright, etc.) (UNESCO, SA1, and UNESCO, SA2).

15. VULNERABILITY

This criterion refers to the existence of natural and anthropic threats and the potential impacts on the cultural asset and its values. It considers the capacity of the heritage feature to withstand potential damage and deterioration. It also contemplates the fragility of a heritage asset linked to a possible situation of abandonment.

Variable 1

The absence of natural threats

Different world areas are subject to varying geographical and climatological vulnerability. Natural disasters such as hurricanes, earthquakes, fires or torrential rains have significant impacts on heritage assets, as set out in the Action plan for World Heritage in Latin America and the Caribbean (2014-2024) prepared by UNESCO. The higher the natural risk, the lower the future potential of the heritage element. The existence of tools or instruments dedicated to the analysis, prevention, and mitigation of possible impacts on cultural heritage is valued positively (UNESCO, 2018). We must remember the impacts left by the El Niño phenomenon in 2017 in Peru, as explained in our partner's work from the PUCP where they stated the significance of relationships between museums and their communities to reduce the vulnerability of their territories. Two aspects are remarked in this report respecting risk prevention in the regions of Lambayeque and La Libertad: to take advantage of local knowledge acquired from archaeological research and to encourage community participation.

Variable 2

The absence of anthropogenic threats

Heritage elements are sometimes exposed to anthropogenic risks that can have significant impacts on their conservation and maintenance. These include threats derived from the construction of equipment and infrastructures to satisfy the tourist demands, to the increasing attraction of visitors without proper planning, changes in land use, and the risks derived from armed conflicts. Some of the most significant examples are related to the presence of unplanned tourism that contributes to the loss of collective identity (GUERRERO, 2012), the lack of interest of sectors of the community, and the improper commercialization of traditional products by people outside the community. The future viability of the patrimonial element will be lower if there are significant anthropic threats to the heritage asset and its values. The development of adequate mechanisms and tools to deal with these threats is a positive assessment.

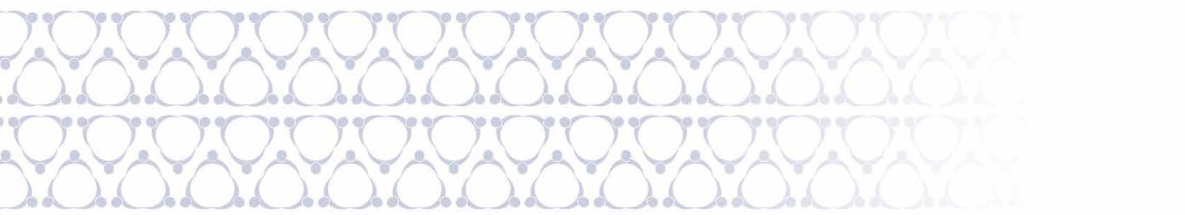
Variable 3

The absence of intrinsic vulnerability or abandonment situation

This variable considers the degree of degradation that the cultural work itself has reached or be subject to. It evaluates the possibility of deterioration of the element due to its intrinsic qualities, for example, derived from the absence of relevant constructive elements, low resistance materials, etc. Even the situation of abandonment can lead to the ruin of the asset due to lack of maintenance (MECD, 2015a). If the intrinsic vulnerability of the work is high, its potential and future viability will be lower.

QUESTIONNAIRE OF THE EVALUATION METHOD OF TANGIBLE CULTURAL HERITAGE AIMED AT THE LOCAL POPULATION

Having set out the key criteria and variables to be assessed, a more simplified set of questions has been produced to obtain data from local communities. These questions can be applied to any Heritage element they wish to assess, and are given below.



If you know the patrimonial element, answer the following questions with “Yes”, “No” or “Do not know”:

1. Is the element of greater importance or interest than the other assets in the territory?
2. Does the element maintain its original form and image, even if interventions have been carried out?
3. Is the element well-preserved at present times?
4. Is the element related to any important historical character, event or institution?
5. Does the community carry out any social activity in the element or related to it?
6. Does the element have a sentimental or identity value for the community?
7. Does the element stand out for its aesthetic or artistic value?
8. Was the technique used in the construction or elaboration of the element complex?
9. Is the element integrated into your landscape or traditional territory?
10. Does the element preserve the sustainability of the environment where it is located, that is, it does not cause damage to the environment (for example, light, atmospheric pollution, tourist mass generated by its attraction, etc.)?
11. Does the element contribute to scientific knowledge or it appears in publications of any type (articles, theses, photographs, cartography, etc.)?
12. Are the administrations, institutions or any other collective of the territory sensitive about the element or invest in its conservation and dissemination?
13. Does the local community participate actively in the management of the element (tasks such as uses, dissemination, documentation, etc.)?
14. Does the element favour the growth and sustainable socioeconomic development of the territory (with activities such as trade, tourism, employment, etc.)?
15. Is the element absent of important anthropic or natural threats, or at least has mechanisms that would prevent or reduce them?

B. Intangible cultural heritage

Categories	Criteria	Variables
Intrinsic Values	1. Representativeness	Maintenance of the specificity of cultural expressions and knowledge
		Association to ways of communities/indigenous life
		Traditional or community uses
	2. Historical continuity	Continuity and transmission of the intangible asset in the community without interruption
		Own traditional organization. Preservation by the community
		Autonomy. Heritage inherent to the community and preservation of identity links
	3. Integrity	Intergenerational transmission and conservation of traditional knowledge and skills
		Temporal integrity and internal rhythm; the importance of temporality
		Optimal conservation
Patrimonial values	4. Historical	Link to historical figures, civilizations or institutions
		Recollection of experiences and traditions of the history and culture of the community
		Testimony of a moment or historical place of a culture
	5. Social	Expression of a living heritage
		Link to traditional ways of life
		Procedural significance (productive activities, traditional knowledge, rituals)
	6. Symbolic/ Identity	Identification and knowledge by local communities
		Association of the intangible asset with popular or community customs and traditions
		Feelings of identity and belonging to the group or community
	7. Artistic	Creative action: artistic authorship and collective authorship
		Aesthetic values
		Capacity for expression
	8. Landscape and territorial environment	Landscape environment of interest and relationship with the territory
		Degree of territorial sustainability linked to the intangible asset
		Own space frames
9. Educational/ Scientific	Incorporation in inventories or heritage catalogues	
	Presence and impact in references and documentary, artistic or literary works	
	Integration and transmission in the educational and training field	
Potential and Feasibility Values	10. Awareness of social agents	Administration investments and actions
		Inclusion in sustainable cultural and tourism programs
		Dissemination and communication strategies
	11. Participation and integration of local communities	Participation in the management of Intangible Cultural Heritage (ICH)
		Participation in the documentation, research and interpretation processes of ICH
		Participation as a social actor in oral history of the community
	12. Socioeconomic profitability	Possibility of revitalization of the intangible expression and its contribution to the community development
		The intangible asset as support for socio-economic activities that contribute to sustainable endogenous development
		Legal status and ownership of the territory and the intangible patrimonial assets
	13. Vulnerability	The absence of threats linked to unplanned and mass tourism
		The absence of threats linked to the improper marketing of knowledge or traditional products
		The absence of threats linked to transmission, and the lack of knowledge or lack of interest of sectors of the community

Source: Own elaboration.

DEFINITIONS AND EXPLANATIONS FOR THE USE OF THESE CATEGORIES, CRITERIA AND VARIABLES

Below we provide detailed descriptions of the terms used in the table above. We have used the same numbering system as in the table.

INTRINSIC VALUES

They determine the inherent value of the intangible cultural element itself, regardless of its context. It considers the attributes or characteristics of the patrimonial asset and its importance in relation to other manifestations with the same typology, so providing a comparative analysis of the cultural asset (MECD, 2015e and MECD, 2015d).

1. REPRESENTATIVENESS

This considers the testimonial value and uniqueness of the specific intangible heritage, especially its use by the communities as a living heritage. This criterion determines as intrinsic value of the intangible good and its importance in relation to others of the same typology. It is about evaluating the good as a testimonial of its immediate environment, either because of its singularity or because it is the most representative one in its kind, or because it responds to the characteristics that define a type of intangible asset. These heritage features that are part of the life of the communities, especially indigenous ones, have to be taken into account, and they have a value as living heritage linked to their traditional use. They demonstrate evolutionary permanence linked to the local development of the communities. One of the most representative values is the inescapable

importance of the community, main-tainer and legitimate user of these cultural manifestations. According to Blake (2008) *“it is only through its enactment by cultural practitioners that ICH has any current existence and by their active transmission that it can have any future existence”*.

Variable 1

Maintenance of the specificity of cultural expressions and knowledge

This variable assesses the heritage element in relation to other intangible elements of its immediate surroundings. This assessment will take into account aspects such as function, traditions, techniques and management systems, location and environment, language, spirit and sensitivity, as well as other forms of linkage with intangible heritage associated with concepts such as originality and unique value. The evolution of ICH over time is considered as a way to maintain the knowledge associated with traditional cultural expressions. The specificity of cultural expressions and associated knowledge will be valued in order to combat the standardization derived from mass communication processes.

Variable 2

Association to ways of communities/indigenous life

This criterion assesses the representativeness of the cultural asset as a living element, one that plays important social and economic functions, which maintain close links with the communities and contribute to the local development of society. It takes into account the value of heritage in the protection of the nearby natural environment (ecosystems in the sites and their surrounding areas) and serves as a driving force for the injection of vitality into communities. Special value areas, such as places with special or unique natural or man-made fea-

tures that support the representativeness of ICH within a community are especially valued. This is especially true for those areas inhabited by natives or those important and especially valued as anthropological or unique cultural niches.

Variable 3

Traditional or community uses

This variable explores the link with other expressions, tangible and intangible, in relation to its territorial, landscape, cultural and patrimonial surrounding. The attributes considered make reference to the existence of a systemic link with other heritage assets, allowing to protect the less tangible assets of the goods (communities, cultures, and knowledge), being an important promoter of cultural diversity and agent of compatible uses of land or economic activity.

2. HISTORICAL CONTINUITY

Intangible heritage is constituted by dynamic cultural processes. Concepts of permanence, preservation and authenticity, normally used in the conservation of tangible heritage cannot be applied here. Intangible manifestations are dynamic and processual and are constantly updated and transformed, so it is essential to replace the notion of authenticity with that of historical continuity (MARCIA, 2010, MUJICA, 2010, GONZÁLEZ and QUEROL, 2010). Formal changes and adaptations to contemporary sociocultural environments must be respected, and the permanence of the values it represents must be considered.

Variable 1

Continuity and transmission of the intangible asset in the community without interruption

This variable considers the permanence of the patrimonial manifestation throughout its

history and its transmission in the community without interruption or discontinuities. It assesses the continuity of the intangible asset over time. Expressions that were recovered after temporary abandonment will be considered of less legitimacy (MECD, 2015e).

Variable 2

Own traditional organization.

Preservation by the community

This variable explores how the manifestations of the intangible cultural heritage are characterized by the presence of traditional internal organizations or collectives (commissions, fraternities, associations, local communities, etc.), sometimes represented by specific local people. These collectives, formal or informal, make continuous efforts aimed at the preservation and maintenance of intangible heritage. The existence of their own criteria or norms, orally or written, that govern these organizations and differentiate them from other similar practices, will be valued. Those manifestations mediated by the aforementioned groups and their authority to dialogue and manage internal conflicts are positively considered (MECD, 2015e).

Variable 3

Autonomy. Heritage inherent to the community and preservation of identity links

The manifestations of intangible cultural heritage are internalized in people and communities through learning and experiences transmitted over time. They can be considered the ethos of a community since it shapes their character or identity. These intangible celebrations are sometimes open to foreign audiences, which often entail the demand for changes in their interpretation and staging. The manifestations that conserve their autonomy and do not turn into simple shows or simulations will be valued,

although they suppose striking celebrations from the sensorial and kinaesthetic point of view (MECD, 2015e). However, the distinction between evolution and distortion is convenient, although it is difficult to specify the limits between both concepts. Intangible heritage has a dynamic of continuous updating and transformation, so those changes and adaptations that do not detract from its original values should be respected (MARCIA, 2010).

3. INTEGRITY

Integrity refers to the intergenerational transmission and adequate recreation of the heritage manifestation, to the respect of the temporal patterns and internal rhythm, and to the conservation of the traditional tangible elements related to the event, skill, belief or celebration. Integrity demands the involvement of local agents and communities in the correct transmission and preservation of the knowledge, skills, sequences, and objects associated with the work.

Variable 1

Intergenerational transmission and conservation of traditional knowledge and skills

This variable assesses the active intergenerational transmission of skills, abilities, and all other forms of ICH by primary socialization institutions, especially via the family, local and indigenous communities or other traditional community organizations. Our partner in Peru, for example, highlights the importance of giving continuity to the ancestral knowledge of the process of making of *chicha de jora* (traditional drink) and its different varieties by local residents (PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ, 2017). These groups are the transmitters of

the knowledge and techniques necessary for the safeguarding of ICH. Since childhood, the receivers acquire a set of skills and knowledge, which they will execute in an appropriate manner and transmit to future generations (MECD, 2015e). For example, the severe sanctions established in the Mapuche community for those who disseminate their knowledge about their worldview, has favoured the stable and secret transmission of the tradition (UNIVERSIDAD AUSTRAL DE CHILE, 2010). It is necessary to guarantee the transmission of the knowledge and techniques inherent in the work so that it continues its practice as a way of subsistence and as an expression of identity (UNESCO, s.a.2).

Variable 2

Temporal integrity and internal rhythm; the importance of temporality

This variable refers to the respect of the tempo and the sequences and temporal patterns in the development of the ICH element. It values the internal rhythm itself as an intrinsic characteristic of the intangible tradition and a fundamental feature in the harmony of the element. Intangible heritage is governed by traditional temporal rhythms. The works usually acquire meaning framed in a certain period or date and accepted in a consensual manner. The celebration at different times to those traditionally prescribed or the temporary changes introduced by external actors will diminish the patrimonial value of the work. However, temporary modifications determined by the community or derived from the dynamics of these manifestations will not be considered in a negative way (MECD, 2015e).

Variable 3

Optimal conservation

In many manifestations of intangible cultural heritage, tangible traditional objects such

as clothes, ornamentation or musical instruments support ICH elements. The tangible object is a product of community collective sentiment and transmitter of cultural meanings. The maintenance of the celebration requires the preservation and use of the original objects related to the celebration, so it is impossible to separate the tangible from the intangible aspects. In this sense, the conservation and use of the traditional tangible element as well as the continuity in the elaboration and design of the cultural products will be valued. We recognise that original tangible objects must be replaced by due to deterioration or time, and these will be produced using traditional techniques and with the involvement of local communities (MECD, 2015e).

HERITAGE VALUES

The patrimonial values correspond to the descriptive analysis of the intangible patrimonial manifestation (MECD, 2015c). They consider the cultural and environmental attributes that condition and enrich the intrinsic characteristics and particularities of the ICH element.

4. HISTORICAL

This criterion considers the history of the ICH element and the community as a witness of its origin and evolution. It assesses the ability to transmit knowledge and cultural aspects of the work, as well as the events and experiences that remember and represent a living memory of the community. It acts as a testimony of the history and ways of life in which it was created and offers cultural, social or economic evidence of the periods and societies lived (MECD, 2015a). The remembrance process is not fossilized but is

redefined and revitalized by the community in the present (MECD, 2015e).

Variable 1

Link to historical figures, civilizations or institutions

The intangible asset is associated with a relevant historical figure, civilizations or significant historical organizations (MECD, 2015d). The intangible work stands out for its ability to explain and recall the life of a famous person, a local or indigenous ethnic group or community, or an institution.

Variable 2

Recollection of experiences and traditions of the history and culture of the community

This variable values the ability to transmit events considered significant in the history and culture of a community. The work is part of the living collective memory and refers to activities, experiences, knowledge, and traditions considered relevant due to its historical and cultural nature (MECD, 2015e). It also considers aspects associated with cultural diversity or democratic culture.

Variable 3

Testimony of a moment or historical place of a culture

This variable values the association of the ICH element with a relevant historical phase or with significant spaces/places/sites of a certain period and culture. It considers the historical value of the manifestation as a testimony or reflection of a historical moment or place framed in a particular culture (MECD, 2015d).

5. SOCIAL

This criterion values the current social use of the ICH element, as well as its capacity

to provide the tools and framework to help shape and direct the development of tomorrow's societies. It is related to the living heritage, being the testimony of ancient traditions, and provides implicit proofs of its sustainability. The social value of an ICH asset is related to traditional social activities and with its current use. The ICH element plays a fundamental role in the establishment of social and cultural identity, and arguably in the strengthening of a culture of peace and democracy.

Variable 1

Expression of a living heritage

This variable assesses the social and community aspects of an ICH element. ICH is integrated into the social structures and into the innovation processes that contributed to their creation. The ICH is regarded as an essential element in the community, who participate fully in its design. ICH therefore is important for the understanding of the community from the social, active and participatory point of view. In a broader cultural framework, not only the value of the singularity must be included according to its originality, but also the character of novelty.

Variable 2

Link to traditional ways of life

This variable values the ICH element as a dynamic element of the territory. It is a link between communities, and their culture and heritage. This variable reflects on the use made of the ICH element, and how it is rooted in the living culture of its inhabitants. The use of the ICH element may strengthen the cultural, social and economic capital of the communities and their territories. An assessment is made of the importance of the ICH element to the user community as a group carrier of knowledge, but also as an agent in decision making, as well as balance and sustainability towards the territory.

Variable 3

Procedural significance (productive activities, traditional knowledge, rituals)

This variable assesses the relationship of the ICH element as a process within its territorial and social environment, based on the concern and connection of local communities with the surrounding environment. The interests of the community as creators of civic action movements that facilitate the conservation of intangible heritage, based on coherence and social appreciation, must be considered.

6. SYMBOLIC / IDENTITY

This criterion is related to the bonds and emotional perceptions of local communities towards their intangible cultural heritage. It considers the sentimental, spiritual or religious ties with the ICH element, but also the symbolic, patriotic or other types of values originated in emotional or identity perceptions (LOSADA, 1999). It refers to the recognition of the ICH element by local communities, and the feeling of identity and belonging the ICH gives to the community.

Variable 1

Identification and knowledge by local communities

The ICH element is identified and recognized by the different sectors of the local community, so it is possible to obtain relevant information from the oral sources, closely linked to the preservation of historical memory. However numerous forms of ICH of high social, religious, aesthetic and cultural value are unknown to most of the population (AREA, 2010). The local and indigenous community and the traditional settlers are those who give the work its patrimonial character and consolidate the idea that it is a significant ICH element in society (GUTIÉ-

RREZ, 2014). The definition of the intangible cultural heritage of the Convention for Safeguarding Intangible Cultural Heritage indicates that the heritage can only be maintained if it is recognized as such by the communities, groups or individuals that originate, maintain and transmit it.

Variable 2
Association of the intangible asset with popular or community customs and traditions

This variable considers the relationship of the ICH element with the popular or communal traditions that determine local community memory (MECD, 2015a). It contemplates the maintenance of traditional social and productive activities, as well as the beliefs linked with the intangible asset. The inhabitants' appreciation of customs is essential to sustain traditional activities. Intangible manifestations are linked to daily life, but their association with the latent traditions in the memory of the community is valued (MECD, 2015e). This variable also considers the contemporary uses of the ICH element by cultural groups, the impact of it on daily life, and its significance as a part of community identity.

Variable 3
Feelings of identity and belonging to the group or community

This variable considers if the ICH element arouses a feeling of identity and belonging to the local or indigenous group or community in which it takes place. It assesses the affective and emotional bond attributed by the population to the ICH element, which generates and makes visible a local identity (CARABALLO, 2008). The community recognizes the ICH as an integral part of its cultural heritage and gives it significant value. This variable considers the relationship between the ICH element and the emotional and identity perceptions, and the symbolism, that the

element has for the local population. Its ability to encourage collective participation are valued, with the opening of the ICH element to any social group, regardless of age, sex, profession, social class or cultural dimension. In short, does ICH contribute to social cohesion, reinforce identity bonds and foster a sense of belonging to the community.

7. ARTISTIC

This criterion of artistic value is related to the aesthetic and cultural value of the tangible manifestations associated with the ICH element, as well as the aesthetics of the intangible manifestations themselves. It refers to the plastic qualities expressed in its composition and its relationship with the environment, whether natural or urban, in which the expression of the artist/craftsperson, the techniques and tangibles used. In addition to traditional appreciations of the aesthetics, beauty, balance, and proportions of ICH, this variable considers their capacity for expression, the manifestation of feelings, ideas or emotions, and the expression of the worldview of the author through the senses.

Variable 1
Creative action: artistic authorship and collective authorship

This variable considers the actions of the author(s)/actor(s) associated with the intangible heritage, as well as the associated tangible elements. The anonymous and daily creation of the intangible heritage should be linked expressly to the territory, and where relevant collective participation understood.. An objective assessment of the relationship between the ICH element and the past history of the locality is important.

Variable 2
Aesthetic values

This variable considers the relative aesthetic, formal or artistic value of the tangible good associated with intangible cultural expressions. While importance is given to the design, aesthetics and qualities of the intangible asset, the relevance of its conception in technical, structural and functional terms associated with the maintenance of traditional uses, knowledge, and techniques is taken into account. In intangible cultural manifestations, the diversity of multisensory expressions (images, sounds, smells, tastes and touch) will be valued.

Variable 3

Capacity for expression

This variable explores the ability of the artistic value of the ICH element to express the times of which it is testimony. Values will be associated with the forms and ways of constructing and creating, representative of the paradigms of the societies of the past, of the industrial era, or of the current communities and survival in indigenous societies today. Hence the ability to express not only aesthetic qualities or formal beauty, but also the capacity for expression and transcendence from the intangible to the conceptual world is important. ICH should lead to the manifestation of feelings, ideas, and emotions, in which artistic forms are the product of community expression, expressed through the senses.

8. LANDSCAPE AND TERRITORIAL ENVIRONMENT

This criterion values the use of space, the limits and the traditional routes linked to the intangible heritage. Intangible assets contribute to the preservation of natural elements and traditional landscapes that are present in collective memory and conceived as symbolic places (MECD, 2015e). Numerous

emotional feelings related to the intangible heritage are generated by evocations linked to the spatial framework. In addition, the natural interest of the enclave in which the event takes place and the degree of environmental sustainability is considered here.

Variable 1

Landscape environment of interest and relationship with the territory

This variable refers to the traditional celebrations in a space of natural and environmental interest. Biotic values, such as the presence of water or forests, contribute to the landscape value of the ICH element. Biodiversity is essential for the preservation of sacred sites and traditional knowledge (MACHUCA, 2010).

Likewise, this criterion considers the use made of the environment or the territory in some forms of intangible heritage, such as the elaboration of crafts with materials linked to a place, traditional agriculture, land management through traditional practices, etc. One representative example we find in the Moche countryside, Peru, in the process of making of the *chicha de jora*, with the use of local inputs such as dry corn and bean, or mate, for the making of potos and *cojuditos* (small containers) (PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ, 2017). In other types of intangible heritage such as stories, legends or songs, the recognition and evocation of their territorial environment will be valued. The evocation of the spatial framework can lead to the generation of emotional feelings linked with the intangible heritage.

Variable 2

Degree of territorial sustainability linked to the intangible asset

This variable considers the presence of ICH activities associated with the territory, including actions that could damage the

sustainability of the space in which it takes place. The damaging actions of any nature (whether economic, environmental, social or cultural) linked to the element are valued in a negative way, such as the excessive generation and accumulation of waste, exploitation of exhaustible resources, the overcrowding and uncontrolled tourism noise pollution, light, atmospheric or any other type. It positively contemplates the maintenance of the environment through traditional intangible practices linked to the management and conservation of natural spaces, soils or rivers. Likewise, it values the maintenance of the forests for the obtaining of materials related to the craft work.

Variable 3 **Own space frames**

Intangible heritage is generally contextualized in a spatial frame of reference, which constitutes an important part of the cultural production of the work. The proper stages of preparation and celebration, the places of work or the routes prescribed by tradition are symbolic elements associated with the manifestation. Celebrations that use and preserve these traditional frameworks and landscapes, present in the memory of the community, will be valued (MECD, 2015e). For example, in the immaterial manifestation of Holy Week (commemoration of the passion, death and resurrection of Jesus Christ), environments and itineraries are of interest, derived from the relationship between material assets and the development of processions, such as the Way of the Cross. These are spaces with a significant symbolic charge, with a characteristic and recognizable aesthetic for the spectators. Changes of traditional framework or space entail the loss of meaning or value of the manifestation. Stages that do not modify the original layout of the participants, the original lighting or other sensory registers will also be considered.

Some types of intangible heritage may present difficulties for the evaluation of this variable, since they are apparently not linked to a territory, such as craft skills, language, dance or religious beliefs. However, these forms of intangible heritage have a certain relationship with their territorial environment, for example: a dialect is related to a specific territory, or crafts linked to the raw material that is obtained from a place.

9. EDUCATIONAL / SCIENTIFIC

This criterion is related to the scientific qualities of the ICH element associated with the creation of knowledge in any thematic area and its educational dissemination. Its registry in inventories or patrimonial catalogues, the influence of the work in the development of disciplines and professional practices, its presence in references or scientific studies, and the disclosure of its values in the educational field are valued.

Variable 1 **Incorporation in inventories or heritage catalogues**

This variable refers to the presence of the ICH element in declarations, catalogues or protected lists coming from official bodies. The objective of including intangible heritage in inventories and patrimonial catalogues is to promote their viability and value. The inventories contribute to the awareness of the population regarding their heritage and they promote their identity and self-esteem. In fact, Blake (2008) stated that one of the main actions to be covered by a new legal international instrument should be recording and inventorying ICH in danger and support any safeguarding activities needed. The preparation of an inventory requires the participation of local communities, groups or individuals whose heritage must be identified

and defined (UNESCO, s.a.1, MACHUCA, 2010, GARCÍA, (Dir.), 2008). It is necessary to take into account the inhabitants and consider their initiatives for the realization of the register (MARCIA, 2010). This guarantees community validation and the legitimacy of the process. The Convention for Safeguarding Intangible Cultural Heritage imposes diverse conditions in the procedures for its inventories, among which the participation of the community stands out. The groups or individuals that use the intangible cultural heritage are those with a greater knowledge of the manifestations and expressions, for which they must participate in the preparation of the corresponding inventories (UNESCO, s.a.1).

Variable 2

Presence and impact on references and documentary, artistic or literary works

This variable assesses the existence of works, publications or documents that expressly mention the intangible manifestation considered. This includes its existence in any type of reference including monographs, contrasted studies, scientific articles, Ph.D. dissertations, cartography, topographic elevations, collections of old photographs, and , artistic and , literary works. The contribution of the ICH element to the development of any discipline or subject will be valued, as well as the creation and consolidation of new ICH manifestations (MECD, 2015d). A major issue here is the lack of documentary evidence in indigenous communities. According to the Diagnosis of the Cultural Heritage of the Los Ríos Region, prepared by the Universidad Austral de Chile (2010), there are few indigenous or local researchers who disseminate or publish information related to the indigenous communities of the country. In Perú research topics abound, especially in the Andean region and, in recent times, with more emphasis on

the Amazonian communities where not only the theme of living communities but also the topic of climate change and the defense of their territories comes together facing the constant threats of the irrational exploitation of natural resources.

Variable 3

Integration and transmission in the educational and training field

This variable refers to the integration of intangible heritage expressions in the educational field, whether in formal or informal education. The development of pedagogical projects related to the exposure of the values associated with the ICH element scores highly for this variable. It will also give a positive score to the presence of museums or other organized cultural associations, dedicated to the transmission of intangible knowledge and local traditions.

POTENTIAL AND FEASIBILITY VALUES

These values determine the potential use and status of the intangible expression in the future. (MECD, 2015c). They value the possibilities of the preservation and continuity on ICH expressions. . It is important to consider the involvement and awareness of the social agents, the participation of local communities, socioeconomic profitability and the vulnerability of the ICH expression itself.

10. AWARENESS OF SOCIAL AGENTS

This criterion refers to the implication, commitment, and awareness that social agents have in the safeguarding, continuity and revitalization of intangible heritage manifestations. This participation can be developed in different ways: through investments and actions aimed at the preservation and via-

bility of the work, its insertion in tourist-cultural programs, or the existence of graphic, documents and audiovisual mechanisms for dissemination and transmission of values.

Variable 1

Administration investments and actions

This variable considers the degree of involvement and investments of administrations, public- private entities, associations or the local and indigenous community, in the promotion and support of the intangible cultural expression. It is necessary that the intangible work is not neglected by the local communities or the administration since this could lead to its progressive disappearance (MECD, 2015e). The investments and actions carried out must involve the community itself and preserve the values that this heritage represents. As Blake (2008) states “the cultural community has become a new and significant actor with whom governmental bodies must interact directly and seek to build a partnership”. It values the presence of organized and conscious cultural groups in favour of the preservation of intangible cultural expression and community development. A good example here is the creation of the Regional Heritage Table in Chile in 2008, an entity in charge of identifying investment initiatives that could be financed by the Heritage Value Program (UNIVERSIDAD AUSTRAL DE CHILE, 2010).

Variable 2

Inclusion in sustainable cultural and tourism programs

This variable refers to the insertion of the ICH expression in cultural or tourist programs, but only where this is appropriate. The conditioning of the environment in which the intangible asset is held for the controlled and sustainable reception of visitors will be evaluated. In those spaces where growing tourism poses a significant threat

to an ICH expression, the absence of planning tools aimed at controlling existing flows will be negatively assessed. In many tourist contexts, the preservation and (apparent) revitalization of various intangible manifestations have been enhanced, but to this day the relationship with their cultural origin and meaning has been lost (MACHUCA, 2010). Unplanned tourism can mean the economic exploitation of the work and the loss of its values and traditional knowledge.

Variable 3

Dissemination and communication strategies

This variable considers the existence of carefully selected informative and didactic supports such as guides, brochures, diptychs or triptychs, as well as another documentary, graphics and audiovisual tangibles. These instruments contribute to the diffusion of the intangible manifestation and to the explanation of its meaning, values, and uses. However they must be used with care, as many forms of ICH are carried out in secret, in people’s homes, or in sacred places. The presence of an efficient network of information and dissemination to citizens is valued for some forms of ICH, such as festivals (AREA, 2010). It contemplates in a positive way the elaboration of strategies for the communication of the ICH through mechanisms that improve the collaboration between public and private institutions, as well as the presence of regional networks to improve the exchange of information (UNESCO, 2014).

11. PARTICIPATION AND INTEGRATION OF LOCAL COMMUNITIES

This criterion assesses the active participation of local communities in policies and actions towards the the preservation of intangible cultural heritage. Blake (2008) re-

commended to include in a new international legal framework that “practitioners and communities to be involved in the preservation, maintenance management, and so forth of their ICH” and, thus, this legal instrument should cover the “strengthening measures enabling the communities to continue to create and maintain and transmit their culture in traditional contexts”. This will take into account the existence of programs based on social agreements, collaborative work and the full participation of interested parties. It is about valuing the link between the social actors and those who study, value and act on the ICH expression, from the social commitment leading to its safeguarding. There are different levels of participation: educational and training programs integrated into the socio-educational and cultural structures of the territory; participation in the decision-making processes themselves; management of the ICH expression or in the tasks and processes linked to it; and documentation, research or construction as a social actor. Any involvement requires consideration of the three key actors: heritage, community and researchers and their interrelations. In short, the importance of the community, its participation in the management, changes, and permanence by the holders, the community, of the intangible heritage, as well as its participation in conservation, local knowledge, interpretation and mediation associated with the patrimonial manifestation, are valued. The holders of intangible expressions, such as artists, musicians, potters, dancers, blacksmiths ... are considered a fundamental part of this criterion and their involvement in the management and development of the element, as well as in its transmission, will be valued.

Variable 1
Participation in the management of Intangible Cultural Heritage (ICH)

This variable refers to the assessment of community participation in the cultural, economic and social management processes of the ICH expression, where this is appropriate. How is the community involved in its use, donations to ICH holders, the exhibition of ICH?. How does the community contribute to the development of the ICH and its relationship to the sustainability of natural and heritage resources? The social and collective construction of memory linked to traditional knowledge and wisdom (living treasures) is fundamental, as well as the interpretation and mediation associated with the heritage expression.

Variable 2
Participation in the documentation, research and interpretation processes of ICH

This variable contemplates the participation of the community in the processes of investigation and documentation of local traditional knowledge, craft skills, beliefs, legends and events. They assess the interpretation of the ICH expression, and may be involved in developing educational contents, the diffusion of knowledge or in works of mediation. The research work developed in the Heritage Value Program (Chile) is relevant here, as it makes a diagnosis of cultural assets in the Los Ríos Region, identified in workshops of citizen participation and consultation with specialists, among other sources (UNIVERSIDAD AUSTRAL DE CHILE, 2010).

Variable 3
Participation as a social actor in oral history of the community

This variable considers the participation of the members of the community as actors in the construction of the oral history of the community, using mechanisms to exchange information and value family histories as forms of ICH. It includes the interpretation and

mediation in the decision making in the management of the oral histories collected. Developing the themes for the narrative must reflect the territorial and cultural identity.

12. SOCIOECONOMIC PROFITABILITY

This criterion refers to the possibilities of carrying out actions linked to the safeguarding and viability of the intangible asset, as well as the contribution of the ICH expression to the development and viability of local communities. The variables are associated with the possibility of safeguarding and revitalizing the intangible expression, its contribution to the sustainable growth of the communities, and its legal and property situation of the territory in which it is located.

Variable 1

Possibility of revitalization of the intangible expression and its contribution to the community development

This variable assesses the situation for the continuity or viability of the intangible manifestation. It may be linked to the presence of revitalization projects and involve management institutions. For example, in the Los Ríos Region of Chile, activities to enhance the intangible heritage are developed, such as the Valdivian week, local festivities, etc. (UNIVERSIDAD AUSTRAL DE CHILE, 2010). In Peru, we find The Water Festival or Champería in the Valley of Lima. It is a celebration held during the communal cleaning task of the hydraulic systems, ancestral infrastructure of capture, storage and water conduction. This task is carried out from pre-hispanic times, and through this party, the neighbours give thanks for the resource that allows them to continue living on their crops. Respect for water reinforces the community's sense of identity and social cohesion

(MORAN, L. et al, 2017). Another example is The Traditional System of Corongo's Water Judges, city of the region of Áncash, on the north of Peru, that was declared Intangible Cultural Heritage of the Humanity in 2017. This organization, of pre-Inca origin, is in charge of the water management, whose purpose is the equitable and sustainable supply of said resource. The judges are in charge of the maintenance of the canals through communal work and must ensure the proper management of the land, through the conservation of the soil, thanks to the rotating system of crops. Also, they are responsible for organizing the main celebrations in the city of Corongo. Through the observation of the principles of solidarity, equity and respect for nature, the consolidation of historical memory is achieved and the identity of the community is reinforced (UNESCO, 2018c).

This criterion considers negatively the management and action on the ICH expression without the direct participation of the local, traditional and indigenous communities that coexist with it. One of the objectives contemplated in the Action plan for World Heritage in Latin America and the Caribbean (2014-2024) is to strengthen the participation of communities (local, traditions and indigenous peoples) in the identification and management of World Heritage, including intangible heritage. Thus, one of the conclusions of the Turin meeting held in 2001 was that "ICH is fundamentally safeguarded through creativity and enactment by the agents of the communities that produce and maintain it" (UNESCO, 2001).

Variable 2

The intangible asset as support for socio-economic activities that contribute to the sustainable endogenous development

This variable considers the potential for in-

come generated by the intangible asset that will contribute to the sustainable development and improvement of life of local and indigenous communities. It refers to the ICH expression as a support for local socio-economic activities such as the trade of handicrafts, the attraction of visitors, and the promotion of employment. We can find an example of local economic development in the Moche countryside in Peru, where the selling of the chicha de jora in stores at that site is contributing to the incomes growths of its inhabitants (PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ, 2017). The generation of economic income derived from the ICH expressions is valued in a positive way provided that they support local and sustainable development for their communities and their territory. However, in many situations, the benefits generated by ICH have not improved the living conditions of the community. The Action plan for World Heritage in Latin America and the Caribbean (2014-2024) has as its general objective the use of heritage (including ICH) as a factor for sustainable development, which contributes to a) improving the quality of life of people and communities; b) poverty reduction; c) gender equality; d) promotion of cultural and natural diversity. The plan includes among its actions the development of sustainable opportunities aimed at the benefit of local, traditional and indigenous peoples.

Variable 3

Legal status and ownership of the territory and the intangible patrimonial assets

This variable refers to the legal framework for the development of policies for the preservation, continuity, and dissemination of intangible expressions. The lack of legal provisions that protect traditional knowledge against economic exploitation or its misuse, is one of the most significant aspects

linked to intangible heritage (MARCIA, 2010). Most countries do not have legal mechanisms designed to protect the property rights of communities over their traditional expressions (UNESCO, s.a.1). For example, as stated earlier, the knowledge and natural resources of the Mapuche community have generated the interest of transnational pharmaceutical companies, which has led to the theft of information or biopiracy, allowed by a legal vacuum on the heritage of the original peoples of Chile (UNIVERSIDAD AUSTRAL DE CHILE, 2010). In this sense the presence of mechanisms and legal instruments aimed at the protection of individual and collective rights associated with intangible heritage is valued. The International Workshop on Traditional Knowledge of the UN recommends legally ensuring the intangible cultural assets of indigenous people before carrying out the inventories, with the participation of said people (MACHUCA, 2010). If an adequate legal framework is applied, the possibility of exploiting knowledge and intangible traditions for commercial purposes by people outside the communities is reduced. Likewise, in Latin America, the legitimacy of administrations and other entities to manipulate and dispose of property claimed by indigenous communities as their own has been questioned in recent years. As a result, there are claims from these communities and organizations aimed to obtain ownership of the territory they occupy and to recover their sacred places (WILLIAMS, 2013). The Latin American indigenous communities make dedicated efforts to obtain legal recognition and ownership of the lands they inhabit. In short, the presence of legal instruments aimed at the protection of the property rights of local and indigenous communities is necessary (UNESCO, s.a.1), especially in the framework of the past, present and future relations of EULAC with the intangible cultural heritage.

13. VULNERABILITY

This criterion draws attention to the fact that intangible cultural heritage is increasingly subject to external influences that make it more vulnerable (MECD, 2015e). Some of the most significant threats affecting the intangible cultural heritage are the improper use or commercialization of traditional knowledge and crafts, the unplanned tourism that contributes to the loss of identity, or the disaggregation of cultural contexts as a result of migratory movements (MARCIA, 2010). Blake (2008) recommended “prevention of the unauthorised use of ICH and its distortion” to be part of a new international legal instrument. It also considers the lack of interest and ignorance on the part of some of the sectors of the community.

Variable 1

The absence of threats linked to unplanned and mass tourism

This variable assesses the relationship between the safeguarding of ICH and the impacts of tourism. Although tourism constitutes an opportunity for endogenous growth and favours the preservation of ICH, as indicated in the Action plan for World Heritage in Latin America and the Caribbean

(2014-2024), growing tourism activity is one of the most significant threats to the conservation and management of all heritage assets. Numerous heritage elements and environments are subject to pressures derived from mass tourism, which contributes to the loss of identity and transformation of the intangible cultural heritage. The increase in tourist activity without regulation can lead to gentrification and other social impacts, such as the migration of people with fewer resources, the disaggregation of cultural contexts and the transformation of traditional expressions. In various territories, the benefits generated by heritage tourism have also led to the enrichment of foreign economic groups and not of the communities themselves, as well as other conflicts and deterioration in goods and ecosystems (GUERRERO, 2012). Also, the tourist activity entails other risks. For example, tour operators frequently treat indigenous peoples as exotic objects and expect them to exhibit their tribal dances, songs, dresses and crafts for tourists, without taking into account their meanings, ceremonies, beliefs, and values (LEAL, 2008). Heritage tourism must be a factor that contributes to the development and sustainable growth of local, traditional and indigenous communities,

and favours the preservation and valuation of traditional intangible expressions. The absence of threats linked to unplanned and massive tourism is positively valued.

Variable 2

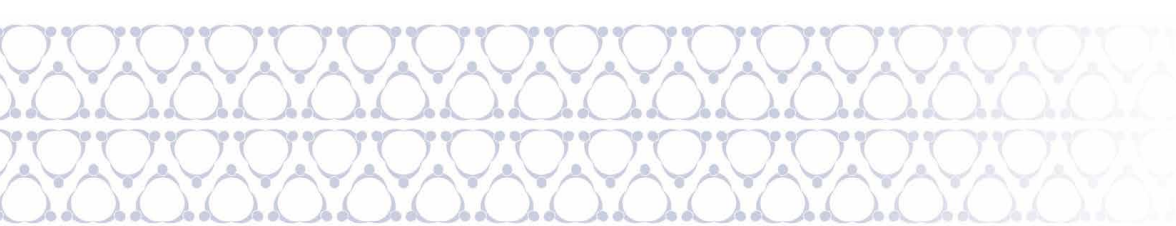
The absence of threats linked to the improper marketing of knowledge or traditional products

This variable reflects on how some local or indigenous communities suffer from piracy of their knowledge or traditional products without obtaining economic benefits or recognition. There is an improper commercialization or the transformation of artisanal objects for their quick sale (MARCIA, 2010). It is convenient to protect the collective rights linked to these heritage assets and their illicit uses, through the provision of legal mechanisms such as the registration of patents, copyrights, the protection of individual property, etc. The lack of legal provisions against the economic exploitation of Traditional objects or knowledge is a significant issue linked to intangible heritage. The absence of threats linked to the improper commercialization of knowledge or traditional products is positively valued.

Variable 3

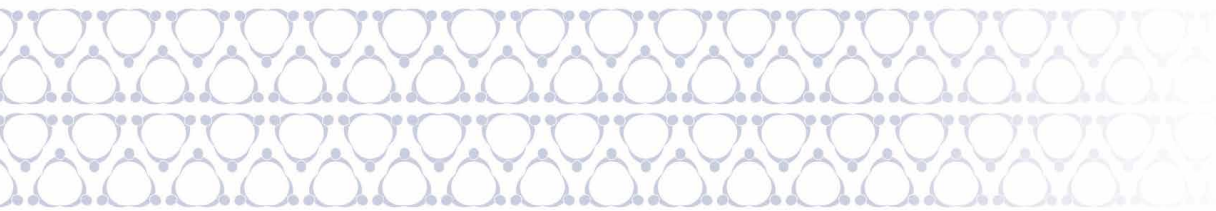
The absence of threats linked to transmission, and the lack of knowledge or lack of interest of sectors of the community

This variable considers that some sectors of the population or communities, mainly the youngest inhabitants, are not at times aware of the cultural and socioeconomic value that the traditional ritual practices, knowledge and skills of their elders possess (AREA, 2010). There are a devaluation and ignorance of one's own. In addition, many young people consider that the learning necessary to acquire the traditional artisan techniques associated with intangible manifestations is too demanding. They prefer to be employed in other activities with better pay. If certain sectors of the community do not value or know their traditional knowledge, they can disappear, since their disclosure to strangers entails the violation of tradition (UNESCO, s.a.2). Consequently, its disclosure and transmission are convenient. The lack of interest or ignorance of traditional knowledge by some sectors of the community is valued in a negative way.



QUESTIONNAIRE OF THE METHOD OF EVALUATION OF THE INTANGIBLE CULTURAL HERITAGE AIMED AT THE LOCAL POPULATION

The use of the criteria and variables above is designed for our work with museum and heritage professionals. A simpler version, for use with local people and other panels, has been designed to gain additional information. This is given below:



If you know the patrimonial element, answer the following questions with “Yes”, “No” or “Do not know”:

1. Is the manifestation of greater importance or interest than others in the environment?
2. Has the intangible asset continued throughout its history without interruption?
3. Are the skills, techniques and traditional objects of the manifestation transmitted and preserved from generation to generation?
4. Is the manifestation related to an important character, event or historical institution?
5. Do the inhabitants participate actively in the intangible expression?
6. Does the intangible asset have sentimental or identity value for the inhabitants?
7. Does the manifestation stand out for its aesthetic value or sensory expressions (sounds, images, smells, etc.)?
8. Does the intangible asset preserve the sustainability of the environment where it is developed, that is, does not cause damage to the environment (for example light pollution, atmospheric pollution, mass tourism, etc.)?
9. Is the manifestation present in publications of any type (articles, theses, photographs, etc.)?
10. Are the administrations, institutions or any other collective of the territory aware of the manifestation or are they making investments aimed at its conservation and dissemination?
11. Does the local community actively participate in the management of the element (tasks such as uses, dissemination, documentation, etc.)?
12. Does the element favour the growth and sustainable socioeconomic development of the territory (with activities such as trade, tourism, employment, etc.)?
13. Is the element absent from threats related to mass tourism, improper trade, and lack of knowledge on the part of the inhabitants or other types of risks?

C. Landscape

The methods proposed for the evaluation of the material, immaterial and landscape cultural heritage are constituted by a common core, with a hierarchical structure based on three categories of values: “*Intrinsic values*”, “*Heritage values*”, and “*Potential and viability values*”, broken down into criteria and variables. Efforts have been made to maintain the same indicators in the various models, although they have been modified according to the existing particularities. The method that shows the greatest differences with the other two methodologies is the one used to evaluate the landscape, mainly in the criteria and variables that make up the intrinsic values. Due to the singularities of the landscape the variables that make up this system have been adapted. In this sense, natural, environmental, biotic and physical attributes, such as vegetation, species biodiversity, relief, soil or water, acquire significant importance. In the same way, the visual quality of the landscape unit, the territorial component and its accessibility are

relevant, as well as the scene generated and the sensations that inspire the viewer. Consequently, some of the aspects evaluated and that differ more with the previous methods, are linked to the physical-spatial component of the landscape unit as well as to the territory perceived by the observer.

INTRINSIC VALUES

These refer to the scores assigned to a landscape unit according to the perception or impression that it produces on an observer by itself (GUERRERO, 2012). It is the excellence that the unit has in terms of the elements that structure it (IRANZO, 2009) and shows its degree of attractiveness or essence due to its own or inherent characteristics.

1. REPRESENTATIVENESS

This criterion reflects on the presence of a landscape unit that is representative, i.e. it forms the characteristic or predominant

Categories	Criteria	Variables
Intrinsic values	1. Representativeness	Typological representativeness
		Association to ways of communities/indigenous life
		Traditional or community uses
	2. Authenticity	Morphology and faithful image of the landscape
		Continuity of the processes that structured the current landscape
		Management measures and landscape recovery
	3. Ecological integrity	Biodiversity
		The maturity of plant formations
		State of conservation
	4. Geophysical/ environmental structure	Presence of complex landforms
		Presence of water areas
		Continuous vegetation cover
	5. Visibility	Diversity and harmony
		Tranquillity
		The breadth of views or panoramic

Categories	Criteria	Variables
Heritage values	6. Historical	Presence of relevant historical events
		The durability of the appearance of the place
		Presence of historical human settlements and archaeological sites
	7. Social	Expression of a living heritage
		Link to traditional ways of life
		Procedural significance
	8. Symbolic / Identity	Presence of folkloric representations
		Feeling of identity and belonging to the group or community. The landscape is in the collective imagination
		A celebration of cohesive acts of the group
	9. Artistic	Presence of artistic expressions associated with the landscape
Source of inspiration		
Presence of declared assets of artistic interest		
10. Cultural	Presence of cultural property inventoried or protected	
	Presence of projects and institutions dedicated to the enhancement of cultural heritage	
	Presence of groups concerned about safeguarding the landscape and heritage	
Potential and Feasibility Values	11. Awareness of social agents	Legal status and ownership of the landscape unit
		Investments and actions of administrations or other groups
		Strategies and materials for dissemination and communication
	12. Participation and integration / local communities	Participation in the management of the landscape unit
		Participation in the documentation, research and interpretation processes
		Participation as a social actor in history
	13. Socioeconomic profitability	The area has the capacity to generate employment
		Diversity of activities
		Landscape as a support for socio-economic activities that contribute to sustainable development
	14. Vulnerability	The absence of abandonment situation
		The absence of threats linked to unplanned and mass tourism
		The absence of threats linked to ignorance or lack of interest
	15. Accessibility	Presence of viewpoints
		The possibility of transiting the interior of the landscape
		Road accessibility

Source: Own elaboration.

type of landscape of the territory considered, that which differentiates it and identifies it from other areas (MUÑOZ, (Dir.) 2012). The landscape unit should constitute a representative or very singular example of its typology as well as demonstrating other aspects of cultural significance and community uses.

Variable 1 Typological representativeness

This variable values the representativeness of the landscape unit in relation to other landscapes of the same type in a given territory. The unit constitutes a type of landscape representative of the field of study.

Variable 2

Association to ways of communities/indigenous life

This variable considers the representation of the landscape as a dynamic place in which significant socio-economic functions are produced for the community and contribute to the local development of society. Special value areas, such as places that contain outstanding or unique features (historical sites or important natural areas for the conservation of biodiversity), especially those related to areas inhabited by indigenous people or important cultural niches, or especially valued as anthropological or unique, will score highly.

Variable 3

Traditional or community uses

The landscape unit considered is representative in relation to the already existing traditional or community uses, which will be predominant in the territory under study. These aspects entail the promotion of cultural diversity and the continuation of uses compatible with the land or the economic activity of the place.

2. AUTHENTICITY

Authenticity refers to the originality and specificity of the constituent elements of the determined unit. It is essential that the landscape retains its character and authenticity so that it can convey the sense of the place. However, this preservation should not be understood as a fossilization and it is convenient to consider its dynamics and processes since the landscape constitutes a living space (DE LA SOURCE, 2015).

Variable 1

Morphology and faithful image of the landscape

This variable values the degree of fidelity that maintains the landscape with the image that the local community has assumed as its own. Modifications that distort the morphology of the landscape unit score negatively. These might include the construction of improper elements affecting the character of the place, the presence of infrastructures that degrade the landscape, or implantation of equipment in inadequate zones, urbanistic models and presence of activities without planning agreements. (MUÑOZ (Dir.), 2012).

Variable 2

Continuity of the processes that structured the current landscape

This variable refers to the maintenance of the processes that have created the landscape unit considered. It values in a negative way the changes and abandonments produced in the agricultural or natural practices, in the loss of local traditions and activities associated with the landscape, in the loss of forms of social organization and the cultural practices that badly affect the characteristics linked to the spirit and sensitivity of the place (UNESCO, 2017).

Variable 3

Management measures and landscape recovery

This variable refers to the presence of measures aimed at recovering the main values of a landscape when trends of degradation are identified. It also values the introduction of management activities that preserve the character of the place. It is about implementing certain measures because of the need to improve the management of an enclave or if the territorial evolution entails a loss of landscape values. For example, after the stoppage of extractive activities, the application of recovery measures should be applied.

3. ECOLOGICAL INTEGRITY

This criterion considers the degree of conservation of species, ecosystems, populations or any other element that determines the biological and geological diversity of the landscape unit. It values the maintenance of evolutionary and ecological processes and the preservation of the variety of species and ecosystems.

Variable 1

Biodiversity

This variable assesses the variety of plant and animal species found within the landscape unit. If the diversity and number of organisms are high it is an indication of traditional land use; the environmental quality of the landscape will be greater and will be closer to maturity (IRANZO, 2009). It is evaluated by biological surveys, literature resources and site visits.

Variable 2

The maturity of plant formations

This variable assesses the amount of vegetation cover in the landscape unit, and with plantations or orchards, their height and maturity. A high level of woodland, orchard or plantation supposes a greater quality of the considered landscape.

Variable 3

State of conservation

This variable explores the environmental conservation status of the landscape. Protected landscapes will score highly. The degradation of the environment, the deterioration of habitats and natural resources, especially the disappearance of native forest areas, are valued in a negative way.

4. GEOPHYSICAL / ENVIRONMENTAL STRUCTURE

This criterion refers to the inherent qualities of the landscape unit determined by local geology and the physiographic aspects that make up the environmental system. It considers aspects such as the topographic complexity and morphology of the land, the presence of water areas, and the continuity of the ground cover.

Variable 1

Presence of complex landforms

This variable considers the topographic complexity and the altitude of the terrain, as well as its morphological forms and singularity. It appreciates the mountainous and steep reliefs, the steep slopes, the abrupt shapes or high altitude. The complex orography and the steep slopes suppose a greater wealth of forms and confer greater value to the landscape.

Variable 2

Presence of water areas

This variable refers to the surface hydrology in the landscape. It considers the presence of water permanently in the unit, as well as the kind and movement or speed which it manifests. It refers to water as a dominant factor in the landscape and its clean and clear appearance. It assesses the existence of singular water points, such as waterfalls, rapids, springs, etc. as well as the presence of rivers, lakes, seas or other types of relevant water formations. The existence of water in the landscape carries a positive value both from an ecological and a visual point of view (IRANZO, 2009). Polluted or lost water-courses will score negatively.

Variable 3

Continuous vegetation cover

This variable refers to the continuity of the

vegetal cover of the ground on the surface and its sense of homogeneity. It negatively assesses the fragmentation or rupture of the continuity of the landscape as a consequence of the presence of artificial elements or structures. A high fragmentation due to an accumulation of buildings or the surface they occupy breaks the landscape homogeneity and diminishes its value. A higher landscape quality is attributed if there is a considerable area covered by the vegetation.

5. VISIBILITY

This criterion considers the amplitude of the visible territory, the visual connectivity with other spaces or the visual scope. These parameters contribute to landscape characterization in scenic terms (IRANZO, 2009). Landscape units with a high visual quality, a singular aesthetic expression or those with relevant visual resources are valued (MUÑOZ (Dir.), 2012).

Variable 1

Diversity and harmony

This variable assesses the landscape units on the combination of various elements that make up the scene and how their different relationships occur. Positive scores are given if these relationships are organized and cause provide a sense of well-being to the observer, so that a harmony is produced. This landscape quality refers to the degree of coherence and balance between the components of the unit (IRANZO, 2009) and supposes a higher visual quality.

Variable 2

Tranquillity

This value appreciates landscape units that have the capacity to transmit tranquillity to the observer. These are territories in which there are no dissonant elements that can disturb the serenity and well-being of its

spectators. In this sense, the existence of strident noises, light or atmospheric pollution, unpleasant smells and other activities that disturb the stillness and tranquillity are valued in a negative way.

Variable 3

The breadth of views or panoramic

This variable considers the degree of openness or visibility that the landscape unit possesses. It refers to the extent or extension of the territory that can be observed from different points or specific places. The existence of panoramic or extensive views is valued since if the degree of amplitude of the visual basin is high, the scenic quality will be higher.

HERITAGE VALUES

The patrimonial values correspond to the descriptive analysis of the landscape unit (MECD, 2015c). They consider the cultural and environmental attributes that condition and enrich the intrinsic characteristics and particularities of the landscape. It refers to the influence that the sociocultural environment has on the value of the specific landscape unit.

6. HISTORICAL

This criterion acts as a testimony to the history and ways of life that have developed in the landscape unit. It offers and assesses the cultural, social or economic evidence of the periods and societies lived in the territory under consideration. The components evaluated are linked to the presence of relevant historical events, the durability of the appearance of the place, and the existence of human settlements and significant archaeological sites.

Variable 1

Presence of relevant historical events

This variable contemplates the association of the landscape unit with a relevant historical phase or event. Consider the value of the landscape as a testimony or reflection of a significant moment or event that marked a turning point or radical change in history. The landscape unit stands out for its ability to explain a past event of interest and the transmission of events representative of the history of a community.

Variable 2

The durability of the appearance of the place

This variable values the maintenance and the inalterability of the landscape image over a long period of time. It demands we consider the views or traditional landscape images that have been transmitted to the community in the present. The analysis of past graphics or literary representations will allow us to understand the representative image of the unit that the local inhabitants possess and to evaluate their possible changes and alterations. Evidence of significant change will score negatively.

Variable 3

Presence of historical human settlements and archaeological sites

This variable refers to the presence of settlements with traditional or vernacular architecture, as well as the existence of cultural milestones and testimonies associated with historic settlements (IRANZO, 2009). It values the presence of architectures representative of specific historical periods and archaeological sites.

7. SOCIAL

This criterion values the current social use of

the landscape, as well as its capacity to provide the tools and framework to help shape and direct the development of tomorrow's societies. It is related to the "living" sites as part of the heritage because of its condition as testimonies of the ancient traditions, and for giving implicit proofs of its sustainability. Social value is related to traditional social activities, and with the current compatible use and plays a fundamental role in the establishment of social and cultural identity, but especially in the strengthening of values in the culture of peace and democracy.

As this value is an exceptional element, when considering indigenous populations, development should be linked to provide basic services for traditional users within protected areas in which development should have a minimum impact and serve only the immediate users of the designated area.

Variable 1

Expression of a living heritage

This variable values the social and community aspects granted to the landscape unit within the framework of a broader cultural context. These aspects are relevant for understanding the place itself from the social, active and participatory point of view.

Variable 2

Link to traditional ways of life

This variable considers the components and structure of the landscape unit as a coherent set adapted to the natural environment. It assesses the ability of the landscape to generate a picturesque or traditional scene based on the organization and structure of the cultural elements. For example, the combination of ancient agricultural or forestry practices with traditional paths and trails, dry stone buildings with historic settlements, handicraft activities and emblematic products is valued. (IRANZO, 2009).

Variable 3

Procedural significance

This variable values the development and existence of traditional knowledge related to productive activities (farming and forestry practices), rituals and popular manifestations present in the landscape unit. It is these traditional practices that have led to the development of evolved landscapes of high value.

8. SYMBOLIC / IDENTICAL

This criterion is related to the emotional bonds and perceptions of local communities towards their sites and landscapes. It considers the sentimental, spiritual or religious ties with the territory, but also the symbolic, patriotic or other types of values originated in emotional or identity perceptions. It refers to the presence of folkloric representations, the feeling of identity and belonging to the community that it generates and the celebration of cohesive acts of the group.

Variable 1

Presence of folkloric representations

It values the presence of folkloric representations in the landscape unit. They are linked to the development of customs, crafts, dances, songs and other traditional and popular activities.

Variable 2

Feeling of identity and belonging to the group or community. The landscape is in the collective imagination

It refers to the ability of the landscape unit to generate a sense of identity and collective belonging. It is the emotional bond attributed by the population to the territory, which forges a feeling of affection between the local or indigenous community. Contexts with significant cultural capital tend to shape the

reference landscapes for their inhabitants and infuse a special meaning for visitors (MUÑOZ, (Dir.), 2012).

Variable 3

Celebration of cohesive acts of the group

This variable values the presence of acts that allow the social interaction of the inhabitants in the considered landscape, such as cultural festivals, fairs, community meetings, and gastronomic events. The celebration of these kinds of processes favours the unity, consensus, and cooperation of the members of the community, and reduces social problems and tensions, such as inequality, exclusion or discrimination.

9. ARTISTIC

This criterion considers the capacity of the landscape unit to generate expressions linked to the artistic expressions and to be a source of inspiration. Artists feel compelled to capture and represent the landscape through different languages and media. It also contemplates the presence of assets and heritage elements declared of artistic interest in the territory.

Variable 1

Presence of artistic expressions associated with the landscape

This variable refers to the presence of pictorial representations, literary texts or other types of artistic expressions associated with the landscape unit. It contemplates those views, descriptions, images or other representations of the landscape expressed through painting, sculpture, pottery, digital media, literature, photography or any other subject related to the fine arts. The repeated use of a scenery in artistic matters may presuppose an aesthetic interest for that place.

Variable 2

Source of inspiration

This variable assesses the ability of the landscape unit to generate artistic expressions and attract people who practice some discipline associated with the arts. The artists are inspired by the territory to compose their works related to painting, music, poetry, architecture, etc. In this sense, the landscape is a source of inspiration and has a significant influence on the creation of artistic manifestations. A greater number of artists is positively valued while their absence will mean a negative score.

Variable 3

Presence of declared assets of artistic interest

It considers the presence of goods declared of artistic interest in the landscape unit. It is about those patrimonial elements that have some kind of declaration, protection and artistic recognition determined by the community through their institutions.

10. CULTURAL

This criterion refers to the cultural heritage qualities of the landscape unit derived from the interaction between humankind and the territory. The relationship between local communities and their environment forms a tangible and intangible cultural substrate that is reflected in the landscape unit considered (IRANZO, 2009). The landscape transmits knowledge linked to culture, to traditions and ways of life, and to other heritage components and values. This criterion considers the presence of protected cultural assets as well as institutions and collectives dedicated to the value and safeguarding of cultural heritage.

Variable 1

Presence of cultural property inventoried or protected

This variable explores the existence of cultural elements in the unit that give the landscape its own value. The heritage transmits valuable information about the history and processes that have determined the dynamics of the territory. The presence of cultural property declared, catalogued or protected by official organs in the landscape unit is valued. The involvement of the local and indigenous community in the identification and assessment of the patrimonial elements and in the preparation of the catalogues is fundamental. The preparation of an inventory requires the participation of local communities, groups or individuals whose heritage must be identified and defined (UNESCO, s.a.1, MACHUCA, 2010, GARCÍA, (Dir.) 2008).

Variable 2

Presence of projects and institutions dedicated to the enhancement of cultural heritage

This variable contemplates the presence of institutions of any type dedicated to the transmission of the values, knowledge, and traditions linked to the cultural works of the landscape, as well as to their preservation and value. It also refers to the integration of the cultural heritage of the landscape unit in the educational field, either in formal or non-formal education. It evaluates the development of pedagogical projects related to the disclosure of the values associated with patrimonial goods and events.

Variable 3

Presence of groups concerned about the safeguarding the landscape and heritage

This variable considers the existence of collectives and cultural associations organized and sensitized in favour of safeguarding and

preserving the landscape and cultural heritage, as well as their protection and value.

POTENTIAL AND FEASIBILITY VALUES

These values determine the potential value of the landscape unit and make reference to its future perspectives. It considers the implication and awareness of the social agents, the participation of the local communities, the socioeconomic profitability, the vulnerability and the accessibility of the landscape.

11. AWARENESS OF SOCIAL AGENTS

This criterion refers to the involvement, commitment, and awareness that social agents have in the protection, conservation and enhancement of the landscape unit. This participation can be developed in different ways: through an appropriate legal situation and ownership of the territory, the presence of investments and actions aimed at safeguarding and preserving the landscape, and the existence of materials and mechanisms aimed at its dissemination and communication.

Variable 1

Legal status and ownership of the landscape unit

This variable refers to the legal framework linked to the preservation and safeguarding of the landscape unit. It values the presence of mechanisms and legal instruments aimed at protecting the territory against its misuse. It is related to the existence of instruments of territorial and environmental planning. This is a significant issue in the Latin American context, where indigenous communities make efforts to obtain legal recognition and ownership of the lands they inhabit, as well as to recover their sacred places. Conse-

quently, the presence of legal instruments intended to protect the property rights of the territory inhabited by local and indigenous communities is necessary (UNESCO, s.a.1, UNESCO, s.a.2).

Variable 2

Investments and actions of the administrations or other groups

This variable considers the involvement and investments of administrations, public-private entities, associations or the local and indigenous community, aimed at the implementation of actions that protect and safeguard the landscape and its viability. It is necessary that the territory is not neglected by local communities or the administration since this could lead to its progressive abandonment and deterioration. The investments and actions carried out must involve the community itself and preserve the values that this landscape represents.

Variable 3

Strategies and materials for dissemination and communication

This variable assesses the existence of informative and didactic supports such as information panels, signs, guides, brochures, leaflets or triptychs, as well as another documentary, graphics and audiovisual materials linked to the landscape unit. These instruments contribute to the diffusion of knowledge about the landscape and to the explanation of its most appropriate values and use. The presence of an efficient network of information and dissemination is valued (AREA, 2010). It contemplates in a positive way the development of strategies for the communication of the unit through mechanisms that improve collaboration between public and private institutions, as well as the presence of regional networks to improve the exchange of information (UNESCO, 2014).

12. PARTICIPATION AND INTEGRATION OF LOCAL COMMUNITIES

This criterion addresses the active participation of the local communities in the policies of action in the preservation of the landscape. This will take into account the existence of programs based on social agreement, collaborative work and the full participation of interested parties. It is about valuing the link between the social actors and those who study, value and act on the landscape unit, from the social commitment leading to its preservation and conservation. There are different levels of participation, from the existence of educational and training programs integrated into the socio-educational and cultural structures of the territory, to participation in the decision-making processes themselves, in the management or in the tasks and processes linked to the documentation, research or construction as a social actor of the cultural story, attending to the three basic actors: heritage, community and researchers, and their interrelationships.

Variable 1

Participation in the management of the landscape unit

This variable assesses the level of community participation in cultural, economic and social landscape management processes, defining uses, exhibition, and contributions to community development and the sustainability of natural and heritage resources.

Variable 2

Participation in the documentation, research and interpretation processes

This variable assesses to the level of participation of the community in the processes of research, documentation and local knowledge of the landscape. This can occur through the interpretation of heritage resources, participation in educational content, disse-

mination of knowledge, taking part in activities or mediation work.

Variable 3

Participation as a social actor in history

This variable refers to the participation of the members of the community as actors in the construction of the narrative about the landscape, using mechanisms for exchanging information and family histories. It includes the interpretation and mediation in the decision making in the management of the narrative (script, sample, contents), and in the type of story as a reflection of the territorial and cultural identity, keeping in mind the information coming from the community.

13. SOCIOECONOMIC PROFITABILITY

This criterion values the contribution of the landscape unit to the socioeconomic development of the local communities. The variables are associated with the capacity of the area to generate local and traditional employment, the diversity of existing activities, and their contribution to sustainable growth.

Variable 1

The area has the capacity to generate employment

This variable asks if the landscape unit has the capacity to create jobs associated with the characteristics, particularities, culture, and products that constitute the engine of traditional development in the area. It values sustainable employment enhanced by the resources and strengths of the territory and oriented to the employability of the community. It is linked to those sectors in which the local inhabitants feel more identified and trained, related to traditional activities and more deeply rooted. The people of a territory are more inclined to be employed in known and related productive activities since they

understand its dynamics, processes, and difficulties.

Variable 2

Diversity of activities

This variable considers the diversity of economic activities present in the territory. The dynamism of the landscape unit is valued as an economic centre and reference space for the development of multiple productive functions. The variety of traditional activities contributes to sustainable endogenous growth and employment of the local community.

Variable 3

Landscape as a support for socio-economic activities that contribute to sustainable development

This variable addresses the value of production and the sources of income generated by the landscape that contributes to sustainable development and the improvement of the lives of local and indigenous communities. It refers to the territory as support for socio-economic activities aimed at the endogenous growth of the locality, such as the trade of territorial resources, tourism, the attraction of visitors, agriculture, etc. We find an example in the irrigation channels recovered by local authorities in the Moche countryside, Peru, where the entire valley has become watered, and thus, local agriculture has increased and opportunities for development have been generated (PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ, 2017). The generation of economic income is positively valued as long as it supposes the local and sustainable development for their communities and the territory in which they are located.

14. VULNERABILITY

The fragility of a landscape refers to the susceptibility it has to damaging modifications in its structuring elements (IRANZO, 2009). The territory is increasingly subject to external and internal influences that make it more vulnerable. Some of the most relevant threats are the abandonment or lack of maintenance of the landscape unit, unplanned tourism that contributes to the loss of identity, and the lack of interest and ignorance of their values by part of the community.

Variable 1

The absence of abandonment situation

This variable assesses the abandonment of landscapes, linked to the loss of inhabitants, entailing their transformation and the development of degradation processes. For example, the rural exodus supposes the lack of maintenance of the agrarian landscape, which implies that it is wasted and wild, in addition to the loss of its patrimonial values. If the considered landscape unit shows abandonment processes, its potential and future viability will be lower.

Variable 2

The absence of threats linked to unplanned and mass tourism

This variable assesses the impact of tourism, which constitutes an opportunity for endogenous growth and favours the preservation of landscapes and territories. However, as indicated by the Action plan for World Heritage in Latin America and the Caribbean (2014-2024), growing tourism activity is one of the most significant threats to the conservation and management of heritage landscapes. Numerous environments are subject to pressures derived from mass and unplanned tourism, which contributes to the loss of identity and the transformation of the landscape. The increase in deregulated tourism

activity can lead to gentrification, real estate speculation and other social impacts that affect landscape preservation, such as the migration of inhabitants with fewer resources, the disaggregation of cultural contexts and the transformation of traditional expressions. In various territories, the benefits generated by heritage tourism have also led to the enrichment of foreign economic groups and not the communities themselves, as well as other conflicts and deterioration in goods and ecosystems (GUERRERO, 2012). Heritage tourism must be a factor that contributes to the development and sustainable growth of local, traditional and indigenous communities, and favours the preservation of its landscapes and territories. The absence of threats linked to unplanned and mass tourism is positively valued.

Variable 3

The absence of threats linked to ignorance or lack of interest

This variable considers the lack of interest in heritage landscapes, as some sectors of the population are sometimes unaware of the cultural and socioeconomic value that their landscapes and territories possess. If the community does not value the local landscape or isn't involved in its preservation it can be transformed and degraded. Consequently, it is important to disseminate and transmit to all the local community the values held by the territory and the environment, as well as the promotion of emotional ties and belonging. The lack of interest or ignorance of the landscape value by part of the community is scored in a negative way.

15. ACCESSIBILITY

This criterion refers to the ease to access, visualize and travel in the considered landscape unit. These aspects determine the number

of potential observers who can admire, enjoy and understand the territory. It assesses the presence of observation points, the possibility of traveling through the landscape, and the existence of communication channels that allow adequate access to it. It is convenient not to exceed the capacity of visitors, and to plan and manage the existing flows. The sustainability of the environment must be ensured.

Variable 1

Presence of viewpoints

A unit can be viewed from different places, but there are certain views that are the most common or recognized by the community and visitors. The viewpoints are static observation points from which the scenario is most likely perceived (MUÑOZ, (Dir.), 2012). The space observed from these points forms the landscape of a territory (IRANZO, 2009), and constitutes its visual focus. These popular elements have the ability to inform and sensitize the observer about the perceived landscape, as well as to increase the identity feeling of the community (TABOADA, 2014). The images taken from the viewpoints can become authentic symbols of place. These observation points usually have signage that allows landscape interpretation and understanding of the territory. The presence of viewpoints that allow the enjoyment of the landscape is valued, as long as they guarantee the minimum damage to the environment and are managed in a responsible manner. It is convenient that their disposition and condition are contemplated in territorial planning and are coherent with the environment. The minimum damage to the landscape must be guaranteed and the capacity of visitors must not be exceeded.

Variable 2

The possibility of transiting the interior of the landscape

The possibility of moving and transiting the

interior of a landscape results in a greater number of potential observers. The existence of tours allows the local community and foreign visitors to know and admire the scenery. A landscape unit has a higher value when more people can walk in and enjoy it. However, the load capacity that the landscape can withstand must not be exceeded. The controlled reception of visitors and the presence of planning tools designed to control the flow of people are necessary. Unplanned transit can mean the economic exploitation of the territory and the loss of its traditional values.

Variable 3

Road accessibility

The accessibility of a landscape is evaluated according to the type of roads that allow its approach. The access through a well-preserved highway will allow a greater number of sights than a narrow path. The landscape will have a higher value, the more relevant the route and the better preserved it is since these aspects enable a greater number of spectators. However, an uncontrolled access to the flow of visitors can lead to damages and transformations in the traditional structure of the unit. It is convenient to plan the environment and not exceed the capacity of the accesses, as it could cause serious damage to territorial sustainability.

QUESTIONNAIRE OF THE METHOD OF EVALUATION OF LANDSCAPE AIMED AT THE LOCAL POPULATION

The variables and criteria indicated have been designed in order to be used by technicians and specialists for the evaluation of landscapes. Based on these indicators, a more simplified set of questions has been developed to obtain valuations of the landscape units by local communities. Each of the following 15 questions refers to each of the criteria that make up the assessment system, and can be applied to any landscape that we wish to evaluate and that the respondent knows.

If you know the patrimonial element, answer the following questions with “Yes”, “No” or “Do not know”:

1. Is the landscape the characteristic or more important one in the territory?
2. Does the landscape preserve its traditional image, that is, the oldest image that it's known?
3. Do you consider that the number and variety of plant and / or animal species is high?
4. Does the landscape have mountainous reliefs or relevant water formations (waterfalls, lakes, rivers, etc.)?
5. Does the landscape transmit tranquillity and can be observed from different points?
6. Have important historical events happened or are there settlements of relevant periods?
7. Are there traditional activities or other popular manifestations in the landscape adapted to the natural environment?
8. Does the landscape have a sentimental or identity value for the inhabitants?
9. Is the landscape present in artistic expressions such as literature, photography, painting or any other manifestation related to the fine arts?
10. Are there institutions or groups concerned about the preservation and protection of the landscape and its related heritage?
11. Are there legal instruments or investments directed towards the protection and diffusion of the landscape?
12. Does the local community participate actively in landscape management (tasks such as uses, dissemination, documentation, etc.)?
13. Does the landscape generate employment or sustainable socioeconomic growth for the inhabitants based on the resources of the territory?
14. Is the landscape absent from threats related to mass tourism, abandonment, ignorance from part of the inhabitants or other types of risks?
15. Is it possible to access and transit through the landscape in an adequate manner and without saturation of visitors?

4.3 EXAMPLES OF IMPLEMENTATION OF THE METHOD

In the present section, several examples of practical implementation of the general method of evaluation of cultural heritage are collected. Three cultural elements from La Huerta de Valencia have been selected in order to implement the three evaluation systems that constitute the method. The objective is to show a real example of the application of each methodological system. Based on the study and analysis of the cultural assets considered, the rating assigned to each of the variables that constitute the method is justified. Also, a description of the element is provided. The selected elements are:

- A. Material element: Ermita dels Peixets (Hermitage of the Fishes), located in the municipality of Alboraià.
- B. Intangible manifestation: Tribunal de las Aguas de la Vega of Valencia (Water Tribunal).
- C. Landscape: Huerta de Rascanya.

A. Ermita del Peixets

Description of the element

The Ermita dels Peixets (Hermitage of the Fishes) is located in the Valencian municipality of Alboraià. It is declared a Site of Local Relevance² (hereinafter BRL) in the General Inventory of Valencian Cultural Heritage, of the Generalitat Valenciana. It is located on

a plain on the right bank of the mouth of the Carraixet ravine, next to the Mediterranean Sea. The hermitage was built in 1907 on another older one in order to commemorate the miracle that, according to a deep-rooted popular tradition, occurred at that site in 1348 which is known as the *Miracle dels Peixets* (Miracle of the Fishes) (NAVA, 2018). The environment of the cultural element is declared a Natural Area thanks to its significant natural and environmental values. In the vicinity, a recreational area surrounded by palm trees has been prepared and is frequently visited by neighbours and fishermen from nearby towns.

The building is in neo-Gothic style and is completely whitewashed. Its base is rectangular. The facade is divided vertically into three strips that are separated by stirrups. The roof is gabled and has a bulrush at the apex. The access door is ogival and shows various figures that represent the miracle. Over the door, the legend *Ermita del Milagro Año 1907*, has been placed in ceramic letters. One of the sides of the hermitage has a ceramic panel that refers to the aforementioned miracle. The interior of the building is covered with a pointed vault. It has a high choir which is accessed by a spiral staircase. The main altar is built of marble. It has attached to the wall an altarpiece of tiles that is conserved from the old hermitage and that represents the miracle (GENERALITAT VALENCIANA, 2010).

According to tradition, in 1348, the priest of Alboraià was asked in Almàssera to take the viaticum to a converted Moorish named Hassam-Arda, who was seriously ill. At that time, Almàssera depended ecclesiastically on the parish of Alboraià. When the priest crossed the ravine of the Carraixet, he was dragged by the fluvial current and lost the *arquilla* in which he carried the consecrated

²A Property of Local Relevance (BRL) is a legal figure for the protection of the cultural heritage of the Valencian Community. Law 4/1998, of June 11, of the Generalitat, of the Valencian Cultural Heritage, introduced this category into legislation, with the following definition: "Real estate of local relevance are all those real estate that, not gathering the values to that article 1 of this law refers to in such a singular degree that justifies its declaration as assets of cultural interest, have nevertheless their own significance, in the regional or local scope, as outstanding assets of a historical, artistic, architectural, archaeological, paleontological or ethnological nature". These elements must be included in the corresponding catalogs of property and protected spaces provided for in the urban legislation, and inscribed in section 2 of the General Inventory of Valencian Cultural Heritage.

forms. According to tradition, the miracle occurred when, after a search by the neighbours, some fishes (three according to the version of Alboraiá and two according to that of Almàssera) appeared while holding the wafers lost in their mouths. The priest approached the shore and the fishes deposited the sacred forms in the chalice he was carrying. In commemoration of the miracle, the hermitage was built in that same place, on which the present one was built in 1907. From this event, every Monday of Pentecost a mass is attended and a pilgrimage is made from the village of Alboraiá to the element (PEPÍN, 1996 AYUNTAMIENTO DE ALBORAIÁ, 2018, INVENTARIO GENERAL DEL PATRIMONIO CULTURAL VALENCIANO, 2018). The miracle has led to the study and publication of numerous bibliographical works. Some researchers interpret this event as the beginning of Almàssera as a municipality, since it requested its ecclesiastical autonomy from Alboraiá, granted in 1352 thanks to the mediation of the Bishop of Valencia Hug de Fenollet (BAYARRI, V.A. [dir.], 1976).

As proof of the devotion of both peoples, their municipal shields allude to the miracle. The coat of Alboraiá represents three fishes, while in Almàssera there are two. The difference of version in the number of fishes depends on if the miracle happened before or after communicating with the patient. If it was before, there would be three fishes, whereas if it happened later it would be two (REAL, M., 2014). This miracle lasts in the memory and history of the two municipalities. The box that contained the sacred forms is venerated at present in the parish of the Asunción de Nuestra Señora de Alboraiá. The municipality of Almàssera also built a parish two years after the miracle, as well as the place where the lost wafers fell, called the Capella del Miracle dels Peixets (LAS PROVINCIAS, 2018).

Evaluation of the element

The following table shows the evaluation carried out at the *Ermita dels Peixets*, with the scoring obtained in each variable, criterion and category, as well as its final score. Next, the score given to each of the variables that make up the evaluation system is justified.

TABLE 4.4 Implementation of the method of evaluation to the material element *Ermita dels Peixets*

Categories	Criteria	Variables	Score		
			Variable	Criteria	Categories
Intrinsic Values	1. Representativeness	Typological representativeness 1	1	3	9 / 9 (10 - Very High)
		Association to ways of communities/indigenous life 1 3	1		
		Traditional or community uses 1	1		
	2. Authenticity	Morphology and the primary image 1	1	3	
		The credibility of the processes that influence the physical and morphological 1 3 characteristics	1		
		No environmental or locational modifications 1	1		
	3. Integrity	Optimal conservation 1	1	3	
		Conservation of the constitutive attributes 1 3	1		
		Functionality	1		

Categories	Criteria	Variables	Score		
			Variables	Criteria	Categories
Heritage values	4. Historical	Link to historical figures, civilizations or institutions	1	3	22 / 27 (8,2 - High)
		The provision of traces of the community's history and culture	1		
		Testimony of a moment or historical place	1		
	5. Social	Expression of a living heritage	1	3	
		Link to traditional ways of life	1		
		Procedural significance (productive activities, traditional knowledge, rituals)	1		
	6. Symbolic / Identity	Identification and knowledge by local communities	1	3	
		Association of the tangible asset with popular or community customs and traditions	1		
		The feeling of identity and belonging to the group or community	1		
	7. Artistic	Creative action: artistic authorship and collective authorship	1	3	
		Aesthetic values	1		
		Capacity for expression	1		
	8. Technical	Techniques used in the construction of the element	1	2	
		Formal and structural beauty	1		
		Innovations and technological improvements	1		
	9. Territorial	Territorial culture linked to communities	1	2	
		Integration in the territory	0		
		Participation of communities in the knowledge and mediation of local cultural heritage	1		
10. Landscape	Natural, environmental, protected, interesting landscape	1	3		
	The degree of environmental sustainability linked to the element	1			
	Heritage visibility and accessibility	1			
11. Educational / Scientific	Incorporation in inventories or heritage catalogues	1	3		
	Presence and impact on references and documentary, artistic or literary works	1			
	Integration and transmission in the educational and training field	1			

Categories	Criteria	Variables	Score		
			Variables	Criteria	Categories
Potential and Feasibility Values	12. Awareness of social agents	Administration and other groups' investments and actions	1	3	10 / 12 (8,3 - High)
		Inclusion in sustainable cultural and tourism programs and routes	1		
		Dissemination and communication strategies	1		
	13. Participation and integration of local communities	Participation in cultural property management	0	1	
		Participation in the documentation, research and interpretation processes	0		
		Participation as a social actor in the story	1		
	14. Socioeconomic profitability	The possibility of integral action. The contribution of the heritage asset to the development of the community	1	3	
		The asset as a support for socio-economic activities that contribute to the sustainable endogenous development	1		
		Legal status and ownership of the territory and the patrimonial elements	1		
	15. Vulnerability	The absence of natural threats	1	3	
		The absence of anthropogenic threats	1		
		The absence of intrinsic vulnerability or abandonment situation	1		
Total score			41 / 45 (9,1 - Very High)		

Source: own elaboration

INTRINSIC VALUES

1. REPRESENTATIVENESS

Variable 1

Typological representativeness.

Score: 1

This variable has been scored favourably. It is one of the most popular hermitages of the Huerta de Valencia. Its uniqueness lies in that it was built in 1907 to, according to tradition, commemorate the miracle that took place there in the year 1348, known as the *Miracle dels Peixets* (Miracle of the Fishes) (NAVA, 2018).

Variable 2

Association to ways of communities/ indigenous life. Score: 1

La Ermita plays important social functions

within the community, with which it has close ties. The environment of the hermitage is a common meeting place among the inhabitants and is declared a Natural Area, which is why the value of the element in the protection of its nearby natural environment is considered.

Variable 3

Traditional or community uses.

Score: 1

The cultural element is linked to diverse and significant immaterial expressions. On Pentecost Monday there is a pilgrimage to the hermitage and other festive and religious events are held in order to commemorate the *Miracle dels Peixets*. It is also associated with material elements. The *Font dels Peixets* (Fountain of the Fishes) was built in 1959 next to the chapel.

2. AUTHENTICITY

Variable 1

Morphology and the primary image.

Score: 1

The current building replaces a previous hermitage, old and small, of which only a retable of tiles that represents the miracle is conserved. However, in this heritage evaluation, we consider the present hermitage, built in 1907. In this sense, the assigned score is favourable, since the element maintains its original appearance, as well as its original structure and design.

Variable 2

The credibility of the processes that influence the physical and morphological characteristics. Score: 1

This variable has a positive score, due to the maintenance of traditional and cultural practices located in the environment of the element. Consequently, the hermitage has not been affected by processes or activities that have harmed or transformed their physical qualities.

Variable 3

No environmental or locational modifications. Score: 1

The territory in which the hermitage is located has not undergone modifications or alterations that have harmed the integrity of the element with its closest traditional environment. The Hermitage is located at the mouth of the ravine of Carraixet, a place frequented by fishermen and visitors, that has not been transformed or modified in a prominent way.

3. INTEGRITY

Variable 1

Optimal conservation. Score: 1

The Ermita dels Peixets is in an excellent

state of preservation. The element and its surroundings are subject to periodic care.

Variable 2

Conservation of the constitutive attributes.

Score: 1

From the visit made and from the various bibliographic sources consulted, it was found that the hermitage has all its attributes or essential parts, which do not show significant deterioration.

Variable 3

Functionality. Score: 1

The hermitage is functional today. On Pentecost Monday the town commemorates the *Miracle dels Peixets*, with the celebration of a mass in the Hermitage. During this day the building remains open and numerous people visit it.

HERITAGE VALUES

4. HISTORICAL

Variable 1

Link to historical figures, civilizations or institutions.

Score: 1

The *Miracle dels Peixets* is an event that has had significant historical repercussions in the history of Alboraià and Almàspera. Several researchers interpret the miracle as the beginning of Almàspera as an independent municipality. The mentioned town requested its ecclesiastical autonomy from Alboraià, that was granted in 1352 thanks to the mediation of the bishop Hug de Fenollet (BAYARRI, V.A. [dir.], 1976). Consequently, this variable has been scored positively, due to the link between the miracle commemorating the hermitage and the aforementioned bishop of Valencia.

Variable 2

The provision of traces of the community's history and culture.

Score: 1

The Ermita dels Peixets is an element that stands out for its ability to transmit events and significant experiences in the culture of the community. One of the sides of the hermitage has a ceramic panel of considerable dimensions in which the Miracle dels Peixets is represented, due to its relevant historical impact on the history of the municipalities of Alboraià and Almàspera. Also, the shields of these municipalities allude to the miracle. In Alboraià, three fishes are represented, while in Almàspera there are two, since the version of the miracle varies according to the municipality, depending on whether the event occurred before or after giving communion to the sick person. If it happened before the priest arrived at the sick man's house there would be three, if it was after the communion it would be two (REAL, M., 2014).

Variable 3

Testimony of a moment or historical place. Score: 1

The cultural element evaluated commemorates one of the most significant events in the medieval history of Alboraià. The *Miracle dels Peixets* has been interpreted as the beginning of the history of Almàspera as an independent municipality. This event led to this town, so far a farmhouse dependent on Alboraià, request the Bishop of Valencia ecclesiastical autonomy, granted in 1352 (BAYARRI, V.A. [dir.], 1976).

5. SOCIAL

Variable 1

Expression of a living heritage.

Score: 1

This variable has been scored favourably

since the hermitage is frequented by the inhabitants of nearby towns. The Ermita dels Peixets plays an important social role since it is a frequent meeting place for residents of the municipality where it is located, as well as those of other nearby towns. Its environment is conditioned as a recreation area and is visited especially by passers-by, runners, cyclists and fishermen. Also, on the Monday following the Solemnity of Pentecost, a pilgrimage to the hermitage and a mass are celebrated, with communal food and other events in which hundreds of neighbours participate.

Variable 2

Link to traditional ways of life.

Score: 1

The Hermitage is an element rooted in the living culture of its inhabitants and defines its culture and heritage. This indicator has been scored positively due to its link with productive activities and traditional knowledge. Its proximity to the ravine of Carraixet encourages it to be frequented by fishermen. Moreover, its link with the *Miracle del Peixets* means that the hermitage is identified as an element associated with traditional fishing.

Variable 3

Procedural significance (productive activities, traditional knowledge, rituals).

Score: 1

The community shows a relevant interest in the conservation of the hermitage and its territory. It is one of the most popular elements of the environment and has a significant emotional value for the inhabitants. For example, in 2016, it was intended to hold a festival in the vicinity of the hermitage, but more than a hundred people gathered in front of the element in order to avoid its celebration (Levante El Mercantil Valenciano, 2016).

6. SYMBOLIC / IDENTITY

Variable 1

Identification and knowledge by local communities. Score: 1

This element is one of the best known by local communities. Its link with the *Miracle dels Peixets* encourages it to be widely identified by the inhabitants.

Variable 2

Association of the tangible asset with popular or community customs and traditions. Score: 1

As previously mentioned, the element is associated with popular traditions and immaterial manifestations that make up the local memory of the community. It highlights its link with the *Miracle dels Peixets*, the pilgrimage and other celebrations held on Pentecost Monday, that congregate hundreds of inhabitants.

Variable 3

The feeling of identity and belonging to the group or community. Score: 1

The Ermita dels Peixets has a significant emotional value for the inhabitants of Alboraià and Almàspera. This cultural element inspires a feeling of identity and belonging. Both municipalities represent in their shields the *Miracle dels Peixets*, so the hermitage is a symbol for the local community and recognizes it as an integral element of its cultural heritage.

7. ARTISTIC

Variable 1

Creative action: artistic authorship and collective authorship. Score: 1

This variable has been scored favourably. For its artistic authorship, the character of universality and anonymity and daily condition has prevailed.

Variable 2

Aesthetic values. Score: 1

The cultural element evaluated stands out for its design and aesthetics. It is a friendly hermitage, in a neo-Gothic style and completely whitewashed. The access door is ogival, with figures alluding to the miracle. Over it, the following legend, in ceramic letters, is placed: Hermitage of the Miracle Year 1907. The cover is double-sided and ends in a small belfry. The main altar is built in marble and retains an altarpiece of tiles attached to the wall in which the miracle is represented (GENERALITAT VALENCIANA, 2010).

Variable 3

Capacity for expression. Score: 1

The hermitage stands out for its ability to express and transmit the material world to the conceptual one. As mentioned, this cultural element was built in commemoration of the *Miracle dels Peixets*. Consequently, the hermitage is associated with this event and has the ability to transmit its story and its cultural and historical implications.

8. TECHNICAL

Variable 1

Techniques used in the construction of the element. Score: 1

The technique used in the construction of the work has been valued favourably and has been considered complex. In this sense, the hermitage reflects the technology of the era in which it was built. It is neo-Gothic and has a rectangular floor plan.

Variable 2

Formal and structural Beauty. Score: 1

The formal beauty of the hermitage in terms of balance and proportions is relevant. The facade is divided vertically into three sec-

tions separated by stirrups. Over the access door, there is a pointed opening while on the sides of the building there are pointed windows located at half height. The interior is covered with a pointed barrel vault. It has a high choir which is accessed by a spiral staircase (GENERALITAT VALENCIANA, 2010).

Variable 3

Innovations and technological improvements. Score: 0

There have not been technological innovations or significant interventions in the hermitage structure after its construction.

9. TERRITORIAL

Variable 1

Territorial culture linked to communities.

Score: 1

This variable has been scored positively since the local community shows a close relationship with the element. The Hermitage is located in a territory frequented by local inhabitants. Likewise, the element is integrated into the territory in which it has traditionally been located.

Variable 2

Integration in the territory. Score: 0

The hermitage is not integrated into any system or heritage interest group. It is an individual element, so it is not part of any system or complex of cultural assets located in the territory.

Variable 3

Participation of communities in the knowledge and mediation of local cultural heritage. Score: 1

The municipality of Alboraià has several associations linked to the protection of the Huerta and its cultural heritage. Among

those are the Association “L’Alqueria de L’Horta”, “L’aurant Culture” and “Alboraià, Horta i litoral”. This last group was mobilized in 2018 against the expansion of the V-21 highway, as the construction of a new lane would mean a significant environmental impact in the surroundings of L’Ermita del Peixets (EUROPAPRESS, 2018).

10. LANDSCAPE

Variable 1

Natural, environmental, protected, interesting landscape. Score: 1

The territory in which the element is located was declared a Natural Area, therefore it is a space of significant natural and environmental interest. The presence of water and forests contribute to its landscape value. The Hermitage is located on a plain next to the mouth of the ravine of Carraixet, next to the Mediterranean Sea. It is also sheltered by a park of palm trees.

Variable 2

The degree of environmental sustainability linked to the element. Score: 1

The hermitage or the activities associated with it do not damage the sustainability of the territory. It is an element frequented by inhabitants, but it is not overcrowded and activities harmful to the environment are not carried out. In the vicinity, there are panels to indicate the prohibition of throwing garbage and make a fire in the environment.

Variable 3

Heritage visibility and accessibility. Score: 1

The accessibility to the element is simple. A paved road parallel to the CV-3115 and a bike path allow access to the Hermitage. There is a dirt path from the beach that connects with the bridge that crosses the Carraixet bed. These routes are frequented by

cyclists, runners and pedestrians. Likewise, the element is completely visible from different points, among which the viaduct of the V-21 highway stands out.

11. EDUCATIONAL / SCIENTIFIC

Variable 1

Incorporation in inventories or heritage catalogues. Score: 1

The Ermita dels Peixets was declared a Property of Local Relevance in the *General Inventory of the Valencian Cultural Heritage*, of the Generalitat Valenciana, with code 46.13.013-002. It was also included in other significant catalogues, including the *Catalog of Protected Rural Goods and Spaces*, of the Territorial Action Plan for the Protection of the Huerta of Valencia (GENERALITAT, 2010).

Variable 2

Presence and impact on references and documentary, artistic or literary works. Score: 1

Numerous references of different types expressly mention the Ermita dels Peixets. Some of the bibliographic documents that analyze this cultural element are those of Pepin (1996, 2003) and Roig (2000). The element also appears in cartographic documentation (National Topographic Map 1: 50,000, leaf 696 Burjasot, of the National Geographic Institute) or artistic (watercolours of Fernando Taengua, published in his blog <http://fertamarin.blogspot.com/2014/>).

Variable 3

Integration and transmission in the educational and training field.

Score: 1

Some of the educational centres in Alboràia make visits to the hermitages of the area in which their history is explained. For example, the Parish School *D. José Lluch* makes

several trips a year with its students to the hermitages of *Sant Cristòfol*, *Vilanova* and *dels Peixets*.

POTENTIAL AND FEASIBILITY VALUES

12. AWARENESS OF SOCIAL AGENTS

Variable 1

Administration and other groups' investments and actions. Score: 1

The local public administration makes investments destined to the conservation of the element and to preserve its heritage values, with conditioning and periodic care. It also highlights the presence of some organized cultural groups, such as the association "Per l'horta" of Alboràia or the platform "Alboràia, Horta i Litoral", involved in safeguarding L'Horta and its surroundings.

Variable 2

Inclusion in sustainable cultural and tourism programs and routes. Score: 1

Alboràia City Council has organized six self-guided routes through the Huerta of Alboràia, half of which visit, on their way, the Ermita dels Peixets. The first one is the so-called "Route 3: Barranc del Carraixet", which runs parallel to the mentioned fluvial channel and ends next to its mouth. The next one is "Route 4: Camí del Gaiato", which crosses the Huerta of Saboya and ends at the Hermitage. Finally, there is "Route 6: Les Ermites", which begins its journey in the Hermitage of Santa Bàrbara, runs through the orchard area and finishes at the Ermita dels Peixets.

Variable 3

Dissemination and communication strategies. Score: 1

In the surroundings of the Ermita dels Peixets, several panels that show information about

the cultural element with the explanation of its meaning and values are disposed. These informative supports are linked to self-guided routes through the municipal area. Other relevant materials are brochures, such as the one elaborated by the City Council with information on the routes through the Huerta and the elements that run through it (AYUNTAMIENTO DE ALBORAIA, 2017).

13. PARTICIPATION AND INTEGRATION OF LOCAL COMMUNITIES

Variable 1

Participation in cultural property management.

Score: 0

The community does not participate actively in the management of the Ermita dels Peixets. The element celebrates religious worship only on the first Monday of Pentecost, with the purpose of commemorating the *Miracle dels Peixets*. The rest of the year the hermitage remains closed and no other function managed by the inhabitants is carried out.

Variable 2

Participation in the documentation, research and interpretation processes. Score: 0

We are not aware of the existence of any mechanism for community participation in the research, documentation or local knowledge of the element.

Variable 3

Participation as a social actor in the story.

Score: 1

This variable has been scored favourably due to the link of the element with the *Miracle dels Peixets*, since the community participates as an actor in the construction of the story and uses mechanisms in the interpretation of the associated story.

14. SOCIOECONOMIC PROFITABILITY

Variable 1

The possibility of integral action.

The contribution of the heritage asset to the development of the community.

Score: 1

This variable has been scored positively, since the local public administration is involved in the appreciation and dissemination of this element, one of the symbols of the municipality. In the same way, there are several active associations linked to the conservation and recognition of the cultural heritage of the Huerta.

Variable 2

The asset as a support for socio-economic activities that contribute to the sustainable endogenous development.

Score: 1

The Ermita dels Peixets is one of the most popular elements of the municipality and is located in a setting of significant environmental values. Moreover it is located on three of the six routes through the Huerta promoted by the City Council. Consequently, this space is a focus of attraction for visitors and leads to an increase in tourism and sustainable local development.

Variable 3

Legal status and ownership of the territory and the patrimonial elements.

Score: 1

As it has been commented previously, the Ermita dels Peixets was declared BRL. This type of goods entails their inclusion in the municipal Catalog of Protected Goods and Spaces and implies their comprehensive conservation.



*Ermita
dels Peixets
assessment*

15. VULNERABILITY

Variable 1

The absence of natural threats.

Score: 1

The Ermita dels Peixets is located in the vicinity of the Barranc del Carraixet (Ravine of Carraixet). This fluvial channel suffers periodic torrential avenues. However, we have considered that the cultural element is not exposed to natural risks that may have significant impacts on its conservation and safeguard.

Variable 2

The absence of anthropogenic threats.

Score: 1

The Huerta de Valencia suffers a high urban and industrial pressure, which entails a loss of agricultural land and its environmental degradation. However, we have positively assessed this element, since different mechanisms and platforms have been developed to deal with these threats. In this regard, the protection of the element as BRL stands out, as well as the presence of associations and groups involved in safeguarding La Huerta and its heritage.

Variable 3

The absence of intrinsic vulnerability or abandonment situation.

Score: 1

The cultural element is in an optimal state of conservation, so its possibility of intrinsic deterioration is not significant. Likewise, the hermitage is not abandoned, as it is subject to periodic care and maintenance.

B. Tribunal de las Aguas de la Vega de València

Description of the element

The Tribunal de las Aguas de la Vega in Valencia (Water Tribunal) is the oldest legal institution existing in Europe. It was declared a Property of Intangible Cultural Interest³ by Decreto 73/2006 of the Consell in 2006 and, together with the Consejo de Hombre Nuevos (Council of Good Men) of Murcia, was inscribed in 2009 on the Representative List of the Intangible Cultural Heritage of Humanity by UNESCO. Its current role is twofold, legal and administrative, which lies in resolving conflicts and lawsuits over the use of water among irrigators in the Huerta of Valencia. Although the exact date of its creation is unknown, its origins go back to the Islamic period, possibly to the time of the Caliphate of Córdoba, whose creation is set in 960. The improvement of irrigation techniques and the development of complex ditch systems led, undoubtedly, to the emergence of the first water judges in this period. The self-managed, equitable and supportive nature of water justice denotes its Andalusian origins (MARTÍNEZ *et al.*, 2005).

This millenary institution guarantees the good practice of irrigation in the extensive and complex irrigation systems of the Valencian Huerta, which make up one of the most valuable water landscapes in Europe. It is one of the most esteemed assets of the Valencian cultural heritage. It represents a link between the Muslim world and the West and is a source of inspiration for other cultures. It forms the model for the constitution of the juries of irrigation in Spain and Ibero-America since its Muslim origin was received by the Christian settlers and transferred later to the American continent.

The Tribunal is composed of the syndics which preside the eight Communities of Irrigators in the area of La Vega de Valencia: Tormos, Rascanya and Mestalla on the left bank of the River Turia; Quart, Benàger-Faitanar, Favara, Mislata and Rovella on the right. The trustees are democratically elected by the members of each Irrigation Community and, among them, they designate the President and the Vice President. The meetings are held every Thursday at noon in the Door of the Apostles of the Cathedral of Valencia, with the exception of the Christmas period and the civil or religious festivities.

The procedure is performed entirely orally and in Valencian language. If an infraction occurs, the person denounced is summoned by the Guard of the ditch to appear before the Court on the following Thursday. If he does not attend, he is summoned twice more, and if he does not appear on the third occasion, the complaint is admitted, and he is tried and convicted *in absentia*. When the bell of the Cathedral rings at noon, the court clerk and the syndics go to the door of the Apostles from the so-called House of Dress, dressed in a farmer black garb like a magistrate's robe. The enclosure delimited for the celebration of the act is denominated traditionally "corralet" (small farmyard), arranged in a semi-circular way by means of a fence. The court clerk carries a golden brass harpoon (the hook), an instrument of daily work of the ditches guardians. Next, the trustees sit in the chairs assigned to

³A Property of Cultural Interest is a figure of protection regulated by Law 16/1985, of June 25, of the Spanish Historical Heritage. This figure of maximum rank was assumed by the legislation of the autonomous communities with the supervision of the Ministry of Culture. The Law 4/1998 of June 11, of the Valencian Cultural Heritage establishes that "the creations, knowledge and practices of the traditional Valencian culture are part of the Valencian cultural heritage. Likewise the expressions of the traditions of the Valencian people in their musical, artistic, gastronomic or leisure manifestations are part of this heritage as intangible elements, and especially those that have been object of oral transmission and those that maintain and enhance the use of Valencian language".

each of their respective ditches. The court clerk publicly calls the accused according to the order in which the ditches take water from the river Turia. If there is a complaint, the defendant and the complainant enter the enclosure, accompanied by the guard of the corresponding ditch. The complainant or the guard exposes the situation, and the accused defends himself and, if he considers it necessary, provides evidence or witnesses. The President and the syndics can ask the necessary questions, including going to the place where the events have taken place. In the deliberation and voting does not intervene the ditch syndic to which the defendant belongs. Then, judgment is issued, which is unappealable and is based on the Ordinances of the respective ditches. If the President belongs to the same margin of the river as the one reported, the Vice President dictates the sentence, which will be on the opposite side (MARTÍNEZ et al., 2005, DECRETO 73/2006, TRIBUNAL DE LAS AGUAS DE LA VEGA DE VALENCIA, 2018a). Although the proceedings of the trial are verbal, since the first Water Law of the 40s of the twentieth century, it is necessary to leave written evidence so that the sentences are recorded in a Book with the data of each trial.

The institution is respected by the ordinary courts and recognized by the Spanish Constitution. The main characteristics of the procedure are based on the application of justice regarding to the demands of irrigation. According to the study conducted by Fairén (1988), its most characteristic features are: concentration (to resolve without delays), orality (the totality of the judgment is oral); the speed (infractions are treated every week), and the economy (the trials do not cause procedural expenses and the syndics do not receive salary). In short, the Tribunal de las Aguas de la Vega of Valencia constitutes a customary legal institution and a hallmark of the Valencian people. With an exceptional and unique character from the historical, cultural and legal point of view, it constitutes a means of rapprochement between peoples and communities.

Evaluation of the element

The following table shows the evaluation made to the Tribunal de las Aguas de La Vega of Valencia, with the scores obtained in each variable, criterion and category, as well as its final grade. Next, the score awarded to each of the variables that make up the evaluation system is justified.

TABLE 4.5 Implementation of the method of evaluation to the intangible element Tribunal de las Aguas de la Vega de Valencia

Categories	Criteria	Variables	Score		
			Variable	Criteria	Categories
Intrinsic values	1. Representativeness	Maintenance of the specificity of cultural expressions and knowledge	1	3	9 / 9 (10 - Very High)
		Association to ways of communities/indigenous life	1		
		Traditional or community uses	1		
	2. Historical continuity	Continuity and transmission of the intangible asset in the community without interruption	1	3	
		Own traditional organization. Preservation by the community	1		
		Autonomy. Heritage inherent to the community and preservation of identity links	1		
	3. Integrity	Intergenerational transmission and conservation of traditional knowledge and skills	1	3	
		Temporal integrity and internal rhythm; the importance of temporality	1		
		Optimal conservation	1		
Heritage values	4. Historical	Link to historical figures, civilizations or institutions	1	3	18 / 18 (10 - Very High)
		Recollection of experiences and traditions of the history and culture of the community	1		
		Testimony of a moment or historical place of a culture	1		
	5. Social	Expression of a living heritage	1	3	
		Link to traditional ways of life	1		
		Procedural significance (productive activities, traditional knowledge, rituals)	1		
	6. Symbolic / Identity	Identification and knowledge by local communities	1	3	
		Association of the intangible asset with popular or community customs and traditions	1		
		Feelings of identity and belonging to the group or community	1		
	7. Artistic	Creative action: artistic authorship and collective authorship	1	3	
		Aesthetic values	1		
		Capacity for expression	1		
	8. Landscape and territorial environment	Landscape environment of interest and relationship with the territory	1	3	
		Degree of territorial sustainability linked to the intangible asset	1		
		Own space frames	1		
	9. Educational / Scientific	Incorporation in inventories or heritage catalogues	1	3	
		Presence and impact in references and documentary, artistic or literary works	1		
		Integration and transmission in the educational and training field	1		

Categories	Criteria	Variables	Score		
			Variables	Criteria	Categories
Potential and Feasibility Values	10. Awareness of social agents	Administration investments and actions	1	3	12 / 12 (10 -Very High)
		Inclusion in sustainable cultural and tourism programs	1		
		Dissemination and communication strategies	1		
	11. Participation and integration of local communities	Participation in the management of Intangible Cultural Heritage (ICH)	1	3	
		Participation in the documentation, research and interpretation processes of ICH	1		
		Participation as a social actor in oral history of the community	1		
	12. Socioeconomic profitability	Possibility of revitalization of the intangible expression and its contribution to the community development	1	3	
		The intangible asset as support for socio-economic activities that contribute to the sustainable endogenous development	1		
		Legal status and ownership of the territory and the intangible patrimonial assets	1		
	13. Vulnerability	The absence of threats linked to unplanned and mass tourism	1	3	
		The absence of threats linked to the improper marketing of knowledge or traditional products	1		
		The absence of threats linked to transmission, and the lack of knowledge or lack of interest of sectors of the community	1		
	Total score			39 / 39 (10 - Very High)	

Source: own elaboration.

INTRINSIC VALUES

1. REPRESENTATIVENESS

Variable 1

Maintenance of the specificity of cultural expressions and knowledge.

Score: 1

The Tribunal de las Aguas de la Vega in Valencia is a unique testimony of cultural tradition. It is a living heritage of the way of life of the Andalusian peasantry and the water justice system in Islamic times. It is a millenary institution that maintains the knowledge associated with the management of irrigation and its ditches.

Variable 2

Association to ways of communities/ indigenous life.

Score: 1

This variable has been scored favourably. Intangible expression performs relevant social and economic functions for the community. It represents the way of inhabiting of the peasantry and its maintenance favours the sustenance of the traditional agriculture of the Valencian huerta.

Variable 3

Traditional or community uses.

Score: 1

The Tribunal de las Aguas de la Vega of Va-

lencia is linked to a wide diversity of material and intangible heritage elements. This institution guarantees the maintenance of complex systems of ditches and their associated hydraulic elements, such as weirs, rafts, mills or splitters. In this sense, the Court is linked to a valuable hydraulic architecture, but also to the instruments and knowledge related to water management. It is also related to other intangible expressions, such as the autochthonous sport of *tiro y arrastre*⁴ or the so-called *cant del valencià* or *cant valencià*⁵.

2. HISTORICAL CONTINUITY

Variable 1

Continuity and transmission of the intangible asset in the community without interruption.

Score: 1

The intangible element has been transmitted throughout its history without interruptions. Due to its effectiveness as an irrigation judicial institution, it has survived the different changes experienced in the Spanish institutional and political order since the Andalusian era, such as the Christian conquest, the Old Regime or the liberal revolution (INVENTARIO GENERAL DEL PATRIMONIO CULTURAL VALENCIANO, 2018).

Variable 2

Own traditional organization. Preservation by the community.

Score: 1

The millenary institution is characterized by its own traditional organization. It consists of the syndics who preside eight Communities of Irrigators in the area of La Vega de Valencia, democratically elected by the members of their communities. The syndics are farmers who stand out for their wisdom in

traditional irrigation and their honesty. The pronounced sentences are based on the Ordinances of the respective ditches and do not admit appeal before the ordinary courts since the institution is recognized as a court by the Organic Law of the Judiciary.

Variable 3

Autonomy. Heritage inherent to the community and preservation of identity links.

Score 1

This variable has been scored favourably since the Tribunal de las Aguas retains its autonomy and original values. Its operating procedures have not experienced significant changes over time.

3. INTEGRITY

Variable 1

Intergenerational transmission and conservation of traditional knowledge and skills.

Score: 1

The institution is a court of farmers specialized in traditional irrigation, with an outstanding knowledge in the matter. The syndics treasure knowledge and skills related to water management and maintenance of historical irrigation systems. They transmit technological and social knowledge from generation to generation of farmers, which entails the safeguarding of this valuable cultural heritage. Its imprint is reflected in the toponymy of the Valencian Huerta, as well as in its vocabulary and traditions.

⁴The *tiro y arrastre* (team and dragging, *tir i arrossegament* in Valencian language) is a sport of great tradition in the Valencian territory, whose origin is linked to agricultural tasks. A horse loaded with a cart of sandbags runs between 50 and 60 meters in the shortest time possible on a sand track (LEVANTE EL MERCANTIL VALENCIANO, 2018)

⁵The *cant del valencià* or *cant valencià* (Valencian songs), is a repertoire of songs of individual interpretation, used mainly by Valencian farmers, as well as by artisans (PITARCH, 1997).

Variable 2

Temporal integrity and internal rhythm; the importance of temporality.

Score: 1

The intangible element retains its traditional temporal patterns. The Court is celebrated every Thursday of the year, at noon, in the Door of the Apostles of the Cathedral of Valencia, with the exception of the Christmas period and the civil or religious festivities. It is an agile and dynamic procedure. This variable has been valued favourably since there have been no temporary changes in the celebration of the cultural expression.

Variable 3

Optimal conservation.

Score: 1

The Tribunal de las Aguas maintains and preserves the tangible traditional objects associated with the celebration. The syndics dress the traditional black farmer blouses, and the court clerk carries a golden harpoon in which it can be read "Tribunal de las Aguas de la Vega de Valencia". Each syndic is assigned an armchair, on whose back the name of the ditches appears. These armchairs have been replaced in 2015 after two centuries of use to preserve them. This renovation has occurred through the use of traditional techniques, without innovations and with reliable reproductions of the original ones, both in the wood and in the finish and size (LEVANTE EL MERCANTIL VALENCIANO, 2015). Consequently, this variable has not been scored negatively due to the substitution made by traditional and respectful techniques.

HERITAGE VALUES

4. HISTORICAL

Variable 1

Link to historical figures, civilizations or institutions.

Score: 1

The Tribunal de las Aguas is an institution of historical character. It is the only court with recognized jurisdiction that maintained as a procedural language the Valencian one, from the New Plant Decrees of 1707 to the Statute of Autonomy of the Valencian Community of 1982 (MARTÍNEZ et al., 2005). It represents one of the contributions of the Muslim world to the History of Humanity. It is a living legacy of the extinct civilization of al-Andalus. Likewise, many personalities have visited this institution, like King Felipe VI in 1995, at that time Prince of Asturias.

Variable 2

Recollection of experiences and traditions of the history and culture of the community.

Score: 1

The Tribunal de las Aguas expresses the capacity of the human being to build and maintain irrigation systems. It gathers the millenarian knowledge related to the use of water and is a testimony of justice and democratic government. It is also characterized by the communal property of water, peculiarity of the hydraulic systems of Muslim tradition.

Variable 3

Testimony of a moment or historical place of a culture.

Score: 1

This variable assesses the relation between the intangible element and the design of water cultural landscapes with a sustainable

functioning of Andalusian origin. Numerous foreign travellers have admired throughout the history the productivity of the Huertas, the wisdom of their people and the functioning of the Court.

5. SOCIAL

Variable 1

Expression of a living heritage.

Score: 1

The intangible element is a significant one in the community since it favours its understanding from the social point of view. Irrigation ditches are a cultural creation that generates a system of social organization (EL CONSEJO DE HOMBRES BUENOS AND THE TRIBUNAL DE LAS AGUAS, 2018).

Variable 2

Link to traditional ways of life.

Score: 1

The Tribunal de las Aguas represents a survival of the culture and way of inhabiting of the Andalusian peasantry. This institution guarantees the good practice of irrigation in the Valencian Huerta. Traditional irrigation systems and the cultivated spaces generated constitute a significant cultural heritage. In this sense, the intangible element acts as a link among the community, its culture and its heritage.

Variable 3

Procedural significance (productive activities, traditional knowledge, rituals). Score: 1

The local community shows a relevant interest in the conservation and safeguarding of the cultural heritage of the Valencian Huerta. Hundreds of people attend every Thursday the meetings of the Tribunal de las Aguas, sign of interest of the community in this intangible manifestation. There are also numerous associations and groups linked to

the protection of the Huerta, its historical heritage and its associated landscapes.

6. SYMBOLIC / IDENTITY

Variable 1

Identification and knowledge by local communities.

Score: 1

As previously mentioned, the Tribunal de las Aguas is known by the local community, since many inhabitants visit the celebration of this intangible manifestation every week. Likewise, its declaration as Intangible Cultural Heritage of Humanity by UNESCO has favoured its dissemination among the community.

Variable 2

Association of the intangible asset with popular or community customs and traditions.

Score: 1

This variable has been scored in a positive way thanks to the association of the Court with popular customs and traditions. The intangible element is linked to the ability to take advantage of and maintain the traditional irrigations of the Huerta of Valencia, and therefore, the sustenance of the traditional agrarian activity. It supposes a guarantee for the correct operation of the historical irrigations.

Variable 3

Feelings of identity and belonging to the group or community. Score: 1

The Tribunal de las Aguas is recognized by the community as an integrant part of its cultural heritage. According to Martínez et al. (2005), this institution of justice forms a hallmark of the cultural personality of Valencians and is a reference of their collective imagination. Likewise, its procedure is carried out entirely in the Valencian language.

7. ARTISTIC

Variable 1

**Creative action: artistic authorship
a collective authorship.**

Score: 1

This variable has been scored favourably. It has been considered the universal nature of the material goods associated with the demonstration: the traditional blouses of huertano, the golden harpoon worn by the bailiff, or the armchairs of the syndics. In this sense, attention has been paid to the most daily condition of these goods associated with expression.

Variable 2

Aesthetic values.

Score: 1

This variable has been scored positively since the design and aesthetics of the Tribunal de las Aguas and its associated material goods consider traditional uses and techniques. In addition to the visual expression, in the celebration, the sounds are valued, with the repetition of expressions and traditional formulas recognized by the community, as well as the ringing of bells that is associated with the beginning of the act.

Variable 3

Capacity for expression.

Score: 1

The expression has the capacity to transcend the intangible world to the conceptual one and to propitiate the manifestation of emotions. It expresses the epoch of which it is testimony, with the association of the Court with the elements and traditional hydraulic systems, as well as with the water landscape generated, one of the most beautiful in the Mediterranean area.

8. LANDSCAPE AND TERRITORIAL ENVIRONMENT

Variable 1

Landscape environment of interest and relationship with the territory.

Score: 1

The stage where the meetings of the Tribunal de las Aguas de Valencia are held is the Door of the Apostles of the Cathedral of Valencia. This space is not of natural interest. However, this variable has been scored in a positive way, since this intangible expression is linked to the maintenance of the traditional irrigations of the Huerta of Valencia and, therefore, of its cultural landscapes. In this sense, the evocation of the territorial environment of the manifestation and its conservation is valued.

Variable 2

Degree of territorial sustainability linked to the intangible asset.

Score: 1

The trial does not carry out harmful activities for the sustainability of the spatial framework in which it is celebrated. Likewise, the knowledge linked to the irrigation management entails the sustainable use of water and the maintenance of biodiversity in the cultural landscapes generated.

Variable 3

Own space frames.

Score: 1

The Tribunal de las Aguas uses and preserves the proper stage of preparation and celebration, the Door of the Apostles of the Cathedral of Valencia. Likewise, the original arrangement of the syndics has not been modified either.

9. EDUCATIONAL / SCIENTIFIC

Variable 1

Incorporation in inventories or heritage catalogues.

Score: 1

The intangible manifestation was declared a Property of Immaterial Cultural Interest by Decreto 73/2006 of the Consell in 2006 and, together with the Council of Good Men of Murcia, was inscribed in 2009 in the Representative List of the Intangible Cultural Heritage of Humanity by the UNESCO.

Variable 2

Presence and impact in references and documentary, artistic or literary works.

Score: 1

The Tribunal de las Aguas de la Vega de Valencia has been the object of study by specialists in different matters. There are valuable works in articles of specialized magazines, books, monographs or literary works. Some of the most relevant are: "Observations on the natural history, geography, agriculture, population and fruits of the Kingdom of Valencia" by Cavanilles (1795-1797); the "Treaty of the distribution of the waters of the Turia river, and of the Court of the Acequeros de la Huerta de Valencia" by Borrull (1831); the "Urban guide of ancient and modern Valencia" by the Marqués de Cruilles (1876), who dedicates a chapter to the Tribunal of the Acequeros; or the publication "Irrigation and Society in medieval Valencia" by the North American professor Thomas F. Glick (1970). The Tribunal de las Aguas illustrates novels, covers, fountains, monuments and numerous paintings. Some of the most outstanding are: the engraving of Tomás Rocafort, that illustrates the work "Treaty of the distribution of the waters of the Turia river and of the Court of the Acequeros de la Huerta of Valencia" (BORRULL, 1831); the illustration of José Benlliure ca-

lled "El Tribunal" and captured in the work "La Barraca" by Blasco Ibáñez (1898); or the canvas "The Tribunal de las Aguas in Valencia", by the painter Bernardo Ferrándiz (1864), which is the most universal image of the institution.

Variable 3

Integration and transmission in the educational and training field.

Score: 1

The Tribunal de las Aguas is internationally known among jurists. Several universities have shown interest in this institution. There are frequent congresses and national and international conferences, such as the different editions of the International Congress "Water, roads, knowledge in the Iberian Peninsula from the Roman Empire to Muslim power", organized by the Miguel Hernández University of Elche. Numerous schoolchildren of different ages and origins visit and study this millenary institution. It is planned the development of a project with the educational centres of the Valencian territory, with the creation of activities and didactic materials (EUROPAPRESS, 2017).

POTENTIAL AND FEASIBILITY VALUES

10. AWARENESS OF SOCIAL AGENTS

Variable 1

Administration investments and actions.

Score: 1

The public administration makes investments aimed at promoting and supporting this intangible cultural expression. In 2017, the Mayor of the city of Valencia announced a possible agreement between the City Council and the Tribunal de las Aguas for the creation of a museum on the institution (LAS PROVINCIAS, 2017). Another recent

investment was made by the Diputació de Valencia, with an amount of 200,000 euros to repair the irrigation ditch that irrigates the Huerta (DIVAL, 2018).

Variable 2
Inclusion in sustainable cultural and tourism programs. Score: 1

The Tribunal de las Aguas is present in various cultural and tourist programs and receives numerous visitors every week. This tourism does not entail a threat to the intangible element since the celebration of the event lasts a few minutes and its reception is controlled. Several tourist portals promote this millenary institution, for example, “*Visit València*” (<https://www.visitvalencia.com/que-hacer-valencia/cultura-valenciana/monumentos-en-valencia/tribunal-aguas>).

Variable 3
Dissemination and communication strategies. Score: 1

There are numerous informative supports about the Tribunal de las Aguas. On the website of the institution, it is possible to download various brochures and guides, as well as viewing different images and videos (<http://www.tribunaldelasaguas.org/es/galeria/descargas>). In addition, there is a permanent exhibition in the vestibule of the House of Dress, in which the “corralet” is shown and a video is projected.

11. PARTICIPATION AND INTEGRATION OF LOCAL COMMUNITIES

Variable 1
Participation in the management of Intangible Cultural Heritage (ICH). Score: 1

This variable has been scored in a positive way, because it is the irrigators of the Huertas of Valencia who resolve autonomously,

democratically and equitably their lawsuits over the use of water (MARTÍNEZ *et al.*, 2005). The syndics are elected by their communities of irrigators. They are prominent men of the community with outstanding knowledge in traditional irrigation. The correct management of water entails its sustainable use and the maintenance of biodiversity.

Variable 2
Participation in the documentation, research and interpretation processes of ICH. Score: 1

The community participates in the processes of research, documentation and local knowledge of the immaterial expression, through work in educational content, dissemination, etc. For example, several educational centres elaborate didactic material for the work of the students, and numerous investigators carry out tasks of documentation of the good.

Variable 3
Participation as a social actor in the oral history of the community. Score: 1

The community participates as an actor in the construction of the story. The decision making in the management of oral history takes into account the information coming from the communities of irrigators that are part of this millenary institution. The management and operation of the Tribunal de las Aguas are transmitted from generation to generation and its story acts as a reflection of the identity of the people.

12. SOCIOECONOMIC PROFITABILITY

Variable 1
Possibility of revitalization of the intangible expression and its contribution to the community development. Score: 1

As mentioned in the previous variables, various management institutions are involved in the maintenance of the intangible element and have developed projects aimed at their conservation. For example, the Generalitat has signed the renewal of the agreement with the millenary institution in 2017, to which it allocates 75,000 euros per year for its maintenance and dissemination (EUROPAPRESS, 2017).

Variable 2

The intangible asset as support for socio-economic activities that contribute to sustainable endogenous development.

Score: 1

The celebration of the Tribunal de las Aguas attracts hundreds of visitors every week, including university students of various nationalities. Likewise, the safeguard of this

institution guarantees the good practice of irrigation, the maintenance of the water cultural landscapes and the sustenance of the traditional agriculture in the Huerta of Valencia.

Variable 3

Legal status and ownership of the territory and the intangible patrimonial assets.

Score: 1

The institution is respected by the ordinary courts and by the Spanish Constitution since it is recognized in the Organic Law of the Judiciary. Likewise, it was declared a Property of Intangible Cultural Interest by Decreto 73/2006 of the Consell in 2006 and, together with the Council of Good Men of Murcia, is registered since 2009 in the Representative List of the Intangible Cultural Heritage of Humanity by the UNESCO.



Tribunal de las Aguas de la Vega de València.

13. VULNERABILITY

Variable 1

The absence of threats linked to unplanned and mass tourism.

Score: 1

Tourism linked to the Tribunal de las Aguas de Valencia constitutes an opportunity for local development. It favours the preservation of the element, and therefore, of the historical irrigations and their associated landscapes. Many visitors come every week to the celebration, and its reception is controlled and does not entail the loss of identity or transformation of the element.

Variable 2

The absence of threats linked to the improper marketing of knowledge or traditional products.

Score: 1

No threats related to the commercialization or exploitation of traditional products or knowledge associated with the element have been detected.

Variable 3

The absence of threats linked to transmission, and the lack of knowledge or lack of interest of sectors of the community.

Score: 1

The cultural and environmental values of La Huerta require greater awareness and dissemination among the population. However, this variable has been scored favourably, due to the numerous tools implemented in recent years linked to the protection and recognition of the Tribunal de las Aguas and the Valencian Huerta. In this sense, there is an increasing awareness of society, through actions such as the development of different civic platforms to safeguard this cultural landscape, the implementation of institutional dissemination and maintenance actions, as well as the implementation of education projects among the youngest. Also relevant is its declaration as an Intangible Cultural Asset in 2006 and its registration in 2009, together with the Council of Good Men of Murcia, on the Representative List of the Intangible Cultural Heritage of Humanity by UNESCO.

C. LANDSCAPE OF LA HUERTA DE RASCANYA

Description of the landscape

La Huerta de Valencia is one of the most important cultural landscapes of the Mediterranean area. It is located in the coastal plain of the central Valencian depression and is built by the contributions of the river Turia and the *Barranc de Carraixet*. Its current landscape has been generated over the centuries, in whose architecture nature has intervened, but especially the people who inhabit it (HERMOSILLA, IRANZO, 2017). It is a space made up of multiple uses, where the cultivated areas and water infrastructures coexist with the urbanization processes associated with the metropolitan area of Valencia. Irrigated agriculture is the basis of the Huerta landscape, whose beginning, as we conceive it today, is situated in the medieval Islamic period, through the establishment of the first hydraulic systems and Andalusian farmhouses.

The area irrigated by the ditches managed by the Tribunal de las Aguas comprises, in the strict sense, the so-called Vega de Valencia. These hydraulic pipes derive from the river Turia and are Rovella, Favara, Mislata and Quart-Benàger-Faitanar on the left bank, and Tormos, Rascanya and Mes-talla on the right. The Acequia de Rascanya (Rascanya ditch) originates in the *Assut del Repartiment* (Repartiment weir), better known as “*La Cassola*”, although historically it took its flow in its own weir, destroyed in the flood of 1957 (HERMOSILLA [Dir.], 2007). The layout of the system, with a length of approximately 9,500 m, was designed to irrigate the Huertas of Orriols, Rascanya, Tavernes Blanques, Alboraià and Almàssera, located in l’Horta Nord, as well as other smaller farmsteads of the Islamic period.

The traditional irrigated area was about 784 Ha, although an extension made in the middle of the 20th century led to its increase to 1,260 Ha (GUINOT, 2005). Currently, as a consequence of the growth and urban development of the metropolitan region of Valencia, the irrigated area is around 800 Ha.

The Rascanya System structures the agrarian landscape of the municipalities of Alboraià, Almàssera and Tavernes Blanques. In this environment dispersed farmhouses are located, some restored, as well as other buildings of different types. The predominant crops are herbaceous, as they occupy about 97% of the irrigated area in 2017, according to the statistics offered by the Ministry of Agriculture, Environment, Climate Change and Rural Development. The most representative crop is tiger nut (*Cyperus esculentus L. var. Sativus Boeck*), with 188 Ha, a quarter of the total irrigated area. Its tubers can be consumed raw or used to make horchata, a typical drink from Valencia. Approximately half of the extension of this crop in Spain is located in the province of Valencia, mainly in l’Horta Nord (IRANZO, 2017). Other relevant crops are onion (183 Ha) and potatoes (164 Ha), as a result of the increase in their commercial demand in recent years. In short, the Huerta de Rascanya is configured as an authentic landscape of water, built by the work of the human being throughout history and with some outstanding symbolic, patrimonial and cultural values.

Evaluation of the landscape

The following table shows the evaluation made to the landscape of the Huerta de Rascanya with the scores obtained in each variable, criterion and category, as well as their final score. Next, the score awarded to each of the variables that make up the evaluation system is described.

TABLE 4.6 Implementation of the method of evaluation to the landscape Huerta de Rascanya

Categories	Criteria	Variables	Score		
			Variable	Criteria	Categories
Intrinsic Values	1. Representativeness	Typological representativeness	1	3	11 / 15 (7,3 - High)
		Association to ways of communities/indigenous life	1		
		Traditional or community uses	1		
	2. Authenticity	Morphology and faithful image of the landscape	0	1	
		Continuity of the processes that structured the current landscape	0		
		Management measures and landscape recovery 1	1		
	3. Ecological integrity	Biodiversity	1	3	
		The maturity of plant formations	1		
		State of conservation	1		
	4. Geophysical/ environmental structure	Presence of complex landforms	0	2	
		Presence of water areas	1		
		Continuous vegetation cover	1		
	5. Visibility	Diversity and harmony	1	2	
		Tranquillity	0		
		The breadth of views or panoramic	1		
Heritage Values	6. Historical	Presence of relevant historical events	1	2	
		The durability of the appearance of the place	1		
		Presence of historical human settlements and archaeological sites	1		
	7. Social	Expression of a living heritage	1	3	
		Link to traditional ways of life	1		
		Procedural significance	1		
	8. Symbolic / Identity	Presence of folkloric representations	1	3	
		Feeling of identity and belonging to the group or community. The landscape is in the collective imagination	1		
		Celebration of cohesive acts of the group	1		
	9. Artistic	Presence of artistic expressions associated with the landscape	1	3	
		Source of inspiration	1		
		Presence of declared assets of artistic interest	1		
	10. Cultural	Presence of cultural property inventoried or protected	1	3	
		Presence of projects and institutions dedicated to the enhancement of cultural heritage	1		
		Presence of groups concerned about safeguarding the landscape and heritage	1		

Categories	Criteria	Variables	Score		
			Variable	Criteria	Categories
Potential and Feasibility Values	11. Awareness of social agents	Legal status and ownership of the landscape unit	1	3	13 (8,7 - Very High)
		Investments and actions of administrations or other groups	1		
		Strategies and materials for dissemination and communication	1		
	12. Participation and integration of local communities	Participation in the management of the landscape unit	1	3	
		Participation in the documentation, research and interpretation processes	1		
		Participation as a social actor in history	1		
	13. Socioeconomic profitability	The area has the capacity to generate employment	1	3	
		Diversity of activities	1		
		Landscape as a support for socio-economic activities that contribute to sustainable development	1		
	14. Vulnerability	The absence of abandonment situation	1	3	
		The absence of threats linked to unplanned and mass tourism	1		
		The absence of threats linked to ignorance or lack of interest	1		
	15. Accessibility	Presence of viewpoints	0	2	
		The possibility of transiting the interior of the landscape	1		
		Road accessibility	1		
Total score			38 / 45 (8,4 - High)		

Source: own elaboration.

INTRINSIC VALUES

1. REPRESENTATIVENESS

Variable 1

Typological representativeness. Score: 1

La Huerta de Rascanya is one of the irrigation areas that make up La Huerta de València. In this sense, it is a representative landscape of this millenary Huerta, transformed throughout history by the human being and characterized by its heritage values. Its landscape value is internationally recognized. The Dobris Report (EUROPEAN ENVIRONMENT AGENCY, 1998) considers it a benchmark for the historical irrigated landscapes of the Mediterranean area.

Variable 2

Association to ways of communities/indigenous life.

Score: 1

La Huerta de Rascanya is a living example of a way of life and transformation of a landscape throughout history. This space has allowed the creation of lifestyles linked to the earth. Numerous socio-economic activities are developed linked to the dynamics of the metropolitan area of Valencia. In addition to its productive function as an agricultural area, at present, it also has an environmental and social function, since it provides open landscapes for the enjoyment of the Valencian population (HERMOSILLA, IRANZO, 2017).

Variable 3

Traditional or community uses. Score: 1

The landscape is representative in relation to existing traditional uses. Among the uses compatible with the land, the agricultural activity stands out, mainly the horticultural production, with crops such as tiger nut, onion and potato.

2. AUTHENTICITY

Variable 1

Morphology and faithful image of the landscape. Score: 0

This variable has been scored in a negative way, due to the changes that have taken place in the landscape in recent decades linked to the expansion of the Metropolitan Area of Valencia. Among the greatest impacts are those related to aggravated urban development, due to a lack of joint supra-municipal planning, the development of service infrastructures, or the modernization of irrigation (MARTÍNEZ et al., 2005). In particular, some of the major transformations are associated with the construction of the V-21 highway, a commercial area and various tourist residential areas inside the municipality of Alboraiá. These modifications have led to the loss of cultivated surface.

Variable 2

Continuity of the processes that structured the current landscape. Score: 0

In the considered landscape unit there have been changes and abandonment in traditional agricultural practices in recent decades, associated with the territorial expansion of the city of Valencia.

Variable 3

Management measures and landscape recovery. Score: 1

In recent years, different measures have been identified aimed at recovering the landscape values of the Huerta de Rascanya. For example, the City Council of Alboraiá makes available to the citizen's municipal social orchards, which allow the cultivation of plots using organic farming techniques (EL PERIODIC, 2016). This type of actions favours the preservation and recovery of this element.

3. ECOLOGICAL INTEGRITY

Variable 1

Biodiversity. Score: 1

La Huerta de Rascanya in particular and La Huerta de Valencia, in general, constitute a significant source of biodiversity and agrobiodiversity. The fields boundaries are natural structures that contribute to biodiversity. These are small ecosystems that act as reservoirs, and shelter elements of flora and fauna that have lost their original habitat, now occupied by crops (VERA, MONRÓS, 2014).

Variable 2

The maturity of plant formations. Scores: 1

In this variable, the presence of agrarian crops, mainly herbaceous ones, is valued. In addition, there is also the natural vegetation in the edges of ditches and the ravine of Carraixet, where there are baladres (*Nerium oleander*) and cañas (*Arundo donax*), among other formations.

Variable 3

State of conservation. Score: 1

Although there are transformations and deteriorations in the assessed landscape, this variable has been scored favourably due to the existence of protection measures. In this sense, we highlight the Territorial Action

Plan of the Huerta de Valencia, as a legal landscape instrument. It is also significant the Law 5/2018, of March 6, of the Huerta de Valencia, whose object is *“the preservation, recovery and revitalization of the Huerta” through “a regulatory framework of land uses and management measures and financing of agricultural activity that encourages the maintenance of productive activity, the improvement of the living conditions of people engaged in agriculture and the preservation of the Huerta de València facing the pressures of an urban nature that threaten their sustainability”*.

4. GEOPHYSICAL / ENVIRONMENTAL STRUCTURE

Variable 1

Presence of complex landforms. Score: 0

The landscape unit does not have mountainous reliefs or steep or high-altitude forms. It is a coastal plain with an almost flat topography and a gentle slope.

Variable 2

Presence of water areas. Score: 1

The key factor in the landscape configuration of the Huerta de Valencia and, consequently of the Huerta de Rascanya, is the irrigation system. This territory constitutes a significant example of water landscape, where the network of ditches and hydraulic elements form the backbone of the territory and nourish the fields and crops. The channel of the Carraixet ravine, with the presence of a sheet of water, also stands out in the unit. Consequently, this variable has been scored favourably, thanks to the presence of water as a dominant factor in the unit.

Variable 3

Continuous vegetation cover. Score: 1

This variable has been scored positively

due to the feeling of homogeneity produced by the continuous crop cover. Although various urban constructions and infrastructures are located in the landscape, such as the V-21 motorway, a commercial area and various residential areas, agricultural lands are continuously spread.

5. VISIBILITY

Variable 1

Diversity and harmony.

Score: 1

The components of the landscape unit provide a harmonious sensation and observer well-being. This space is made up of a valuable and balanced mosaic of ditches, irrigation systems, hydraulic elements, plots, farmhouses and roads.

Variable 2

Tranquillity. Score: 0

The sector that includes the cultivated surface of the landscape brings tranquillity to the observer since the elements that can disturb the existing serenity are not relevant. However, this variable has been scored negatively. The presence of the V-21 highway, as well as various residential and commercial areas located in the vicinity of the Huerta, leads to the overcrowding of some areas, excessive traffic and other activities that disturb the tranquillity.

Variable 3

The breadth of views or panoramic.

Score: 1

The Territorial Action Plan of the Huerta de Valencia performs a visual analysis in which it identifies the main views towards the landscape. As described in the aforementioned document, it is possible to observe a wide extension of the landscape unit

from various rural roads and paths that run through the Huerta de Rascanya, such as the V-21 highway in its access to the city of Valencia. These are panoramic views, with a considerable degree of openness or visibility of the visual basin considered.

HERITAGE VALUES

6. HISTORICAL

Variable 1

Presence of relevant historical events.

Score: 1

The cultural water landscapes of the Huerta de Valencia represent one of the contributions of the Muslim world to the History of Humanity. It is a cultural product that takes shape with the expansion of the Muslim civilization in the Middle Ages and the constitution of al-Andalus (HERMOSILLA, IRANZO, 2017).

Variable 2

The durability of the appearance of the place. Score: 0

This variable has been scored negatively, due to the changes and alterations that have taken place in the landscape image in recent decades. The analysis of old graphic representations and aerial photographs of different periods, has allowed verifying the evidence of relevant changes, mainly related to the construction of the V-21 highway, the commercial area and various residential areas.

Variable 3

Presence of historical human settlements and archaeological sites.

Score: 1

La Huerta de Rascanya preserves numerous elements of settlements linked with tra-

ditional or vernacular architecture. The ditch system, the historic road network and buildings such as farms and *barracas* (typical Huerta cabins) are outstanding examples.

7. SOCIAL

Variable 1

Expression of a living heritage.

Score: 1

La Huerta de Rascanya has outstanding social and community values. It keeps its original productive function, linked to agrarian production, but also recreational and social, since it provides green and open spaces for the enjoyment of the community (HERMOSILLA, IRANZO, 2017).

Variable 2

Link to traditional ways of life.

Score: 1

La Huerta de Rascanya forms a coherent set adapted to the natural environment. The landscape generates a picturesque scene, with the combination of agrarian practices and historical roads that give access to the habitats and the plots. In addition, the development of traditional knowledge associated with agricultural activities has been valued.

Variable 3

Procedural significance.

Score: 1

The landscape unit is associated with traditional knowledge linked to agriculture and historical irrigation. Among the productive activities highlights the cultivation of horticultural products, mainly the tiger nut, onion and potato, due to the great aptitude of this environment as agricultural space. Other traditional activities are linked to the elaboration and trade of *horchata*.

8. SYMBOLIC / IDENTITY

Variable 1

Presence of folkloric representations.

Score: 1

In the considered landscape different folkloric representations are celebrated. For example, the popular dance of the “*Ball de la Mangrana*” (Dance of the pomegranate), performed in Alboraiia during the feast of Corpus Christi (AYUNTAMIENTO DE ALBORAIIA, 2016). This traditional dance is accompanied by the music of the *tabal* (small drum) and the *dolçaina* (wind musical instrument) and is characterized by its spectacular colour. In addition, on the eve of the feast of the Virgin of August, in this municipality, an offering of “*alfàbegues*” (basil) is made and “the dances of the fallas” are performed, where the “clavariesas” (participant women) dress with the traditional costume of Valencia.

Variable 2

Feeling of identity and belonging to the group or community. The landscape is in the collective imagination.

Score: 1

The landscape of the Huerta de Valencia has become a hallmark for its residents (HERMOSILLA, IRANZO, 2017). In particular, the Huerta de Rascanya generates a sense of belonging and collective affection and represents the cultural identity of a people.

Variable 3

Celebration of cohesive acts of the group.

Score: 1

In the assessed landscape unit, different acts are developed that enable the social interaction of the inhabitants. In Alboraiia, a trade and craft fair is held annually, which aims to promote the local trade and crafts. In this town, there is also the artisan and ecological market, which are home to orga-

nic agricultural and handicraft products. It is a street market that runs through different parts of the area (VALENCIA EXTRA, 2016). In Almàssera the “*Fira de la Xufa*” (Tiger nut Fair) is celebrated every year, in which products made with this tuber are tested (HORTA NOTICIAS, 2018). Finally, in Tavernes Blanques, the “*Mercat del Poble*” (Market of town) is held, a festive ludic day in which local and artisan products are sold (AYUNTAMIENTO DE TAVERNES BLANQUES, 2018).

9. ARTISTIC

Variable 1

Presence of artistic expressions associated with the landscape.

Score: 1

Numerous artistic expressions represent the landscape of the Huerta de Valencia, either through painting, literary texts, photographs or other artistic manifestations. If we focus on the landscape unit evaluated, there are also diverse existing representations linked to the fine arts. For example, the Valencian painter Milagro Bayarri has made numerous paintings of the Almàssera Huerta, available on her blog (<http://milagrobayarri.blogspot.com/>). Also texts, paintings and photographs appear in the publication of Francisco Iglesias (2015), called “Almàssera: history, culture and art.” Likewise, digital media collect artistic expressions of this landscape. For example, the video produced by “Món Orxata”, called “Alboraiia, land of tiger nuts and horchata”, takes a tour by the thousand-year-old Huerta of Alboraiia (<https://www.youtube.com/watch?v=Lfyo-BJGOml>).

Variable 2

Source of inspiration.

Score: 1

Numerous artists are inspired by the landscape of the Huerta de Rascanya to com-

pose their works. Alboraià City Council annually organizes the Outdoor Painting Competition. It is a one-day event, where participants display their work inspired by the landscapes of the municipality.

Variable 3

Presence of declared assets of artistic interest.

Score: 1

This variable has been scored favourably since four altarpieces located in Alboraià have been declared BRL.

10. CULTURAL

Variable 1

Presence of cultural property inventoried or protected.

Score: 1

In the landscape, a dozen cultural elements declared BRL are located, collected in the General Inventory of Valencian Cultural Heritage, of the Generalitat Valenciana. Most are located in the population centres, but several are located in the agrarian environment, such as the Hermitage of Santa Barbara, the Hermitage of San Cristóbal Màrtir and the Ermita dels Peixets, located in the *Huerta* of Alboraià.

Variable 2

Presence of projects and institutions dedicated to the enhancement of cultural heritage.

Score: 1

Various institutions and projects aim to highlight the cultural elements located in the *Huerta* de Rascanya. For example, some education centres visit the hermitages of this territory, such as the Parish School D. José Lluch de Alboraià. In addition, the City Council of this municipality has organized six self-guided routes through the garden of

Alboraià, which cover various cultural elements that have explanatory panels. Another outstanding route is the one that passes next to the ravine of Carraixet, where various patrimonial elements are visited such as the Boundary Cross of Almàssera or the Ermita dels Peixets de Alboraià, as well as several farmhouses. Also, the Alqueria called “Planta i Cull” of Alboraià has been conditioned as a school workshop/house museum, and the one of Machistre, in this same municipality, houses the Museum of Horchata and Chufa.

Variable 3

Presence of groups concerned about safeguarding the landscape and heritage.

Score: 1

In the *Huerta* de Rascanya, the presence of some organized cultural groups is relevant, such as the associations “Per l’horta”, “L’Alqueria de L’Horta”, “Llaurant Cultura” or “Alboraià, Horta i Litoral”, involved in the safeguard and value of the landscape and its heritage.

POTENTIAL AND FEASIBILITY VALUES

11. AWARENESS OF SOCIAL AGENTS

Variable 1

Legal status and ownership of the landscape unit. Score: 1

This variable has been scored favourably due to the existence of measures to protect the territory. Highlights the Territorial Action Plan of the *Huerta* de Valencia, which is a legal instrument of the landscape, as well as Law 5/2018, of March 6, of the *Huerta* de Valencia. Likewise, the production of tiger nut in the municipalities of La *Huerta* de Rascanya is regulated by the Protected Denomination of Origin Chufa de Valencia.

Variable 2

**Investments and actions
of administrations or other groups.**

Score: 1

The local public administrations and other entities make investments and actions aimed at protecting and enhancing the landscape of the Huerta de Rascanya. In addition to the social platforms dedicated to the protection of the landscape, other actions are also developed such as the design of routes through the garden, the implementation of municipal social gardens or the development of informative materials.

Variable 3

**Strategies and materials
for dissemination and communication.**

Score: 1

There are numerous dissemination materials and informative supports linked to the landscape unit. The City Council of Alboraià has organized six self-guided routes through the garden, with the presence of explanatory panels of the main heritage elements. Also relevant is the route of the horchata, promoted by the City Council of Alboraià together with horchaterías and the Chufa de Valencia Denomination of Origin. Likewise, the Museu de L'Horta de Almàspera has enabled spaces of the traditional house and shows objects linked to the traditional rural society of the orchard and the cultivation of tiger nut. The Alquería del Machistre in Alboraià houses the Horchata and Chufa Museum. Other dissemination strategies are videos like the aforementioned "Alboraià, land of tiger nuts and horchata", or the celebration of the day of the horchata in Alboraià, in which about 1,000 litres of this drink are distributed among the neighbours.

12. PARTICIPATION AND INTEGRATION OF LOCAL COMMUNITIES

Variable 1

**Participation in the management
of the landscape unit. Score: 1**

This variable has been scored positively since there are examples of community participation in landscape management. The General Plan of Urban Planning (PGOU) is an instrument of territorial ordering by which the soil is classified and its regime is determined. In 2011, the Prior Consent document and the Environmental Sustainability Report of Alboraià were submitted to public participation, and a document was prepared with the results of the consultations held. Also, since January 2018, the "Diagnosis and characterization of the agricultural sector in the municipality of Alboraià" is being prepared, in which citizen participation mechanisms have been implemented where problems of agricultural activity are dealt with from the point of view of the farmers (AYUNTAMIENTO DE ALBORAIÀ, 2018b).

Variable 2

**Participation in the documentation,
research and interpretation processes.**

Score: 1

This variable has been scored favourably due to the participation of the inhabitants in the educational and informative contents of the landscape. For example, the Vargas family, owner of the Alquería de El Machistre in Alboraià, develops didactic activities related to *horchata* and tiger nuts aimed at schoolchildren and has a Nature Classroom dedicated to the landscape of the *Huerta*.

Variable 3

Participation as a social actor in history.

Score: 1

The community participates in the construction of the story. In the exchange of infor-



Tiger nut landscape. Huerta de Rascanya (Alboraya)

mation and enhancement of family histories, highlights the implementation of informative and didactic projects as a reflection of the cultural identity that represents the Huerta de Valencia.

13. SOCIOECONOMIC PROFITABILITY

Variable 1

The area has the capacity to generate employment.

Score: 1

The area considered has the capacity to generate employment linked to the culture and traditional products of the landscape. It is an agricultural area of great aptitude, so that activities related to the production of food or crafts are relevant. In this regard, the jobs associated with the production of horchata, its marketing and dissemination, as well as other horticultural products, stand out. The activities of spreading the landscape of the garden are also significant.

Variable 2

Diversity of activities.

Score: 1

This landscape constitutes a strategic territory due to the multiple socio-economic activities that are developed, linked to the dynamics of the metropolis of Valencia. In this sense, this landscape unit forms a reference space for the development of varied productive functions: agriculture, traditional trade, tourism, etc.

Variable 3

The landscape as a support for socio-economic activities that contribute to sustainable development.

Score: 1

This landscape acts as a support for socio-economic activities that contribute to the sustainable development of the community, such as agricultural production, handicrafts, trade in crops, tourism, the production of *horchata*, or the dissemination of the landscape and heritage of the region. Orchard.



Ermita (Chapel) de Sant Jordi. El Puig. Religious heritage integrated in the landscape of La Huerta de València

Agriculture is a strategic activity for the economic sustainability of the inhabitants and the irrigators.

14. VULNERABILITY

Variable 1

The absence of abandonment situation.

Score: 0

La Huerta de Rascanya is one of the best preserved in the Vega of Valencia, where investments and actions aimed at its recovery are made. However, this variable has been negatively scored due to the progressive

abandonment of agrarian activity recorded in the landscape for decades.

Variable 2

The absence of threats linked to unplanned and mass tourism.

Score: 1

In the last decades, several urbanizations have proliferated in the considered landscape unit, derived from the growing tourism and the attraction of the population. However, this variable has been scored positively due to the recent development of legal instruments for landscape protection, such as the Territorial Action Plan of the Huerta de



Boundary Cross, in Mislata. Example of territorial milestone in l'Horta Sud

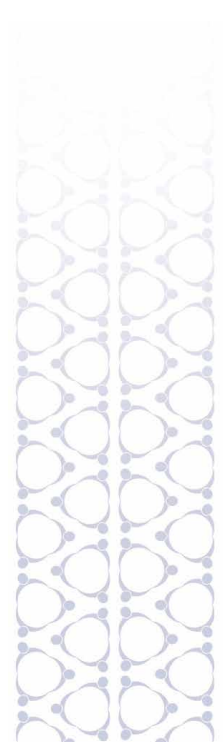
Valencia or Law 5/2018, of March 6, of the Huerta de Valencia, which has as its object “the preservation, recovery and revitalization of the Huerta”.

Variable 3

The absence of threats linked to ignorance or lack of interest.

Score: 1

The cultural and environmental values of La Huerta require greater awareness and awareness among the inhabitants. However, this variable has been scored favourably, as a result of the implementation in recent years of various instruments linked to the protection and diffusion of the landscape. For example, it highlights the development of civic platforms to safeguard the landscape, the application of institutional dissemination actions, or the existence of dissemination and teaching projects among schoolchildren.



15.ACCESSIBILITY

Variable 1

Presence of viewpoints. Score: 0

We are not aware of the presence of any viewpoint or static observation point in the landscape of the Huerta de Rascanya. The Territorial Action Plan for the Protection of the Garden of Valencia states that, due to the plain nature of the territory, there are hardly any static observation points in the landscape that function as viewpoints.

Variable 2

The possibility of transiting the interior of the landscape. Score: 1

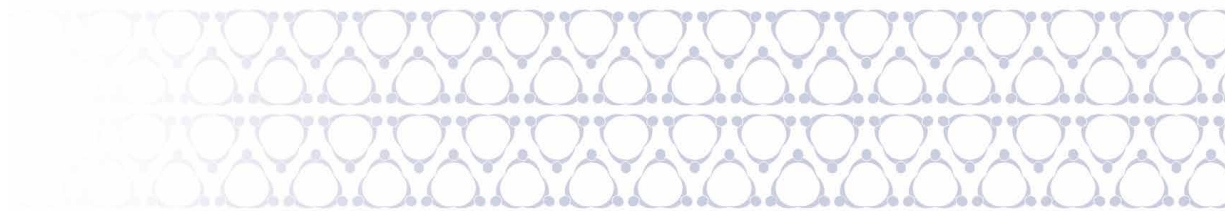
There are numerous routes that allow the local community and foreign visitors to get to

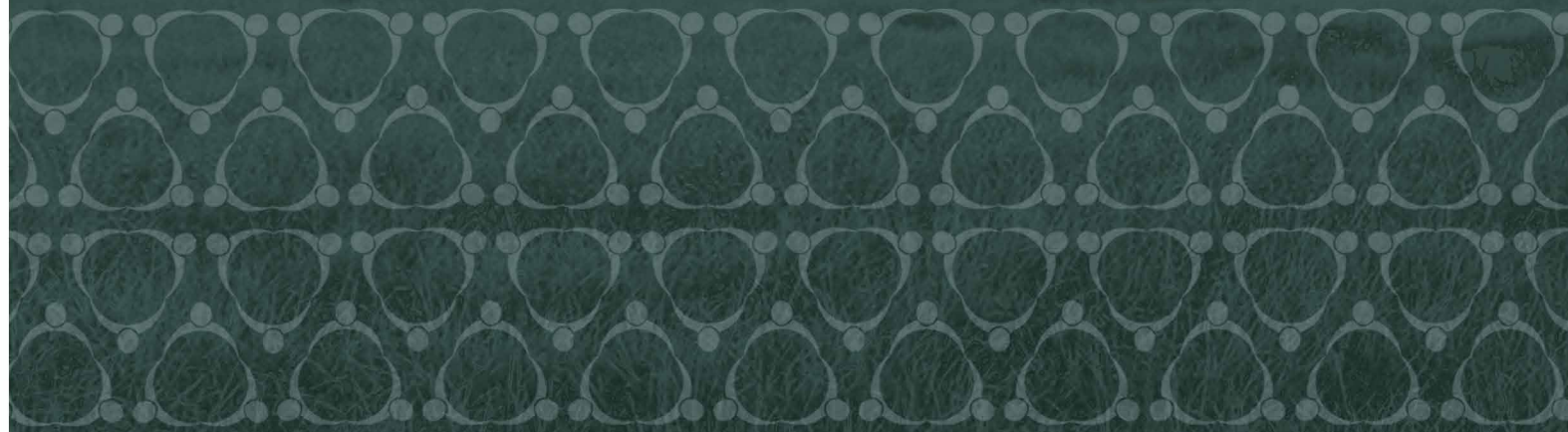
know and navigate the interior of the stage. In this sense, the six self-guided routes by the orchard promoted by the City Council of Alboraià, the route of the *horchata*, or the tourist route "Camins del Carraixet", which connects garden paths of different municipalities and that has been designed by the Mancomunitat del Carraixet (HORTA NOTÍCIAS, 2017).

Variable 3

Road accessibility. Score: 1

This variable has been scored positively due to the good state of conservation of the roads, roads and roads that allow access to the Huerta de Rascanya. Likewise, the plain character of the territory makes accessibility easier.







**Applying the model
of evaluation of Cultural Heritage.
Justification of the selected
cultural elements and landscapes**

05

Applying the model of evaluation of Cultural Heritage. Justification of the selected cultural elements and landscapes

On 29 June 2018, the Studies of Territory, Landscape and Heritage (ESTEPA) group of the Universitat de València held a workshop with the directors and technicians of various local museums (hereafter museums staff) of the Huerta de València. During this participatory activity, the proposed general model of evaluation of Cultural Heritage was presented, describing the three methods of evaluation of the tangible, intangible and landscapes heritage. The participants made various suggestions and contributions to improve the evaluation systems, which we have taken into account in the definitive design of the method. The detailed list of the collaborating museums and the associated personnel is found in the appendix. These institutions are distributed in the studied territory, as seen on map 1 (Appendix). The assistant specialists made a selection of cultural assets and landscapes in their territories in order to implement the evaluation systems and verify their applicability. The selection of the assets and landscape units made by each institution was carried out in a consensual manner with the ESTEPA group as well as with the other collaborating museums to avoid duplication and provide a wide range of heritage assets. The evaluation methods have been applied by the staff of the museums. The results obtained will be communicated to the corresponding City Councils and to the *Xarxa de Museus* (Network of Museums) of the Diputació de València, an institution in which the museums considered are integrated. The data will allow decision makers to design appropriate measures and actions aimed at an adequate patrimonial management.

In the following sub-parts, the description of the study territory, la huerta de valencia, as well as the criteria considered for the selection of the different museums and assets are collected.

5.1 TERRITORY OF STUDY: LA HUERTA DE VALÈNCIA

The Huerta de València, is a place that demonstrates significant social, cultural, economic, landscape and heritage value.

The historical district of La Huerta de València (or L'Horta in Valencian) is composed of 44 municipalities, which can be divided into two distinct sectors by the river Turia. L'Horta Nord (northern Huerta) has 23 municipalities and l'Horta Sud (southern Huerta) 20, in addition to the city of Valencia, which has a strategic location in the so-called European Mediterranean arc. L'Horta has a population that exceeds 1.5 million inhabitants, of which 787,000 live in the city of Valencia. Its population density is high, close to 2,500 inhabitants/km² and its surface extension is 620 km². It has two Natural Parks of important environmental value: the Albufera and the Túria River.

The landscape of l'Horta is not only an agrarian landscape, but it is a space formed by a mosaic of uses, where the fields of cultivation and the ditch network coexist with urban, industrial, communication and infrastructure areas. La Huerta de València is a legacy, a cultural, environmental and lands-

cape heritage that is a hallmark of the city of Valencia and the metropolitan municipalities, as it is a construct - an evolved cultural landscape - that has been generated over the centuries (HERMOSILLA and IRANZO, 2017). It is one of the few metropolitan historical Huertas that still survive in Spain.

L'Horta de València sits on the extensive alluvial plain of the Gulf of Valencia, formed by the actions and contributions of the river Túria and the ravines of Carraixet and Rambla del Poyo. This physiographic scenario, together with optimal climatic characteristics, have allowed the existence of intensive irrigated agriculture. These irrigation systems were developed in the medieval Islamic period, although they are Roman in origin. The irrigation system is configured by the establishment of 138 proportional parts or "rows" (PIQUERAS, 2017) fed by the 8 canals that derive from the river Turia (Moncada, Tormos, Mestalla and Rascanya, on the left bank, Quart, Mislata, Favara and Rovella on the right). These ditches, with the exception of the Real Acequia de Moncada, are managed by the Tribunal de las Aguas de la Vega of Valencia, the body that regulates their operation and judges disputes arising from the use of water. Irrigation is the backbone of l'Horta de València. Urban expansion and increased water usage have meant that many of ditches (including Mestalla, Mislata or Rovella) have dried out completely.

The main characteristic of the Huerta de València is the high incidence of small-scale farming, due to its historical development

and multiple hereditary partitions; crop rotation, which allows obtaining two or three harvests in the same agricultural year, is also a feature of the area. The crops have traditionally been vegetables, but in recent years citrus fruits - needing less care - have gained ground from the periphery. The horticultural area currently extends only by 5,200 ha, which is one-third of the cultivated area seen in the middle of the 20th century (PIQUERAS, 2017). A factor that negatively affects the Huerta is the intense urban and industrial pressure, especially in l'Horta Sud, which translates into the loss of agricultural land and environmental and landscape degradation. As a result, the material and intangible heritage of l'Horta is at risk of abandonment and disappearance, so it is necessary to establish mechanisms to prevent the deterioration and loss of this outstanding cultural heritage (HERMOSILLA, 2012).

5.2 CRITERIA APPLIED TO THE SELECTION OF THE COLLABORATING MUSEUMS

In this epigraph, the aspects and particularities that justify the selection of participating local museums are described. The collaborating museum's staff in the project are responsible for testing the evaluation methods. The choice of these local institutions has been based on the following criteria:

A. The museums are located in La Huerta de València, one of the most significant cultural landscapes of the Mediterranean.

B. They are local museums related to the territory in which they are located, where La Huerta and its associated heritage constitute the basic element. They are characterized by their proximity to their cultural and natural environment, housing collections based on the heritage and resources of their area.

C. These are museums that have established close relationships with their local communities, although they can't be considered fully community museums. They reflect the territory and its inhabitants, with strong links to the heritage of their community. The sociocultural role they exercise is relevant, thanks to the existing connection between the Museum, cultural heritage and local users.

D. They are distributed territorially in the two subcompartments that make up the historic district of L'Horta de València: L'Horta Nord and L'Horta Sud (see Map 1 in Appendix). The former (Nord) conserves a considerable area of active agriculture, conserving traditional landscapes, while the Sud suffers greatly from urban pressure.

E. The area of influence of the selected museums has been considered to be important, some have a local role and others have a supramunicipal role, such as the Museu Comarcal of l'Horta Sud, which aims to conserve and interpret the traditional cultural heritage of its territory.

F. All the selected museums are part of the Xarxa de Museus (Network of Museums) of the Diputació de València. It is an institutional body integrated into the area of Culture of the Government of the province of València. Its main objective is the coordination and promotion of the activities, programs and museum resources of the Provincial Council.

The selected museums obey criteria that reproduce their relationship with their environment and also address issues related to the Huerta of València. Therefore, a series of museums that do not respond to these territorial profile criteria have been ruled out, such as the Museo de Bellas Artes of València. The work developed between the research team and the staff of the various museums has allowed establishing relationships, collaboration, and transfer of knowledge.

5.3 CRITERIA APPLIED TO THE SELECTION OF THE CULTURAL ELEMENTS AND EVOLVED LANDSCAPES TO BE EVALUATED

The selection of the cultural elements and landscapes to test the evaluation methods has been carried out by the museums' personnel, in collaboration with the ESTEPA group. The involvement of the territorial actors is fundamental in the selection of the elements and the landscape units, as they are the true connoisseurs of the territory and its patrimonial assets.

The cultural elements and landscapes that have been selected in order to test the proposed methods on different types of heritage, namely material culture, intangible assets and landscape units are based on the following criteria:

A. They should be objects, sites, or landscapes that are characteristic examples of the Huerta. As the heritage of La Huerta de València is strongly linked to agricultural production and the historical management of irrigation, it should not be surprising that the choices will be concerned with water management and agriculture: weirs, mills,

ditches, cisterns, orchards, the watercourses, the elaboration of the horchata, Huerta de Aldaia, Barranc de Carraixet, etc.

B. The cultural assets selected should be significant to the community that coexists with them.

C. In Islamic times, the Huerta had the greatest population density of the Valencian territory. As a result, numerous buildings were created to house the inhabitants and to manage and protect the richness of the Valencian huerta. Among these traditional houses are the farmhouses, the *barracas* (small farms) and *alquerías*. The first is better built, being more like country houses; the *barracas* are typical dwellings associated with small-scale farming, often made with poor materials; while the *alquerías* constitute a set of buildings next to the cultivated land. Nowadays the name has been reduced to meaning a building where work is done (MONTESINOS, 2017). Some of the selected assets are related to these traditional architectures linked to the land, such as the farmhouses of La Huerta de València or Villa Amparo (house with orchard)..

D. Numerous villages of La Huerta de València have their origin in Muslim farmhouses, which usually had a small castle and walled enclosure, as well as a defensive tower (RODRÍGUEZ, 2011). These towers were part of the defensive system of the city of Valencia (BAÑOS et al, 2012) and are currently integrated into the population centres as authentic emblems of its history (CEBRIAN, 2017). As a result, several of these defensive structures have been chosen for evaluation, inclu-

ding the Mudejar Tower of Paterna, the Islamic Tower of Aldaia or the Tower of Torrent.

E. Other tangible and intangible cultural assets selected are linked to the Christian religion, which is still of great significance in the area. Throughout history, different architectural styles have been developed that entail the existence of numerous and varied typologies of religious buildings. In this sense, we find significant elements such as the Gothic hermitage of Santa Ana de Albal, the Parish of l'Olivar de Alaquàs or the Covered Cross of Almàssera. Also relevant are the various festivals and religious events that bring together the community. Among the goods considered is the Feast of the Corpus of Valencia or Bell ringing of Torrent.

F. Finally, the selection highlights the presence of industries and factories linked to the traditional production of ceramics in the municipality of Manises or Paterna, and that of tiles in Paiporta, with elements such as the tile fireplace or the Horno Hoffman de Bauset.

In table 5.1. the distribution of the selected elements and landscapes selected by each local museum is listed. On map 1 (Appendix) we can see their distribution over the territory.

The selected elements and landscapes are previously known by the research team, so we have considered that they are adequate and meet the desired expectations. Likewise, we are aware that the museum's staff is well trained for its correct evaluation, given that we know their training (Art History, Economy, Geography, History, Archeology, etc.) and professional experience.

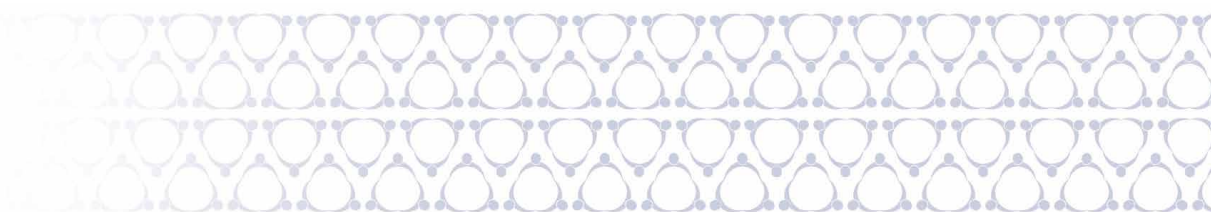
TABLE 5.1 Material cultural and intangible assets and landscapes selected for evaluation by the staff of participating museums

Museums	Tangible elements	Intangible elements	Landscape
Museo de Cerámica de Paterna	<ul style="list-style-type: none"> • The Testar mill • The weirs of municipal area • The Mudejar Tower • The defensive line of the Civil War in the Vallesa • The traditional caves 	<ul style="list-style-type: none"> • <i>La Cordà</i> (popular festivity) 	<ul style="list-style-type: none"> • Vallesa forest
Museu de la Rajoleria de Paiporta	<ul style="list-style-type: none"> • <i>Llengües of Paiporta</i> (hydraulic element) (Faitanar) • Bauset tile fireplace • Horno Hoffman tile from Bauset (now Museu de la Rajoleria) • Villa Amparo (house with <i>huerta</i>) • Boundary Cross 	<ul style="list-style-type: none"> • <i>Festa de Sant Roc i el Gos</i> (popular festivity) 	<ul style="list-style-type: none"> • Barranc (ravine) de Torrent
Museu del Palmito d'Aldaia	<ul style="list-style-type: none"> • Water Cistern • Gothic hermitage of Santa Ana de Albal • Islamic tower 	<ul style="list-style-type: none"> • <i>El Cant de la Carxofa</i> (popular festivity) • Tribunal de la Séquia del Comuner o Rollet de Gràcia de Aldaia (Water Tribunal) 	<ul style="list-style-type: none"> • Huerta of Aldaia
Museu d'Història de València	<ul style="list-style-type: none"> • The remains of historical walls of Valencia • The Municipal Historical Museum (City Hall) • The farmhouses of the <i>Huerta</i> of Valencia 	<ul style="list-style-type: none"> • Fallas (popular festivity) • Corpus (popular festivity) 	<ul style="list-style-type: none"> • Jardín del Turia (river bed garden)
Museu de l'Horta d'Almàssera	<ul style="list-style-type: none"> • The Huerta and irrigation system (ditches) • Museu de L'Horta • Boundary Cross 	<ul style="list-style-type: none"> • Corpus • Horchata (elaboration process) 	<ul style="list-style-type: none"> • Barranco (ravine) de Carraixet
Museu Comarcal de l'Horta Sud (Torrent)	<ul style="list-style-type: none"> • Horts de Tarongers (house with orange trees) • Cebera (store for onions) 	<ul style="list-style-type: none"> • Bell ringing 	<ul style="list-style-type: none"> • Barranco (ravine) de Torrent
Castillo Palacio de Alaquàs. Museo		<ul style="list-style-type: none"> • Cordà d'Alaquàs (popular festivity) • El Cant de la Carxofa d'Alaquàs 	<ul style="list-style-type: none"> • Castle of Alaquàs and surroundings as the urban landscape • A network of urban Huertas
Museo de Cerámica de Manises	<ul style="list-style-type: none"> • Acequia de Benàger-Faitanar • Islamic cemetery (maqbara) • Moorish ovens • Factory remains • Ceramic applied to architecture • Barrio de Obradors (traditional neighbourhood) 	<ul style="list-style-type: none"> • Cabalgata de la Cerámica (popular festivity) 	<ul style="list-style-type: none"> • Parque fluvial del Turia (river park)

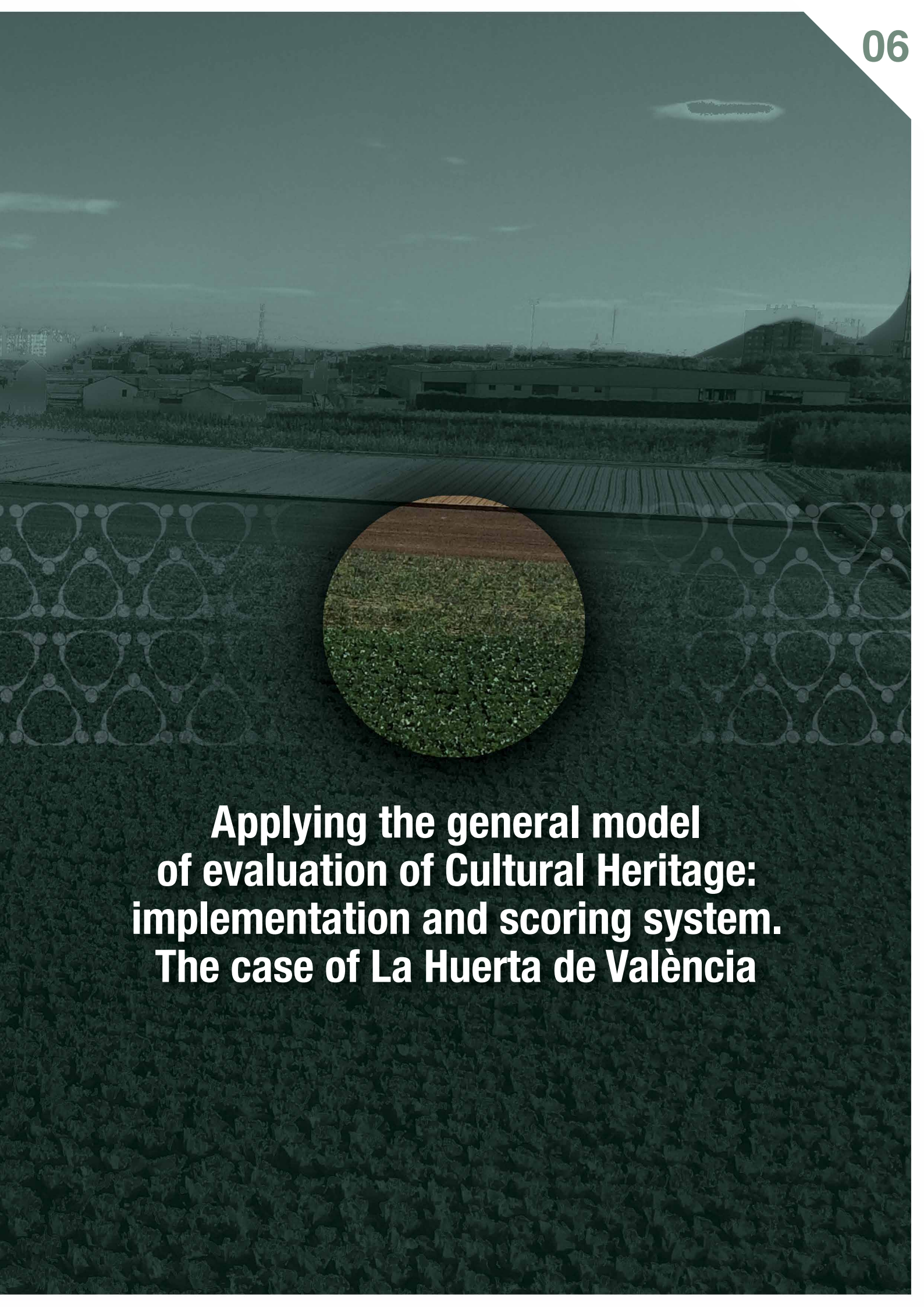
Source: own elaboration.



*Tiger nuts farming
in the Acequia
Rascanya.
Alboraia,
l'Horta Nord*







**Applying the general model
of evaluation of Cultural Heritage:
implementation and scoring system.
The case of La Huerta de València**

06

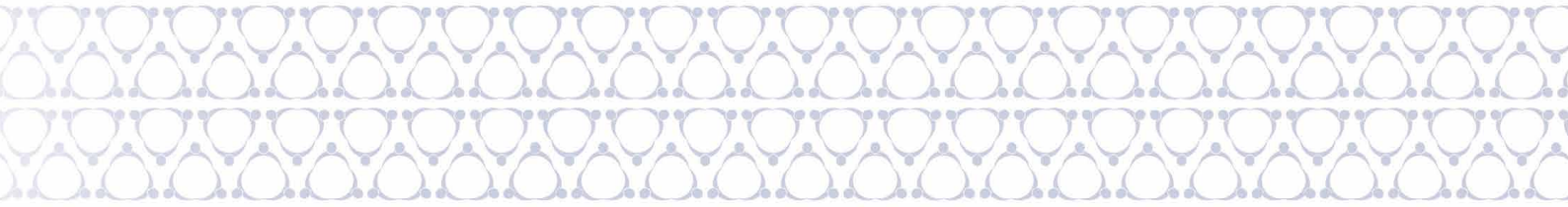
Applying the general model of evaluation of Cultural Heritage: implementation and the scoring system. The case of La Huerta de València

6.1 APPLYING THE GENERAL MODEL: LA HUERTA DE VALÈNCIA

In this section, we make a synthesis of the evaluation methods and the indicators. Then we present the process to be followed by the museums' personnel.

The three proposed methodological systems for the valuation of tangible, intangible and landscape heritages are composed of three homogeneous categories or sets of values: "Intrinsic values", "Patrimonial values" and "Potential and viability values", which are broken down into various criteria. The methodologies for the evaluation of material elements and landscapes have 15 indicators, while that of intangible assets has 13 (see section 4.2). Each criterion is made up of three specific variables. Efforts have been made to maintain the same values in all three methods, although they have been modified or expanded depending upon the

type of cultural element being evaluated. The designation of the variables on scores of "1" or "0" does not maintain a strict numerical meaning, since it's not easy to define the mathematical relationship between some cultural or environmental parameters. In this sense, we have assumed this sort of scoring because we consider that greater operability and ease in its application is achieved. The categories and criteria are evaluated individually, so three types of qualifications can be calculated for each cultural element or landscape, providing scores by criterion, by category and a global assessment. The final score, result of the sum of all the variables, is transformed to a decimal scale and 6 levels are proposed according to the evaluated heritage value: Very High (8,6-10); High (7.2-8.5); Medium (5.8-7.1); Low (4.4-5.7); Very Low (3-4.3); and No Interest (0-2.9). Complementary actions based on the participation of the community and social agents are not developed by the collaborating museums in this report, although we recognise that



such additional consultation would provide interesting, and possibly contrasting, results.

In order to facilitate the application of the cultural heritage evaluation method materials and documents have been developed to the museums' staff to provide guidance. The ESTEPA group held a workshop with the project's collaborators in June 2018. In this meeting, the valuation methods were presented and their development and objectives were explained. Each museum was provided with several files to enable them to implement the methodologies in a simple and appropriate way and record the data. These documents were:

A. A document with the definitions of each of the categories, criteria and variables that make up the evaluation methods (see section 4.2);

B. An explanatory text that describes the structures of the proposed methods, their

usefulness, as well as the scoring system and the assignment of qualifications (see Appendix III);

C. Three templates (record sheets) in spreadsheet format, one for each evaluation method. These were designed in order to facilitate the collection of data and the calculation of final values. The specialists needed only to complete the scores given to the variables since the other valuations - of the criteria, categories and the global qualification - are calculated automatically (see Appendix III).

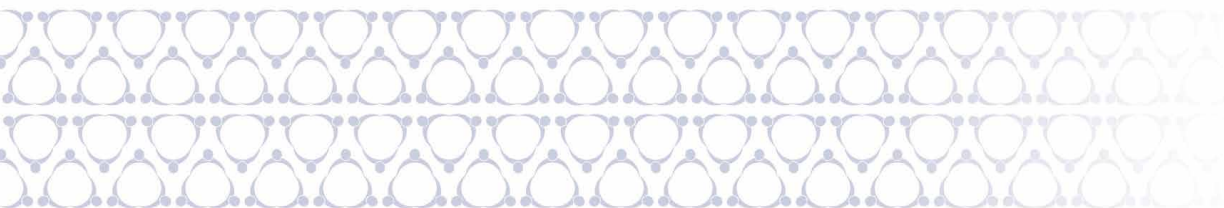
During the process of application of the methods, the museums staff have made several inquiries regarding the meaning of some variables, which were clarified by the team of the Universitat de València. Also, the specialists have provided various suggestions for improvement, which have been incorporated.

6.2 RESULTS OF THE APPLICATION OF THE EVALUATION METHODOLOGY IN LA HUERTA DE VALÈNCIA

The following is the result of the evaluations made to the tangible and intangible elements, and landscapes selected by the collaborating museums. A sheet has been made for each property and landscape selected. In each one of them different aspects are indicated, such as the name of the element or landscape evaluated, its municipality, typology, a brief description, as well as its patrimonial evaluation, with the assigned qualifications for each category, criterion and variable, and its global assessment. The obtained valuations will be communicated to

the corresponding Town Councils, as well as to the Xarxa de Museus (Network of Museums) of the Diputació de València.

Feedback from the participatory museums suggests that the proposed indicators are simple to understand, to evaluate and to apply, so that the systems developed are useful tools that can be used for any cultural asset and territorial scope. The definition of the criteria requires the operator to have a minimum level of knowledge of assets, but high specialization is not necessary. The technicians who have applied the methods have a multidisciplinary profile (Archeology, Economics, Geography, History, etc.), but they have not shown any significant difficulties in carrying out their implementation.



EVALUATION TABLES OF THE MUSEO DE CERÁMICA DE PATERNA

TANGIBLE ELEMENT: THE TESTAR MILL

Municipality: Paterna

Typology: Hydraulic element

Evaluator and museum: Ernesto Manzanedo.

Museo de Cerámica de Paterna

Description: Hydraulic mill built between 1837 and 1840 with possible medieval origin. It was a flour mill, later a rice mill and finally a tannery factory.

Currently is out of order. Declared BRL.

Source: Ayuntamiento de Paterna and Hermosilla,

J. (Dir.) (2007)

Image: ESTEPA



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES														
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability					
1	0	1	1	1	0	1	1	0	1	0	0	0	0	0	1	0	1	1	1	1			
2			2			2			1			0			2			3					
6									6														
HERITAGE VALUES																							
4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	0	0	0	1	0	1	1	1	1	1	1	1	0	1	0	1	1	0	1	1	0
3			0			2			3			3			1			2			2		
16																							
TOTAL SCORE: 28/45 (6,2 - Medium)																							

TANGIBLE ELEMENT: THE WEIRS OF MUNICIPAL AREA

Municipality: Paterna

Typology: Hydraulic element

Evaluator and museum: Ernesto Manzanedo.

Museo de Cerámica de Paterna.

Description: Various weirs located in the Túria river in the Paterna term.

They are evaluated as a whole: Assut de Tormos, the Assut de Mestalla, the Assut de la Reial Séquia de Moncada, the Assut de Quart-Benàger-Faitanar and the Assut de Mislata.

Source: Hermosilla, J. (Dir.) (2007)

Image: ESTEPA



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES														
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability					
1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1			
3			3			3			3			0			3			3					
9									9														
HERITAGE VALUES																							
4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
3			3			3			3			3			2			3			3		
23																							
TOTAL SCORE: 41/45 (9,1 - Very High)																							

TANGIBLE ELEMENT: THE MUDEJAR TOWER

Municipality: Paterna

Typology: Defensive element

Evaluator and museum: Ernesto Manzanedo. Museo de Cerámica de Paterna

Description: Mudejar style tower built between the XI-XII centuries, remodelled in the XIII-XIV and restored between 1967 and 1970. Currently it holds exhibitions. Declared BIC

Source: Ayuntamiento de Paterna

Image: ESTEPA



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	0	0	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1
1			3			3			3			0			3			3		
7									9											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	0	0	0	1	0	1	1	1	1	1	1	1	0	1	0	1	0	1	1	1	1
3			0			2			3			3			1			2			3		
17																							

TOTAL SCORE: 33/45 (7,3 - High)

TANGIBLE ELEMENT: THE DEFENSIVE LINE OF THE CIVIL WAR IN THE VALLESA

Municipio: Paterna

Tipología: Defensive element

Evaluator and museum: Ernesto Manzanedo.

Museo de Cerámica de Paterna.

Description: Line of trenches or defensive position of the Spanish Civil War. It's part of the defensive line of the city of Valencia, known as "La Inmediata". It is located in the Forest of the Vallesa. Declared BRL.

Fuente: Ayuntamiento de Paterna

Image: Ayuntamiento de Paterna ©



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1
1			1			1			0			0			3			3		
3									6											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1
3			0			0			3			3			1			3			3		
16																							

TOTAL SCORE: 25/45 (5,6 - Low)

TANGIBLE ELEMENT: THE TRADITIONAL CAVES

Municipality: Paterna

Typology: Cave

Evaluator and museum: Ernesto Manzanedo.

Museo de Cerámica de Paterna

Description: Type of housing with vents, excavated on the ground. They were built at the end of the 18th century and the 19th century. At present they hold exhibitions. Declared BRL.

Source: Ayuntamiento de Paterna

Image: ESTEPA



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES														
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability					
1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0			
3			3			3			3			1			3			2					
9									9														
HERITAGE VALUES																							
4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3			3			3			3			3			3			3			3		
24																							
TOTAL SCORE: 42/45 (9,3 - Very High)																							

INTANGIBLE ELEMENT: LA CORDÀ

Municipality: Paterna

Typology: Traditional festivity

Evaluator and museum: Ernesto Manzanedo.

Museo de Cerámica de Paterna.

Description: Nocturnal pyrotechnic manifestation that lasts about 25 minutes. A set of rockets are released from the rope in which they are knotted. The shooters burn about 2,000 rockets per minute. Declared a Festival of National Tourist Interest.

Source: Ayuntamiento de Paterna

Image: Ariño, A. y Salavert, V.L. (2001)



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Historical continuity			3. Integrity			10. Awareness of social agents			11. Particip. and integr.			12. Socioec. profitability			13. Vulnerability		
1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1			3			3			3			3			3			3		
7									12											
HERITAGE VALUES																				
4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Landscape			9. Educational / Scientific					
1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	1	1	1			
3			3			2			3			1			3					
15																				
TOTAL SCORE: 34/39 (8,7 - Very High)																				

LANDSCAPE: VALLESA FOREST

Municipality: Paterna

Typology: Forest

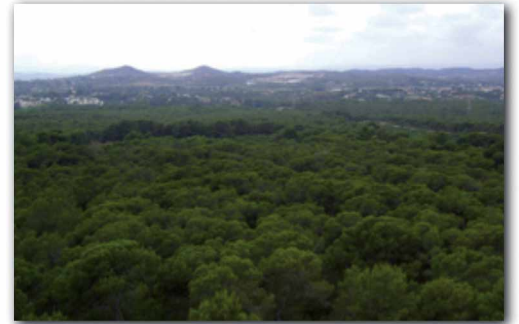
Evaluator and museum: Ernesto Manzanedo.

Museo de Cerámica de Paterna.

Description: Mediterranean forest, included in the Túria Natural Park since 2015 and declared a special regime area (ARE) in 2018 for its environmental values. Its main vegetation are Aleppo pine, olive and carob trees, as well as Mediterranean scrub.

Source: Ayuntamiento de Paterna and Comarcalcv (2018)

Image: Ayuntamiento de Paterna ©



HERITAGE EVALUATION

INTRINSIC VALUES

1. Representativeness			2. Authenticity			3. Ecological integrity			4. Geophys. / envir. struct.			5. Visibility		
1	1	0	1	0	1	1	1	1	0	1	1	1	1	1
2			2			3			2			3		
12														

HERITAGE VALUES

POTENTIAL AND FEASIBILITY VALUES

6. Historical			7. Social			8. Symb. / Identity			9. Artistic			10. Cultural			11. Awar. social agents			12. Particip. and int.			13. Soc. profitability			14. Vulnerability			15. Accessibility		
1	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	1	1
3			2			1			3			3			3			2			3			1			3		
12												12																	

TOTAL SCORE: 36/39 (8,0 - High)

EVALUATION TABLES OF THE MUSEU DE LA RAJOLERIA DE PAIORTA

TANGIBLE ELEMENT: LLENGÜES OF PAIORTA (FAITANAR)

Municipality: València (Faitanar)

Typology: Hydraulic element

Evaluator and museum: Eva Sanz. Museu de la Rajoleria de Paiorta

Description: Partidor located on the main ditch of Faitanar that divides the flow in two channels. Possibly of medieval origin, from before the XIII century. Declared BRL

Source: Ayuntamiento de València and Hermosilla, J. (Dir.) (2007)

Image: Ayuntamiento de València ©



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES														
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability					
1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0			
3			3			1			3			3			3			0					
7						9																	
HERITAGE VALUES																							
4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3			3			3			3			3			3			3					
24																							
TOTAL SCORE: 40/45 (8,9 - Very High)																							

TANGIBLE ELEMENT: BAUSET TILE FIREPLACE

Municipality: Paiporta

Typology: Industrial element

Evaluator and museum: Eva Sanz. Museu de la Rajoleria de Paiorta

Description: Chimney belonging to the Hoffman tile oven in Bauset, built at the beginning of the 20th century. It forms the kiln draft, by which it communicated by underground conduits.

Source: Ayuntamiento de Paiporta y Generalitat Valenciana (2010)

Image: Ayuntamiento de Paiporta



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES														
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability					
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
3			3			3			3			3			3			3					
9						12																	
HERITAGE VALUES																							
4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3			3			3			3			3			3			3					
24																							
TOTAL SCORE: 45/45 (10 - Very High)																							

TANGIBLE ELEMENT: HORNO HOFFMAN TILE FROM BAUSET (CURRENTLY MUSEU DE LA RAJOLERIA)

Municipality: Paiporta

Typology: Industrial element

Evaluator and museum: Eva Sanz. Museu de la Rajoleria de Paiporta

Description: Continuous furnace used mainly for the firing of ceramic materials. It was designed in the 19th century by F. Hoffman and founded at the beginning of the 20th century. It worked until the 1990s. It has now become the Museu de la Rajoleria de Paiporta

Source: Ayuntamiento de Paiporta and Generalitat Valenciana (2010)

Image: Ayuntamiento de Paiporta



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3			3			3			3			3			3			3		
9									12											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3			3			3			3			3			3			3					
24																							

TOTAL SCORE: 45/45 (10 - Very High)

TANGIBLE ELEMENT: VILLA AMPARO (HOUSE WITH HUERTO)

Municipality: Paiporta

Typology: Residential element

Evaluator and museum: Eva Sanz. Museu de la Rajoleria de Paiporta

Description: Manor residence of the early twentieth century

Source: Ayuntamiento de Paiporta

Image: Ayuntamiento de Paiporta



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0
3			3			0			3			3			3			1		
6									10											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3			3			3			3			3			3			3					
24																							

TOTAL SCORE: 40/45 (8,9 - Very High)

TANGIBLE ELEMENT: BOUNDARY CROSS

Municipality: València (Faitanar)

Typology: Architectonic element

Evaluator and museum: Eva Sanz. Museu de la Rajoleria de Paiporta

Description: Cross of the historic Camí de Picassent (Picassent road).

It is located next to a branch of the irrigation channel of Rovella

Source: Ayuntamiento de València and Generalitat Valenciana (2010)

Image: Vicent Pascual ©



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0
3			3			0			3			3			0			0		
6						6														

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1
3			3			3			3			3			3			0			3		
21																							

TOTAL SCORE: 33/45 (7,3 - High)

INTANGIBLE ELEMENT: FESTA DE SANT ROC I EL GOS

Municipality: Paiporta

Typology: Traditional festivity

Evaluator and museum: Eva Sanz. Museu de la Rajoleria de Paiporta

Description: Festivity declared of Local Tourist Interest. In the past they were two festivities: the religious one of Sant Roc and the pagan one of the Gos.

Since 1950 they are held together. In the first one there is a distribution of bread and a procession, the latter has a more festive and satyr character.

Source: Ayuntamiento de Paiporta and Las Provincias (2013)

Image: Ayuntamiento de Paiporta



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Historical continuity			3. Integrity			10. Awareness of social agents			11. Particip. and integr.			12. Socioec. profitability			13. Vulnerability		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3			3			3			3			3			3			3		
9						12														

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Landscape			9. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3			3			3			3			3			3		
18																	

TOTAL SCORE: 39/39 (10 - Very High)

LANDSCAPE: BARRANCO (RAVINE) DE TORRENT (IN PAIPORTA)

Municipality: Paterna

Typology: Ravine

Evaluator and museum: Eva Sanz. Museu de la Rajoleria de Paiporta

Description: Seasonal water course that runs through various municipalities in the province of Valencia and flows into the Albufera of Valencia.

Image: Ayuntamiento de Paiporta



HERITAGE EVALUATION

INTRINSIC VALUES

1. Representativeness			2. Authenticity			3. Ecological integrity			4. Geophys. / envir. struct.			5. Visibility		
1	1	1	1	1	1	1	1	1	1	0	1	1	1	1
3			3			3			2			3		
14														

HERITAGE VALUES										POTENTIAL AND FEASIBILITY VALUES																
6. Historical			7. Social			8. Symb. / Identity			9. Artistic			10. Cultural		11. Awar. social agents			12. Particip. and int.		13. Soc. profitability		14. Vulnerability		15. Accessibility			
1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	0
3			3			3			2			2		3			3		3		2		2			
13										13																

TOTAL SCORE: 40/45 (8,9 - Very High)

EVALUATION TABLES OF THE MUSEU DEL PALMITO D'ALDAIA

TANGIBLE ELEMENT: WATER CISTERN

Municipality: Aldaia

Typology: Hydraulic element

Evaluator and museum: Martínez. Museu del Palmito d'Aldaia

Description: This construction of the fourteenth century was used to store water from the Benàger ditch. It worked until 1960.

Source: Ayuntamiento de Aldaia and Hermosilla, J. (Dir.) (2007)

Image: Museu del Palmito d'Aldaia



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	1	1	1	1	0	1	1	0	1	1	1	0	0	0	0	1	1	0	1	0
3			2			2			3			0			2			1		
7									6											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0
3			3			2			3			3			2			1			2		
19																							

TOTAL SCORE: 32/45 (7,1 - Medium)

TANGIBLE ELEMENT: GOTHIC HERMITAGE OF SANTA ANA DE ALBAL

Municipality: Albal

Typology: Religious building

Evaluator and museum: Francesc Martínez. Museu del Palmito d'Aldaia

Description: Chapel of neo-Gothic style located in the Santa Ana Park in the municipality of Albal. Built possibly in the fourteenth century. It is declared BRL.

Source: Ayuntamiento de Albal and Generalitat Valenciana (2010)

Image: Museu del Palmito d'Aldaia



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1	0
3			3			3			2			2			3			1		
9									8											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0
3			2			3			3			3			2			3			2		
21																							

TOTAL SCORE: 38/45 (8,4 - High)

TANGIBLE ELEMENT: ISLAMIC TOWER

Municipality: Albal

Typology: Defensive element

Evaluator and museum: Francesc Martínez. Museu del Palmito d'Aldaia

Description: Islamic tower of rectangular plant, dated in the eleventh century. Currently it is used as a municipal museum. It is declared BIC.

Source: Ayuntamiento de Aldaia

Image: Museu del Palmito d'Aldaia



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	0	0	0	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0	1	1
1			2			3			3			0			3			2		
6									8											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	0	1	0	0	0	0	1	1	0
3			2			2			3			3			1			0			2		
16																							

TOTAL SCORE: 30/45 (6,7 - Medium)

INTANGIBLE ELEMENT: EL CANT DE LA CARXOFA

Municipality: Aldaia

Typology: Traditional festivity

Evaluator and museum: Francesc Martínez. Museu del Palmito d'Aldaia

Description: Religious festivity in which a child sings a prayer. It is celebrated since the mid-nineteenth century as the final activity of the festivities of Aldaia.

Source: Ayuntamiento de Aldaia

Image: Museu del Palmito d'Aldaia



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Historical continuity			3. Integrity			10. Awareness of social agents			11. Particip. and integr.			12. Socioec. profitability			13. Vulnerability		
1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	0	1	1	1
2			3			3			2			3			1			3		
8									9											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Landscape			9. Educational / Scientific					
1	1	0	1	0	1	1	1	1	1	1	1	0	0	0	1	1	1			
2			2			3			3			0			3					
13																				

TOTAL SCORE: 30/39 (7,7 - High)

INTANGIBLE ELEMENT: TRIBUNAL DE LA SÉQUIA DEL COMUNER O ROLLET DE GRÀCIA DE ALDAIA

Municipality: Aldaia

Typology: Water Tribunal

Evaluator and museum: Francesc Martínez. Museu del Palmito d'Aldaia

Description: Organization dedicated to resolve disputes among irrigators in the area. Documented in 1268.

Source: Ayuntamiento de Aldaia

Image: Museu del Palmito d'Aldaia



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Historical continuity			3. Integrity			10. Awareness of social agents			11. Particip. and integr.			12. Socioec. profitability			13. Vulnerability		
1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
3			2			3			3			3			3			2		
8									11											
HERITAGE VALUES																				
4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Landscape			9. Educational / Scientific					
1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0			
2			3			3			3			3			2					
16																				
TOTAL SCORE: 35/39 (9 - Very High)																				

LANDSCAPE: HUERTA OF ALDAIA

Municipality: Aldaia

Typology: Landscape de huerta

Evaluator and museum: Francesc Martínez. Museu del Palmito d'Aldaia

Description: Landscape of la Huerta de Aldaia, with an approximate area of 2 million m²

Image: Museu del Palmito d'Aldaia



HERITAGE EVALUATION

INTRINSIC VALUES																													
1. Representativeness			2. Authenticity			3. Ecological integrity			4. Geophys. / envir. struct.			5. Visibility																	
1	1	1	1	0	1	1	0	0	0	0	0	1	1	0															
3			2			1			0			2																	
8																													
HERITAGE VALUES									POTENTIAL AND FEASIBILITY VALUES																				
6. Historical			7. Social			8. Symb. / Identity			9. Artistic			10. Cultural			11. Awar. social agents			12. Particip. and int.			13. Soc. profitability			14. Vulnerability			15. Accessibility		
1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	0	1	0	0	0	1	0	1	0	0	1	1
3			3			2			2			3			3			1			1			1			2		
13									8																				
TOTAL SCORE: 29/45 (6,4 - Medium)																													

EVALUATION TABLES OF THE MUSEU D'HISTÒRIA DE VALÈNCIA

TANGIBLE ELEMENT: THE REMAINS OF HISTORICAL WALLS OF VALENCIA

Municipality: València

Typology: Defensive element

Evaluator and museum: Javier Martí. Museu d'Història de València

Description: Historical walls of the city of Valencia. Built in the 11th century under the reign of Abd al-Aziz. Remains are preserved outside and inside buildings. Declared BIC.

Source: Ayuntamiento de València

Image: ESTEPA



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1
2			2			0			0			0			3			2		
4						5														

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	0	1	0	1	1	1
3			3			3			3			1			3			1			3		
20																							

TOTAL SCORE: 29/45 (6,4 - Medium)

TANGIBLE ELEMENT: THE MUNICIPAL HISTORICAL MUSEUM (CITY HALL)

Municipality: València

Typology: Architectonic element

Evaluator and museum: Javier Martí. Museu d'Història de València

Description: The Municipal Historical Museum is located in the Consistory of the Town Hall Square, in some units that were part of the Royal House of Education, dated in the eighteenth century. The museum was created in 1927 and houses the town's historical- artistic heritage.

Source: Ayuntamiento de València

Image: ESTEPA



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1
3			3			3			0			0			1			3		
9						4														

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0	1	0	1	0	1
3			3			3			2			2			3			1			2		
19																							

TOTAL SCORE: 32/45 (7,1 - Medium)

TANGIBLE ELEMENT: LAS ALQUERÍAS DE LA HUERTA DE VALÈNCIA

Municipality: València

Typology: Residential element

Evaluator and museum: Javier Martí. Museu d'Història de València

Description: Traditional homes all around the territory of La Huerta de València

Image: ESTEPA



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3			1			0			0			0			0					
4						0														

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	0	1	0	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	1	1	0
3			1			3			3			2			1			0			2		
15																							

TOTAL SCORE: 19/45 (4,2 - Very Low)

INTANGIBLE ELEMENT: LAS FALLAS

Municipality: València

Typology: Traditional festivity

Evaluator and museum: Javier Martí. Museu d'Història de València

Description: Festivity declared Intangible Heritage of Humanity by UNESCO in 2016. They are held between March 15th and 19th, when plasterboard monuments are planted and then burned on the last day of the festivity. The monuments can reach twenty meters high and are built by falleros artists. Music, gunpowder, fire, and the offering of flowers to the Virgin of the Desamparados stand out.

Source: València-cityguide (2017)

Image: Armando Romero © Junta Central Fallera



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Historical continuity			3. Integrity			10. Awareness of social agents			11. Particip. and integr.			12. Socioec. profitability			13. Vulnerability		
1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1
3			3			3			2			3			3			2		
9						10														

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Landscape			9. Educational / Scientific					
0	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1			
1			3			3			3			1			3					
14																				

TOTAL SCORE: 33/39 (8,5 - High)

INTANGIBLE ELEMENT: CORPUS

Municipality: València

Typology: Traditional festivity

Evaluator and museum: Javier Martí. Museu d'Història de València

Description: It is one of the most spectacular and ancient festivities in the city, first held in 1355.

Some of the most important activities are the transfer of the Rocas (wooden structures), representations of the "Misteris" (15 minutes theatrical representations), the Procession of the morning known as Cavalgata del Convite and the Procession of the Corpus.

Source: Sánchez, J.; Ginés, B. (2017)

Image: Ariño, A. y Salavert, V.L. (1999)



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Historical continuity			3. Integrity			10. Awareness of social agents			11. Particip. and integr.			12. Socioec. profitability			13. Vulnerability		
1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	0
2			3			3			3			2			2			2		
8									9											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Landscape			9. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1
3			3			3			3			1			3		
16																	

TOTAL SCORE: 33/39 (8,5 - High)

LANDSCAPE: JARDÍN DEL TURIA

Municipality: València

Typology: River bed garden

Evaluator and museum: Javier Martí. Museu d'Història de València

Description: Municipal garden of the city of Valencia, with an area of 99,890 m².

Deciduous and evergreen trees, hedges, climbing and aquatic plants can be found there. Among the equipment there are several sports courts, ponds, playgrounds, fountains and bike lanes.

Source: Ayuntamiento de València

Image: ESTEPA



HERITAGE EVALUATION

INTRINSIC VALUES

1. Representativeness			2. Authenticity			3. Ecological integrity			4. Geophys. / envir. struct.			5. Visibility		
1	1	1	1	1	1	1	1	1	0	0	0	1	1	1
3			3			3			0			3		
12														

HERITAGE VALUES

POTENTIAL AND FEASIBILITY VALUES

6. Historical		7. Social		8. Symb. / Identity		9. Artistic		10. Cultural		11. Awar. social agents		12. Particip. and int.		13. Soc. profitability		14. Vulnerability		15. Accessibility					
1	0	1	1	0	0	0	1	1	1	1	1	0	0	1	0	0	0	1	0	0	0	1	1
2		1		2		2		2		3		1		0		1		2					
9										7													

TOTAL SCORE: 28/45 (6,2 - Medium)

EVALUATION TABLES OF THE MUSEU DE L'HORTA D'ALMÀSSERA

TANGIBLE ELEMENT: THE HUERTA AND IRRIGATION SYSTEM (DITCHES)

Municipality: Almàssera

Typology: Hydraulic element

Evaluator and museum: Mari Carmen Barcos.

Museu de L'Horta d'Almàssera

Description: La Huerta de Almàssera is irrigated through the Ras-canya System. The main crops are tiger nut (50 Ha), onion (27 Ha) and potato (20 Ha).

Source: Conselleria de Agricultura, Medio Ambiente, Cambio Climático and Desarrollo Rural (2017)

Image: Museu de L'Horta d'Almàssera



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
3			3			3			3			3			2					
9									11											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1
3			3			3			1			2			3			3			3		
21																							

TOTAL SCORE: 41/45 (9,1 - Very High)

TANGIBLE ELEMENT: MUSEU DE L'HORTA

Municipality: Almàssera

Typology: Architectonic element

Evaluator and museum: Mari Carmen Barcos.

Museu de L'Horta d'Almàssera

Description: Museum dedicated to the life and work of the population of the Huerta de Valencia. It highlights especially aspects and elements related to the cultivation of tiger nut.

Source: València Turisme (2018)

Image: Museu de L'Horta d'Almàssera



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1
3			3			2			3			3			2			3		
8									11											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3			3			3			3			3			3			3			3		
24																							

TOTAL SCORE: 43/45 (9,6 - Very High)

TANGIBLE ELEMENT: BOUNDARY CROSS

Municipality: Almàssera

Typology: Architectonic element

Evaluator and museum: Mari Carmen Barcos.

Museu de L'Horta d'Almàssera

Description: Cross of term built in 1372 and restored in 1940.

With Gothic style and covered by a casalicio of four waters supported by four pillars.

Source: Generalitat Valenciana (2010)

Image: Museu de L'Horta d'Almàssera



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	1	1	1	0	1	0	1	1	0	1	1	0	1	1	0	0	1	1	1	1
3			2			2			2			2			1			3		
7						8														

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1
3			3			3			3			2			3			2			3		
22																							

TOTAL SCORE: 37/45 (8,2 - High)

INTANGIBLE ELEMENT: CORPUS

Municipality: Almàssera

Typology: Traditional festivity

Evaluator and museum: Mari Carmen Barcos. Museu de L'Horta d'Almàssera

Description: Held on the fourth Sunday of August. Many participants play biblical characters. Dances are performed by the traditional *gigantes y cabezudos*.

Source: Ayuntamiento de Almàssera

Image: Museu de L'Horta d'Almàssera



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Historical continuity			3. Integrity			10. Awareness of social agents			11. Particip. and integr.			12. Socioec. profitability			13. Vulnerability		
1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	0	0	0	0	1
3			2			2			3			3			1			1		
7						8														

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Landscape			9. Educational / Scientific					
1	1	1	1	0	1	1	1	1	1	1	1	0	0	0	1	1	1			
3			2			3			3			0			3					
14																				

TOTAL SCORE: 29/39 (7,4 - High)

INTANGIBLE ELEMENT: HORCHATA (ELABORATION PROCESS)

Municipality: Almàssera

Typology: Gastronomy

Evaluator and museum: Mari Carmen Barcos. Museu de L'Horta d'Almàssera

Description: The making process includes, in the following order and in a general way: dried tiger nuts washing, selection, and washing again with potable water, rehydration, disinfection, crushing, and introduction into a continuous dam. Finally after sieving and sugar addiction the drink is obtained.

Source: Chufa de València (2018)

Image: ESTEPA



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Historical continuity			3. Integrity			10. Awareness of social agents			11. Particip. and integr.			12. Socioec. profitability			13. Vulnerability		
1	1	1	1	0	0	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1
3			1			2			3			3			2			3		
6						11														

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Landscape			9. Educational / Scientific		
1	1	0	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1
2			3			3			1			2			3		
14																	

TOTAL SCORE: 31/39 (8,6 - Very High)

LANDSCAPE: BARRANCO (RAVINE) DE CARRAIXET

Municipality: Almàssera

Typology: Ravine

Evaluator and museum: Mari Carmen Barcos.

Museu de L'Horta d'Almàssera

Description: Seasonal water course that runs through several municipalities in the province of Valencia and flows into the Mediterranean Sea.

Image: Museu de L'Horta d'Almàssera



HERITAGE EVALUATION

INTRINSIC VALUES

1. Representativeness			2. Authenticity			3. Integrity ecológica			4. Geophys. / envir. struct.			5. Visibility		
1	0	0	1	1	1	1	1	1	0	1	1	1	0	0
1			3			3			2			1		
10														

HERITAGE VALUES

POTENTIAL AND FEASIBILITY VALUES

6. Historical			7. Social			8. Symb. / Identity			9. Artistic			10. Cultural			11. Awar. social agents			12. Particip. and int.			13. Soc. profitability			14. Vulnerability			15. Accessibility		
1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0
2			1			1			0			0			0			0			2			1					
4									3																				

TOTAL SCORE: 17/45 (3,8 - Very Low)

EVALUATION TABLES OF THE MUSEU COMARCAL DE L'HORTA SUD (TORRENT)

TANGIBLE ELEMENT: HORTS DE TARONGERS (HOUSE WITH ORANGE TREES)

Municipality: Torrent

Typology: Architectonic element

Evaluator and museum: Clara Pérez.

Museu Comarcal de l'Horta Sud (Torrent)

Description: Several hectares of orange trees bounded by a fence.
In the centre of the plot there is a house.

Source: Besó, A. (2013)

Image: Adrià Besó ©



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0
3			3			3			2			1			0			0		
9									3											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	0
3			3			3			2			2			3			3			2		
21																							

TOTAL SCORE: 33/45 (7,3 - High)

TANGIBLE ELEMENT: CEBERA

Municipality: Torrent

Typology: Architectonic element

Evaluator and museum: Clara Pérez.

Museu Comarcal de l'Horta Sud (Torrent)

Description: Construction in the landscape of the Valencian Huerta that stores grain onion.

Source: Besó, A. (2008)

Image: Google maps ©



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	0	0	1	1	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0	1
1			2			2			1			1			0			1		
5									3											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
0	1	0	0	1	1	0	1	0	0	1	0	1	1	0	0	0	0	0	0	0	1	1	0
1			2			1			1			2			0			0			2		
9																							

TOTAL SCORE: 17/45 (3,8 - Very Low)

INTANGIBLE ELEMENT: BELL RINGING

Municipality: Quart de Poblet

Typology: Acoustic

Evaluator and museum: Clara Pérez. Museu Comarcal de l'Horta Sud (Torrent)

Description: Repertoire of traditional bells sounds.

Image: ESTEPA



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Historical continuity			3. Integrity			10. Awareness of social agents			11. Particip. and integr.			12. Socioec. profitability			13. Vulnerability		
1	0	1	0	0	0	1	1	1	1	0	0	0	1	1	1	0	1	1	1	1
2			0			3			1			2			2			3		
5									8											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Landscape			9. Educational / Scientific		
0	1	1	1	1	1	0	1	0	1	1	1	0	0	1	1	0	0
2			3			1			3			1			1		
11																	

TOTAL SCORE: 24/39 (6,2 - Medium)

LANDSCAPE: BARRANCO (RAVINE) DE TORRENT (IN TORRENT)

Municipality: Torrent

Typology: Ravine

Evaluator and museum: Clara Pérez.

Museu Comarcal de l'Horta Sud (Torrent)

Description: Seasonal water course that runs through several municipalities in the province of Valencia and flows into the Albufera.

Image: Institut Cartogràfic Valencià ©



HERITAGE EVALUATION

INTRINSIC VALUES

1. Representativeness			2. Authenticity			3. Ecological integrity			4. Geophys. / envir. struct.			5. Visibility		
1	1	1	1	0	0	1	0	0	0	0	0	1	0	0
3			1			1			0			1		
6														

HERITAGE VALUES

POTENTIAL AND FEASIBILITY VALUES

6. Historical			7. Social			8. Symb. / Identity			9. Artistic			10. Cultural			11. Awar. social agents			12. Particip. and int.			13. Soc. profitability			14. Vulnerability			15. Accessibility		
0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1			1			0			0			0			0			0			0			0					
2												0																	

TOTAL SCORE: 8/45 (1,8 - Sin Interés)

EVALUATION TABLES OF THE CASTILLO PALACIO DE ALAQUÀS. MUSEO

INTANGIBLE ELEMENT: CORDÀ D'ALAUÀS

Municipality: Alaquàs

Typology: Traditional festivity

Evaluator and museum: Carlos Barberà.

Museo del Castillo Palacio de Alaquàs

Description: Nocturnal pyrotechnic demonstration, in which a set of rockets are fired. Festivity declared of Provincial Tourist Interest.

Source: Ayuntamiento de Alaquàs

Image: Ayuntamiento de Alaquàs ©



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Historical continuity			3. Integrity			10. Awareness of social agents			11. Particip. and integr.			12. Socioec. profitability			13. Vulnerability		
1	1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
2			2			3			3			2			3			3		
7									11											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Landscape			9. Educational / Scientific		
0	0	0	0	0	1	1	1	1	1	1	0	0	0	1	1	1	0
0			1			3			2			1			2		
9																	

TOTAL SCORE: 27/39 (6,9 - Medium)

INTANGIBLE ELEMENT: EL CANT DE LA CARXOFA D'ALAUÀS

Municipality: Alaquàs

Typology: Traditional festivity

Evaluator and museum: Carlos Barberà. Museo del Castillo Palacio de Alaquàs

Description: The festivity consists of a mass and a procession in honor of the Virgen del Olivar on September 8. At the end of the route the processional float stops at the door of the church where a child dressed as an angel sings a music poem accompanied by an orchestra and a choir of white voices.

Source: Ayuntamiento de Alaquàs

Image: Ayuntamiento de Alaquàs ©



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Historical continuity			3. Integrity			10. Awareness of social agents			11. Particip. and integr.			12. Socioec. profitability			13. Vulnerability		
1	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0
1			3			3			3			2			3			2		
7									10											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Landscape			9. Educational / Scientific		
0	0	0	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1
0			3			3			0			2			3		
11																	

TOTAL SCORE: 28/39 (7,2 - High)

LANDSCAPE: A NETWORK OF URBAN HUERTAS

Municipality: Alaquàs

Typology: Huertas

Evaluator and museum: Carlos Barberà.

Museo del Castillo Palacio de Alaquàs

Description: Network of plots of urban vegetable garden that are cultivated by the citizens. Its objective is to promote good environmental practices of cultivation, improvement of sustainability, promotion of citizen participation and urban spaces recovery.

Source: Ayuntamiento de Alaquàs

Image: ESTEPA



HERITAGE EVALUATION

INTRINSIC VALUES

1. Representativeness			2. Authenticity			3. Ecological integrity			4. Geophys. / env. struct.			5. Visibility		
1	1	1	1	1	1	0	0	1	0	0	1	1	1	0
3			3			1			1			2		
10														

HERITAGE VALUES

POTENTIAL AND FEASIBILITY VALUES

6. Historical			7. Social			8. Symb. / Identity			9. Artistic			10. Cultural			11. Awar. social agents			12. Particip. and int.			13. Soc. profitability			14. Vulnerability			15. Accessibility		
0	0	0	1	1	0	0	1	0	0	1	0	0	1	0	0	1	1	1	0	1	1	0	1	1	1	0	0	1	1
0			2			1			1			1			2			2			2			2			2		
5										10																			

TOTAL SCORE: 25/45 (5,6 - Low)

LANDSCAPE: CASTLE OF ALAQUÀS AND SURROUNDINGS AS THE URBAN LANDSCAPE

Municipality: Alaquàs

Typology: Defensive element and surroundings

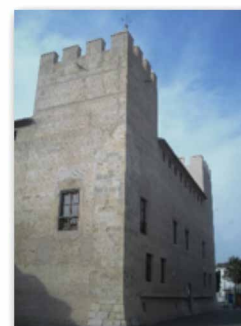
Evaluator and museum: Carlos Barberà.

Museo del Castillo Palacio de Alaquàs

Description: Palace-castle of the sixteenth century. It was declared a National Artistic Historical Monument in 1918 and BIC in 1999. The element is evaluated together with its urban environment.

Source: Castell Alaquàs

Image: ESTEPA



HERITAGE EVALUATION

INTRINSIC VALUES

1. Representativeness			2. Authenticity			3. Ecological integrity			4. Geophys. / env. struct.			5. Visibility		
1	1	0	1	1	1	0	0	0	0	0	0	1	1	0
2			3			0			0			2		
7														

HERITAGE VALUES

POTENTIAL AND FEASIBILITY VALUES

6. Historical			7. Social			8. Symb. / Identity			9. Artistic			10. Cultural			11. Awar. social agents			12. Particip. and int.			13. Soc. profitability			14. Vulnerability			15. Accessibility		
1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1
3			2			3			3			2			3			3			2			3			2		
13										13																			

TOTAL SCORE: 33/45 (7,3 - High)

EVALUATION TABLES OF THE MANISES CERAMIC MUSEUM

TANGIBLE ELEMENT: ACEQUIA DE BENÀGER-FAITANAR

Municipality: Manises

Typology: Hydraulic element

Evaluator and museum: Sara Blanes y Ana García.

Museo de Cerámica de Manises.

Description: One of the ditches managed by the Tribunal de las Aguas de la Vega of Valencia

Image: Museo de Cerámica de Manises



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
3			2			3			3			3			3			0		
8									9											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1
3			3			3			1			3			3			3			3		
22																							

TOTAL SCORE: 39/45 (8,7 - Very High)

TANGIBLE ELEMENT: ISLAMIC CEMETERY (MAQBARA)

Municipality: Manises

Typology: Funerary element

Evaluator and museum: Sara Blanes y Ana García.

Museo de Cerámica de Manises.

Description: Islamic cemetery of Manises. It operated from the XII-XII centuries until the expulsion of the Moors in 1609. It is practically covered by vegetation in its entirety.

Image: Museo de Cerámica de Manises



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
2			2			1			0			0			1			0		
5									1											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	1	1	1	1	0
3			0			0			1			1			1			2			2		
10																							

TOTAL SCORE: 16/45 (3,6 - Very Low)

TANGIBLE ELEMENT: MOORISH OVENS

Municipality: Manises

Typology: Architectonic element

Evaluator and museum: Sara Blanes y Ana García.

Museo de Cerámica de Manises.

Description: Ovens of Islamic origin destined to the firing of ceramic pieces.

Located between Rafael Valls street and Aldaia street

Image: Museo de Cerámica de Manises



EVALUACIÓN PATRIMONIAL

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES														
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability					
1	0	1	1	1	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0			
2			2			0			1			0			2			0					
4									3														
HERITAGE VALUES																							
4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	0	0	0	1	1	1	0	0	0	1	1	0	1	0	0	0	1	1	1	1	1
3			0			3			0			2			1			2			3		
14																							
TOTAL SCORE: 21/45 (4,7 - Low)																							

TANGIBLE ELEMENT: FACTORY REMAINS

Municipality: Manises

Typology: Architectonic element

Evaluator and museum: Sara Blanes y Ana García.

Museo de Cerámica de Manises.

Description: Ceramic factories of the late nineteenth and early twentieth century. Currently inactive.

Image: Museo de Cerámica de Manises



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES														
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability					
1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0			
2			2			0			0			0			1			0					
4									1														
HERITAGE VALUES																							
4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	1	0	0	0	0	1	1	1	1
3			0			3			0			1			1			1			3		
12																							
TOTAL SCORE: 17/45 (3,8 - Very Low)																							

TANGIBLE ELEMENT: CERAMICS APPLIED TO ARCHITECTURE

Municipality: Manises

Typology: Architectonic element

Evaluator and museum: Sara Blanes y Ana García.

Museo de Cerámica de Manises.

Description: Tiles and ceramics uses in architectural elements of the municipality for decoration.

Source: Ayuntamiento de Manises

Image: Museo de Cerámica de Manises



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	0	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	1	1	1	1
2			3			3			1			0			1			3		
8									5											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1
3			0			3			3			3			2			1			3		
18																							

TOTAL SCORE: 31/45 (6,9 - Medium)

TANGIBLE ELEMENT: BARRIO DE OBRADORS

Municipality: Manises

Typology: Neighborhood of the urban area

Evaluator and museum: Sara Blanes y Ana García.

Museo de Cerámica de Manises.

Description: Neighborhood located in the eastern sector of the urban area of Manises. It is an industrial historical centre from the beginning of the 14th century. It housed numerous tile factories.

Source: Berrocal, P.; Pérez, J.; Algarra, V.M. (1992)

Image: Museo de Cerámica de Manises



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Authenticity			3. Integrity			12. Awareness of social agents			13. Particip. and integr.			14. Socioec. profitability			15. Vulnerability		
1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
2			1			0			0			0			2			0		
3									2											

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Technical			9. Territorial			10. Landscape			11. Educational / Scientific		
1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	1	1	0	1	0	1	1	1	1
3			0			3			0			1			2			2			3		
14																							

TOTAL SCORE: 19/45 (4,2 - Very Low)

INTANGIBLE ELEMENT: CABALGATA DE LA CERÁMICA

Municipality: Manises

Typology: Parade

Evaluator and museum: Sara Blanes y Ana García. Museo de Cerámica de Manises

Description: Parade of floats in which local craft pieces are presented to the public.

This festivity is declared a Festivity of Regional Tourist Interest together

with the Fiesta de la cerámica Source: Ayuntamiento de Manises

Image: Museo de Cerámica de Manises



HERITAGE EVALUATION

INTRINSIC VALUES									POTENTIAL AND FEASIBILITY VALUES											
1. Representativeness			2. Historical continuity			3. Integrity			10. Awareness of social agents			11. Particip. and integr.			12. Socioec. profitability			13. Vulnerability		
1	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	0	0	0
3			2			1			3			3			3			0		
6						9														

HERITAGE VALUES

4. Historical			5. Social			6. Symb. / Identity			7. Artistic			8. Landscape			9. Educational / Scientific		
0	1	1	1	0	0	1	1	1	1	1	0	0	0	1	1	1	1
2			1			3			2			1			3		
12																	

TOTAL SCORE: 27/39 (6,9 - Medium)

LANDSCAPE: PARQUE FLUVIAL DEL TÚRIA

Municipality: Manises

Typology: River park

Evaluator and museum: Sara Blanes y Ana García.

Museo de Cerámica de Manises

Description: Natural Park protected since 2007. It focuses especially on the channel and banks of the River Turia. It has an outstanding value for its richness in biodiversity and its landscape, which includes Mediterranean forest and the traditional Valencian huerta.

Source: Hermosilla, J.; Morales, Á.; González, T.; Mayordomo, S. (2018)

Image: Museo de Cerámica de Manises



HERITAGE EVALUATION

INTRINSIC VALUES

1. Representativeness			2. Authenticity			3. Ecological integrity			4. Geophys. / env. struct.			5. Visibility		
1	1	1	1	1	1	1	1	1	0	1	1	1	1	1
3			3			3			2			3		
14														

HERITAGE VALUES

POTENTIAL AND FEASIBILITY VALUES

6. Historical			7. Social			8. Symb. / Identity			9. Artistic			10. Cultural			11. Awar. social agents			12. Particip. and int.			13. Soc. profitability			14. Vulnerability			15. Accessibility		
0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1			
2			3			3			1			3			3			3			0			3					
12												12																	

TOTAL SCORE: 38/45 (8,4 - High)





Conclusions

07 Conclusions

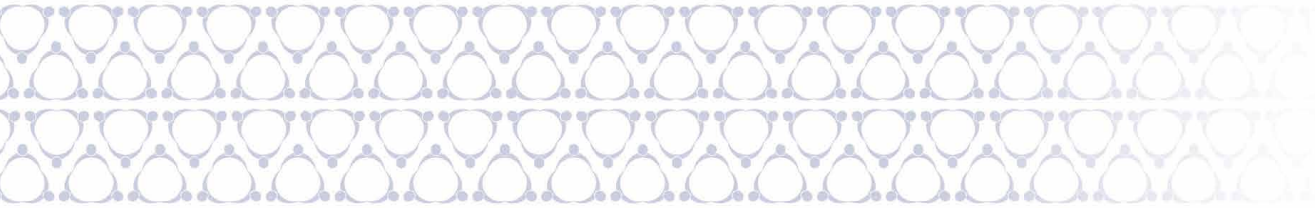
In the present study, a Cultural Heritage Evaluation Method has been developed, from which three evaluation systems applied to tangible, intangible cultural elements and landscapes have been designed. These are multi-criteria quantitative methodologies, based on indicators that are as objective as possible, with the purpose of establishing reproducible systems in any territory integrated into the EULAC-MUSEUMS project. The evaluation of the different patrimonial values supposes a complexity in the nomenclature of standard values, but we consider that they are practical and simple methods to understand. Its application allows a hierarchy of assets and landscapes according to their value, which enables the design of actions and time management strategies and heritage planning.

The evolution of the concept of Heritage produced throughout history has been analyzed, in order to understand the most relevant valuation criteria in each period and to know the current implications of Cultural Heritage. The notion of a cultural asset has progressively expanded over the centuries through a complex process of attribution of values, derived from the dynamics of communities and the evolution of history. Consequently, the Heritage is a relative concept, subject to continuous modifications. At present, it includes a wide typology of goods and cultural manifestations. The singularities of Latin American cultural heritage have been detailed, which have been incorporated into the definition of the evaluation criteria used. In this way, the designed methodologies can be implemented in the different territories of the partners of the

EULAC-MUSEUMS project, since the specificities of the Latin American and European areas have been considered.

The analysis of fifty references of bibliographies linked to the patrimonial valuation has made it possible to study its most significant aspects, the characteristics susceptible to improvement, the evaluation criteria used in each work, and the practical application system used. In recent decades there has been a growing interest in the management and valuation of both natural and cultural heritage, with the development of numerous methodological proposals aimed at their evaluation and conservation. The references are developed in different territorial areas, which allows the understanding of the meaning and values of the Heritage in different geographical areas.

The proposed methodology, which is embodied in three methods for the valuation of the material, immaterial cultural goods and the landscapes are based on the general principles that allow to define and value the Cultural Heritage. They are structured into three categories of values: intrinsic, patrimonial, and potential and viability. Each adapted method is made up of a different number of criteria, although efforts have been made to maintain the same values with adaptations according to the existing particularities. The use of homogeneous sets allows the classification of the indicators according to their common qualities and greater operability is achieved. Each of the criteria consists of three specific variables, which are punctuated with "1" or "0" records according to their compliance or not, without weighting



or ranking one over the other. The equitable score of the indicators is a valid and even adequate option since the allocation of values is usually quite subjective. In addition to a global score, scores are obtained by categories and criteria, which allow an accuracy of the most relevant sets of values. Complementary actions are also proposed based on the participation of the social agents, with the realization of surveys to the local population and a panel of experts from the study area.

The application of the method by the University of Valencia Team as well as the museum's staff, has allowed a successful assessment of the different cultural elements and landscapes. Currently, we are applying the Method of Evaluation of the Cultural Heritage to a total of 259 tangible elements located in the area of the Huerta de Valencia. Both the technical evaluation of each of the assets and the assessment of them by the community are being carried out, through the implementation of participation processes based on conducting surveys and expert panels.

The results obtained allow a hierarchy of cultural elements and landscapes to be established according to their heritage value, which in turn facilitates the design of coherent and appropriate measures for the management of goods and territorial units. The technical application of the methodology offers valid results without the need for complementary actions. However, the participation of social agents is essential to know the value given by the community and other territorial actors.

From the research teams of the Universitat de València and the Pontifical Catholic University of Peru (PUCP), the possibility of carrying out a joint evaluation of the hydraulic heritage elements in the coastal zone of northern Peru, in the spring of the 2019, with the collaboration of the Water Tribunal of Valencia and the Irrigation Board of the Moche Valley of Peru, is being analysed. The purpose of this joint work will have as its objective the application and verification in the Peruvian territory of the evaluation method studied.

In short, the proposed methodological system that has materialized in three specific methods according to the modality of cultural heritage constitutes a useful and effective instrument and allows to obtain reproducible and transparent results. We consider that the proposed indicators are easy to understand and apply, although the scoring system can be improved and the interpretation of some variable may be questionable. The developed methods are open systems, capable of being revised and adapted to the territories. They provide a common pattern of comparison, which can be applied to any cultural asset and landscape. Consequently, the methodologies designed intend to be configured as effective tools for management and decision making, in the functions of conservation and enhancement of Cultural Heritage. They are effective systems and with a high degree of applicability, made with the purpose that they can become assessment instruments, applicable in the tasks of conservation and valuation of cultural assets and landscapes. Institutions can use these systems as an instrument of heritage planning and valorization.

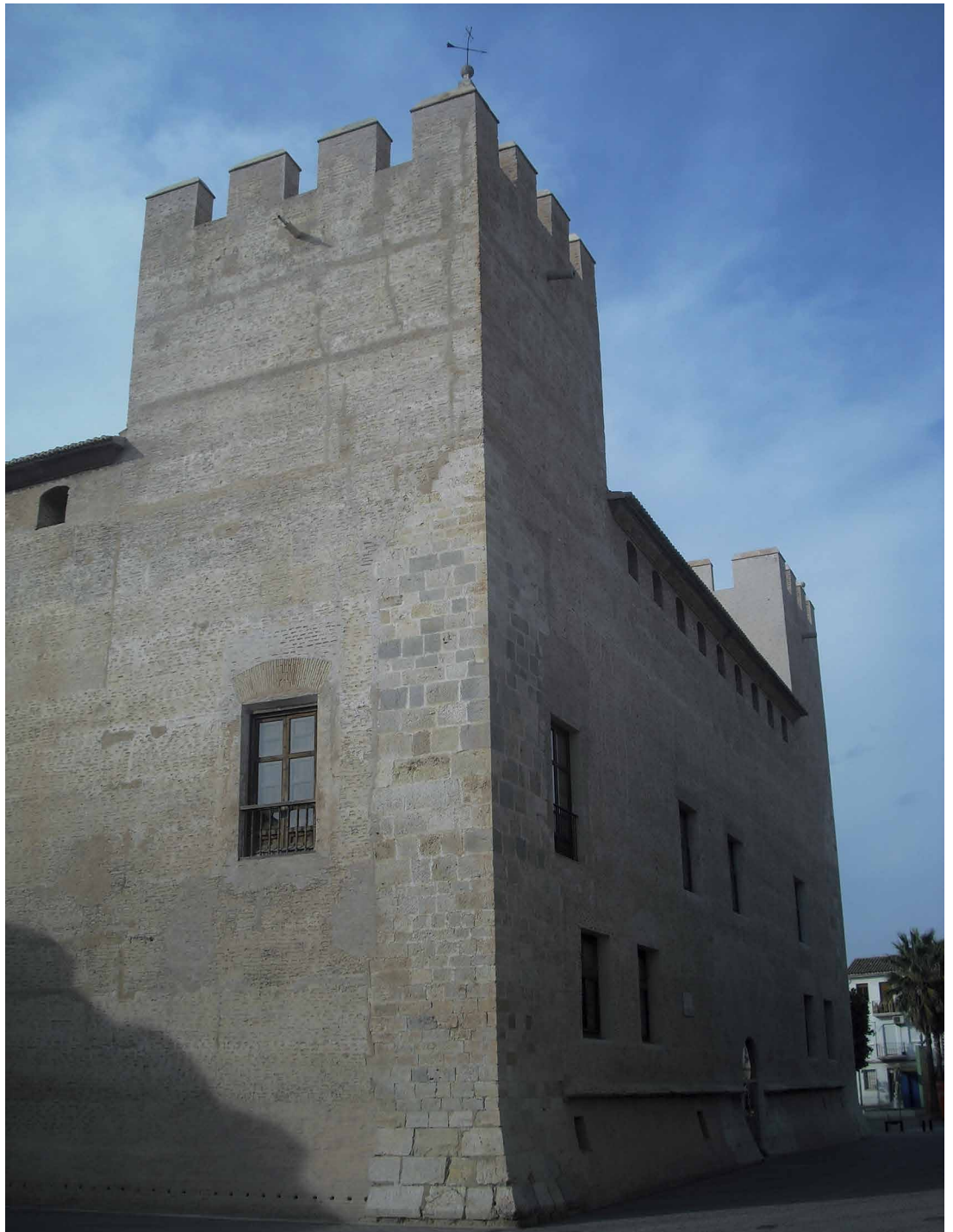




Appendices

APPENDIX I

List of collaborating museums



El Castell. Palacio de los Aguilar. Alaquàs

Museo de Cerámica de Paterna

Director

Ernesto Manzanedo

Museu de la Rajoleria de Paiporta

Technician

Eva Sanz

Museu del Palmito d'Aldaia

Director

Francesc Martínez

Museu d'Història de València

Director

Javier Martí

Museu de l'Horta d'Almàssera

Technician

Mari Carmen Barcos

Museu Comarcal de l'Horta Sud (Torrent)

Director

Clara Pérez

Castillo Palacio de Alaquàs

Director

Carlos Barberà

Museo de Cerámica de Manises

Director

Sara Blanes.

Technician

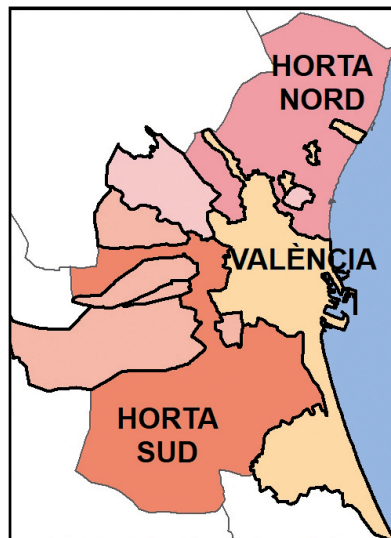
Ana García



Museo
de Cerámica,
Manises

APPENDIX II

Distribution of collaborating museums and cultural elements and landscapes evaluated



MUSEUMS

- A. Museu de l'Horta d'Almàssera
- B. Museo de Cerámica de Paterna
- C. Museo de Cerámica de Manises
- D. Museu d'Història de València
- E. Museo del Palmito d'Aldaia
- F. Castillo-Palacio d'Alaquàs
- G. Museu Comarcal de l'Horta Sud
- H. Museu de la Rajoleria de Paiporta

TANGIBLE ELEMENTS

-  Red de acequias
 -  Alquerías de València
1. La huerta y el sistema de regadío
 2. Cruz cubierta
 3. Línea defensiva de la Guerra Civil
 4. Cuevas tradicionales
 5. Torre mudéjar
 6. Molino del Testar
 7. Assut de Tormos
 8. Assut de Mislata
 9. Assut de Mestalla
 10. Museo Histórico Municipal
 11. Murallas Históricas de València
 12. Acequia de Benàger-Faitanar
 13. Hornos morunos
 14. Restos fabriles
 15. Cementerio islámico
 16. Cerámica aplicada a la arquitectura
 17. Cisterna de agua
 18. Torre
 19. Horts de Tarongers
 20. Cebera
 21. Llengües de Paiporta
 22. Cruz de término
 23. Villa Amparo
 24. Chimenea azulejera de Bauset
 25. Horno Hoffman azulejero de Bauset
 26. Ermita de Santa Ana
 27. Torre islámica



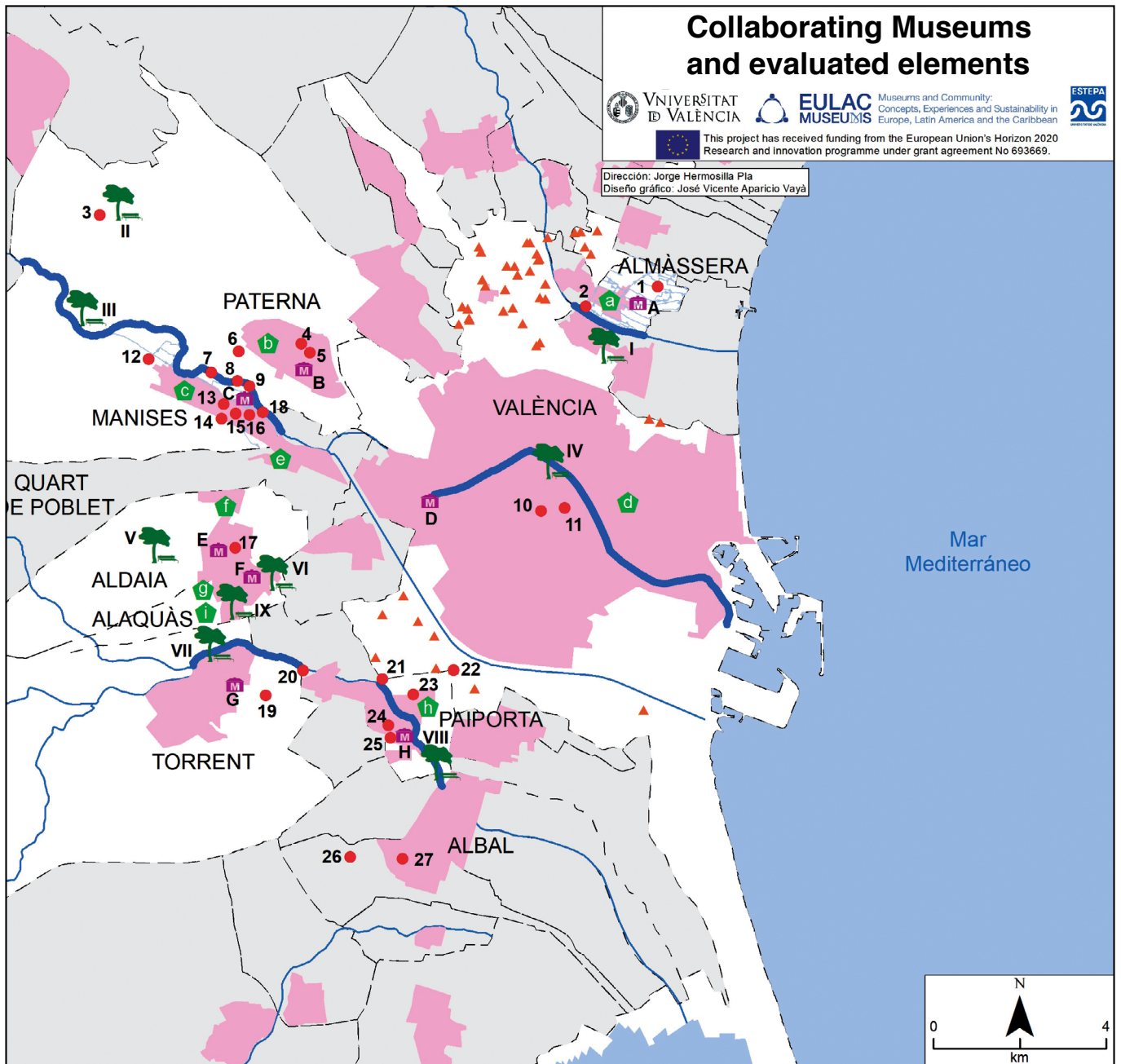
LANDSCAPE

- I. Barranc del Carraixet a su paso por Almàssera
- II. Bosque de la Vallesa
- III. Barrio d'Obradors (Manises)
- IV. Jardín del Turia (Cauce antiguo del Río Turia)
- V. Huerta de Aldaia
- VI. Castillo d'Alaquàs y entorno
- VII. Barranc de Torrent a su paso por Torrent
- VIII. Barranc de Torrent a su paso por Paiporta
- IX. Red de huertos urbanos



INTANGIBLE ELEMENTS

- a. El Corpus y Proceso de elaboración de la Horchata
- b. La Cordà
- c. Cabalgata de la Cerámica
- d. Fiesta de las Fallas y Fiesta del Corpus
- e. Toques de Campana
- f. El Cant de la Carxofa y el Tribunal de la Séquia del Comuner o Rollet de Gràcia d'Aldaia
- g. Cordà d'Alaquàs
- h. Festa de Sant Roc i el Gos
- i. Cant de la Carxofa



APPENDIX III

Documentation provided to the collaborating museum's staff for the implementation of the evaluation methodology:

III. 1 EXPLANATORY TEXT DESCRIBING THE STRUCTURE OF THE METHOD AND THE EVALUATION SYSTEM

Here is an image with the text provided to the staff of the collaborating museums to facilitate their understanding and application of the cultural heritage assessment method.

Methodology's General explanation

In order to evaluate and assess the elements of the Cultural Heritage, its identification, characterization and evaluation are essential. The development of an evaluation methodology allows us to establish a hierarchy of cultural assets according to their heritage value, in order to prioritize some actions over others. This information is essential for the formulation of adequate and coherent actions and strategies, aimed at the protection, management and enhancement of assets.

The evaluation methodology of the **tangible cultural heritage** is based on the use of 15 assessment criteria gathered into 3 homogeneous categories or sets of values: "Intrinsic values", "Patrimonial values" and "Potential and viability values". Each of the 15 criteria is broken down into 3 specific variables, so there are 45 qualities that organise the method. Each criterion and category is evaluated separately so 18 individual scores (15 criteria and 3 categories) are obtained, as well as a global assessment. In the methodology for evaluating **intangible cultural heritage**, the organisation is similar, with the same categories of values, but it is composed of 13 criteria and 39 variables. The **landscape methodology** also has the same structure, in the same categories, 15 criteria and 45 variables.

How are the scores assigned?

We add the explanation and definition of the categories, criteria and variables that organise each of the methods. If the variable is fulfilled, it is assigned the value "1", and if not, the value "0", without weighting some criteria over others. For each element, three types of qualifications are obtained: scores by criterion, by category, and a global score.

The addressed people only have to fill in the attached templates **the column related to the scores of the variables, putting 1 or 0 depending on whether it is fulfilled or not**. The scores of each criterion, category and overall rating will be automatically filled out.

III. 2 TEMPLATES PROVIDED TO COLLABORATING MUSEUM'S STAFF TO FACILITATE ASSIGNMENT AND CALCULATION OF QUALIFICACIONES

The following images correspond to each of the templates provided to the museum's sta-

ff to facilitate the assignment and calculation of the scores. The first one corresponds to the evaluation of the tangible cultural heritage, the second one to the intangible cultural heritage, and the third one to the landscape evaluation. The original templates were provided in Excel format, but in this report, they are included as an image for design reasons.



MÉTODO DE EVALUACIÓN DEL PATRIMONIO CULTURAL MATERIAL

Cumplimente únicamente la puntuación asignada a las variables con 1 o 0. El resto de celdas se rellenarán automáticamente.

Categorías	Criterios	VARIABLES	Puntuación Variables	Puntuación Criterios	Puntuación Categorías
Valores Intrínsecos	1. Representatividad	Representatividad tipológica		0	0
		Asociación a formas de vida de las comunidades/indígenas			
		Usos tradicionales o comunitarios			
	2. Autenticidad	Morfología e imagen originaria		0	
		Credibilidad de los procesos que influyen en las características físicas y morfológicas			
		Ausencia de modificaciones del entorno o de la localización de la obra			
3. Integridad	Conservación óptima		0		
	Conservación de los atributos constitutivos				
	Funcionalidad				
Valores Patrimoniales	4. Histórico	Vinculación a personajes, civilizaciones o instituciones de carácter histórico		0	0
		Vestigios testimoniales de la historia y cultura de la comunidad			
		Testimonio de un momento o lugar histórico			
	5. Social	Expresión de un patrimonio vivo		0	
		Vinculación a formas tradicionales de vida			
		Significación procesual (actividades productivas, saberes tradicionales, rituales)			
	6. Simbólico / Identitario	Identificación y conocimiento por las comunidades locales		0	
		Asociación del elemento con costumbres y tradiciones populares o comunitarias			
		Sentimiento de identidad y de pertenencia al grupo o comunidad			
	7. Artístico	Acción creadora: autorías artísticas y autorías colectivas		0	
		Valores estéticos			
		Capacidad de expresión			
	8. Técnico	Técnica empleada en la construcción del elemento		0	
		Belleza formal y estructural			
		Innovaciones y mejoras tecnológicas			
9. Territorial	Presencia de cultura territorial vinculada a las comunidades		0		
	Integración en el territorio				
	Participación de las comunidades en el conocimiento y mediación del patrimonio cultural local				
10. Paisajístico	Entorno paisajístico de interés natural y medioambiental o con protección oficial		0		
	Grado de sostenibilidad medioambiental vinculada con el elemento				
	Visibilidad y accesibilidad del elemento patrimonial				
11. Educativo / Científico	Incorporación en inventarios o catálogos patrimoniales		0		
	Presencia y repercusión en referencias y obras documentales, artísticas o literarias				
	Integración y transmisión en el ámbito educativo y formativo				
Valores Potenciales y de Viabilidad	12. Concienciación de agentes sociales	Inversiones y actuaciones de las administraciones u otros colectivos		0	0
		Inclusión en rutas o programas culturales y turísticos sostenibles			
		Estrategias de difusión y comunicación			
	13. Participación e integración de las comunidades locales	Participación en la gestión del bien cultural		0	
		Participación en los procesos de documentación, investigación e interpretación			
		Participación como actor social del relato			
	14. Rentabilidad socioeconómica	Posibilidad de actuación integral. Aporte del bien patrimonial al desarrollo de la comunidad		0	
		El bien como soporte de actividades socioeconómicas que contribuyen al desarrollo endógeno sostenible			
		Situación jurídica y propiedad del territorio y los elementos patrimoniales			
	15. Vulnerabilidad	Ausencia de amenazas naturales		0	
Ausencia de amenazas antrópicas					
Ausencia de vulnerabilidad intrínseca o de situación de abandono					
Puntuación Total Elemento Patrimonial (Sumatorio Total y Calificación en base decimal)			0	0,00	

MÉTODO DE EVALUACIÓN DEL PATRIMONIO CULTURAL INMATERIAL

Cumplimente únicamente la puntuación asignada a las variables con 1 o 0. El resto de celdas se rellenarán automáticamente.

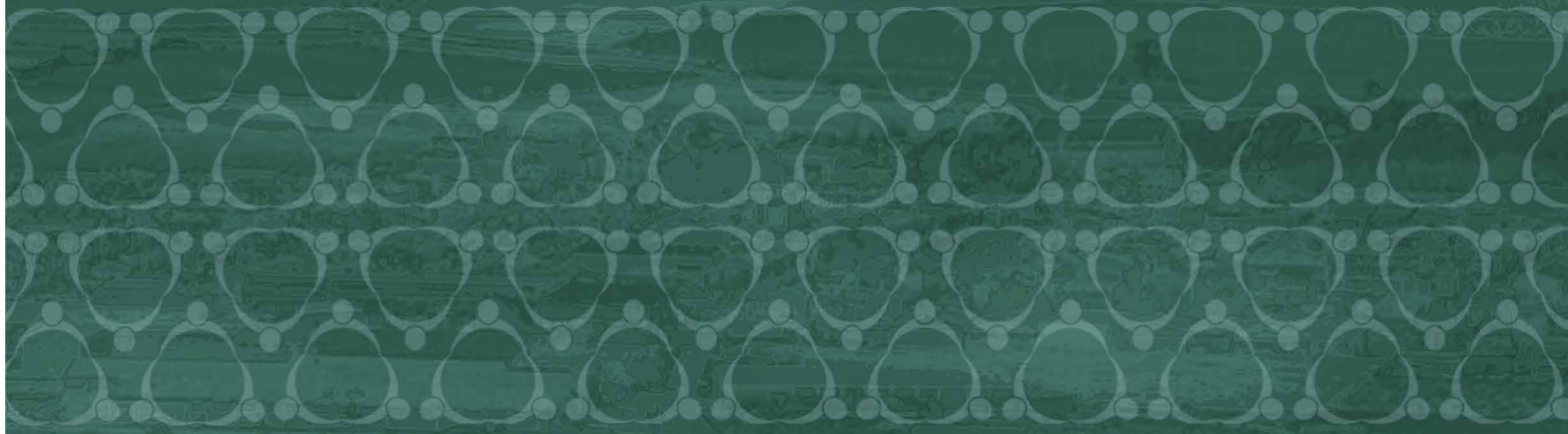
Categorías	Criterios	Variables	Puntuación Variables	Puntuación Criterios	Puntuación Categorías
Valores Intrínsecos	1. Representatividad	Mantenimiento de la especificidad de las expresiones culturales y de los conocimientos asociados		0	0
		Asociación a formas de vida de las comunidades/indígenas			
		Usos tradicionales o comunitarios			
	2. Continuidad histórica	Continuidad y transmisión de la expresión inmaterial en la comunidad sin interrupción		0	
		Organización tradicional propia. Preservación por la comunidad			
		Autonomía. Patrimonio inherente a la comunidad y preservación de los vínculos de identidad			
	3. Integridad	Transmisión intergeneracional y conservación de los saberes y habilidades tradicionales		0	
		Integridad temporal y ritmo interno; importancia de la temporalidad			
		Conservación óptima			
Valores Patrimoniales	4. Histórico	Vinculación a personajes, civilizaciones o instituciones de carácter histórico		0	0
		Rememoración de vivencias y costumbres de la historia y cultura de la comunidad			
		Testimonio de un momento o lugar histórico de una cultura			
	5. Social	Expresión de un patrimonio vivo		0	
		Vinculación a formas tradicionales de vida			
		Significación procesual (actividades productivas, saberes tradicionales, rituales)			
	6. Simbólico / Identitario	Identificación y conocimiento por las comunidades locales		0	
		Asociación de la expresión inmaterial con costumbres y tradiciones populares o comunitarias			
		Sentimientos de identidad y de pertenencia al grupo o comunidad			
	7. Artístico	Acción creadora: autorías artísticas y autorías colectivas		0	
		Valores estéticos			
		Capacidad de expresión			
	8. Paisajístico y marco territorial	Entorno paisajístico de interés y relación con el territorio		0	
		Grado de sostenibilidad territorial vinculado con el elemento inmaterial			
		Marcos espaciales propios			
9. Educativo / Científico	Incorporación en inventarios o catálogos patrimoniales		0		
	Presencia y repercusión en referencias y obras documentales, artísticas o literarias				
	Integración y transmisión en el ámbito educativo y formativo				
Valores Potenciales y de Viabilidad	10. Concienciación agentes sociales	Inversiones y actuaciones de las administraciones		0	0
		Inclusión en programas culturales y turísticos sostenibles			
		Estrategias de difusión y comunicación			
	11. Participación e integración de las comunidades locales	Participación en la gestión del Patrimonio Cultural Inmaterial		0	
		Participación en los procesos de documentación, investigación e interpretación del Patrimonio Cultural Inmaterial			
		Participación como actor social en la historia oral de la comunidad			
	12. Rentabilidad socioeconómica	Posibilidad de revitalización de la expresión inmaterial y su contribución al desarrollo de la comunidad		0	
		La manifestación como soporte de actividades socioeconómicas que contribuyen al desarrollo endógeno sostenible			
		Situación jurídica y propiedad del territorio y las manifestaciones inmateriales			
	13. Vulnerabilidad	Ausencia de amenazas vinculadas con el turismo no planeado y masivo		0	
		Ausencia de amenazas vinculadas a la comercialización indebida del conocimiento o de los productos tradicionales			
		Ausencia de amenazas vinculadas con la transmisión, y con el desconocimiento o la falta de interés por parte de algunos sectores de la comunidad			
Puntuación Total Elemento Patrimonial (Sumatorio Total y Calificación en base decimal)					



MÉTODO DE EVALUACIÓN DE PAISAJE

Cumplimente únicamente la puntuación asignada a las variables con 1 o 0. El resto de celdas se rellenarán automáticamente.

Categorías	Criterios	Variables	Puntuación Variables	Puntuación Criterios	Puntuación Categorías
Valores Intrínsecos	1. Representatividad	Representatividad tipológica		0	0
		Asociación a formas de vida de las comunidades/indígenas			
		Usos tradicionales o comunitarios			
	2. Autenticidad	Morfología e imagen fiel al paisaje más asumido como propio		0	
		Continuidad de los procesos que estructuraron el paisaje actual			
		Medidas de gestión y recuperación paisajística			
	3. Integridad ecológica	Biodiversidad		0	
		Madurez de las formaciones vegetales			
		Estado de conservación			
	4. Estructura geofísica/ambiental	Presencia de formas del terreno complejas		0	
		Presencia de láminas de agua			
		Cubierta de vegetación continua			
	5. Visibilidad	Diversidad y armonía		0	
		Tranquilidad			
		Amplitud de vistas o panorámicas			
Valores Patrimoniales	6. Histórico	Presencia de acontecimientos históricos relevantes		0	0
		Perdurabilidad del aspecto del lugar			
		Presencia de asentamientos humanos históricos y lugares arqueológicos			
	7. Social	Expresión de un patrimonio vivo		0	
		Vinculación a formas tradicionales de vida			
		Significación procesual			
	8. Simbólico / Identitario	Presencia de representaciones folclóricas		0	
		Sentimiento de identidad y de pertenencia al grupo o comunidad. El paisaje está en el imaginario colectivo			
		Celebración de actos cohesionadores del grupo			
	9. Artístico	Presencia de expresiones artísticas asociadas al paisaje		0	
		Fuente de inspiración			
		Presencia de bienes declarados de interés artístico			
	10. Cultural	Presencia de bienes culturales inventariados o protegidos		0	
		Presencia de proyectos e instituciones dedicadas a la puesta en valor del patrimonio cultural			
		Presencia de colectivos preocupados por la salvaguarda del paisaje y el patrimonio			
Valores Potenciales y de Viabilidad	11. Concienciación de agentes sociales	Situación jurídica y propiedad de la unidad paisajística		0	0
		Inversiones y actuaciones de las administraciones u otros colectivos			
		Estrategias y materiales de difusión y comunicación			
	12. Participación e integración de las comunidades locales	Participación en la gestión de la unidad paisajística		0	
		Participación en los procesos de documentación, investigación e interpretación			
		Participación como actor social del relato			
	13. Rentabilidad socioeconómica	El área tiene capacidad de generar empleo		0	
		Diversidad de actividades			
		El paisaje como soporte de actividades socioeconómicas que contribuyen al desarrollo sostenible			
	14. Vulnerabilidad	Ausencia de situación de abandono		0	
		Ausencia de amenazas vinculadas con el turismo no planeado y masivo			
		Ausencia de amenazas vinculadas con el desconocimiento o la falta de interés por parte de algunos sectores de la comunidad			
	15. Accesibilidad	Presencia de miradores		0	
		Posibilidad de transitar el interior del paisaje			
		Accesibilidad viaria			
Puntuación Total Elemento Patrimonial (Sumatorio Total y Calificación en base decimal)			0	0,00	





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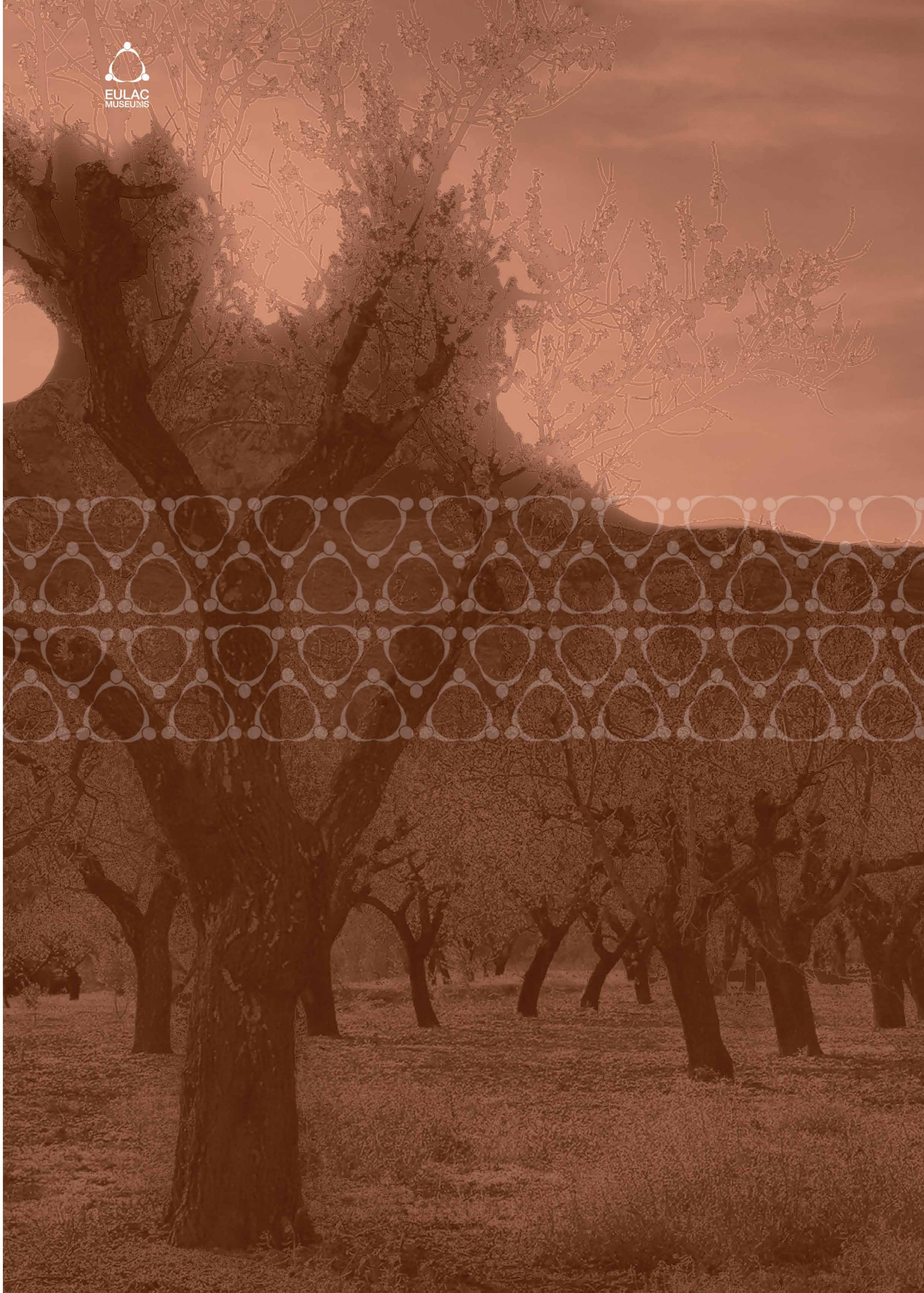
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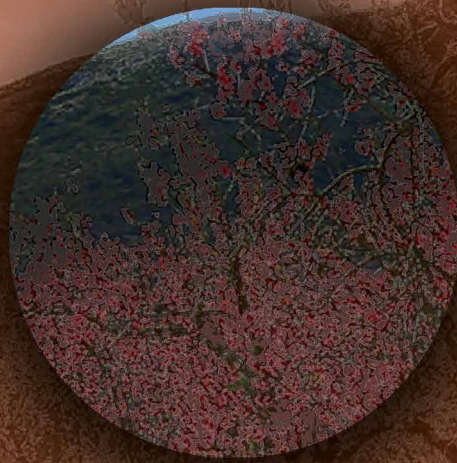
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Cambio Climático en el Perú. Costa Norte. Coordinación Isabel Guerrero Ochoa Lima, Fundación M.J. Bustamante de la Fuente. 2010





CHAPTER II

IMPLEMENTATION AND MANAGEMENT OF A G.I.S. SYSTEM APPLIED TO CULTURAL HERITAGE

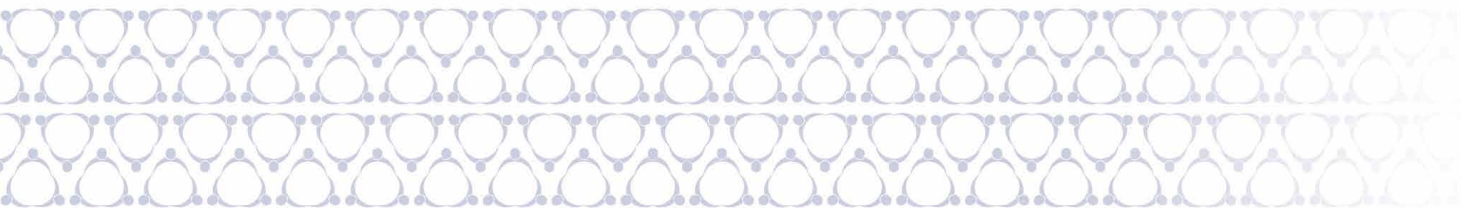
Authors:

*Jorge Hermosilla, Mónica Fernández,
Ghaleb Fansa and Sandra Mayordomo*

INTRODUCTION

Among the missions and tasks of the University of Valencia in the EULAC-MUSEUMS project is the elaboration of documents that will facilitate the management of technicians and people in charge of community museums. In this way, we have advanced in matters regarding the Strategic Planning, the Integral Management of the Cultural Heritage and a Evaluation Methodology of the Cultural Heritage. The following is a manual that aims to facilitate the application of a GIS in the territorial environment of community museums. It is a modality that technically integrates the heritage existing in the territory in the museum itself.

A Geographic Information System constitutes a useful tool for cultural heritage managers in a reference territory as in the case of ecomuseums and museums-territory, where heritage resources are scattered throughout the territory. This is the case of those



responsible for community museums, who have a close relationship with their territorial context. A GIS allows, among other functions, the following applications:

- The georeferencing of the existing information, both quantitative and qualitative, for each one of the related elements.
- Analysis of the territorial system of the cultural heritage, through the exploitation of the diverse characteristics: heritage typologies and evaluation, and its relationship with other geographical variables.
- Identification of the opportunities and strengths that cultural heritage can have in the territory, such as investments, valuation, educational and training activities, etc.

ce of our investigation group ESTEPA, from the Geography Department at the University of Valencia. Said experience is quantified in various projects for which a GIS regarding the hydraulic heritage has been created. Said projects are built around several territories in Spain and Tunisia. The group ESTEPA also developed a GIS applied to the heritage of the Valencia Community, in which several patrimonial typologies were gathered: civil and religious architecture, archaeological sites, cultural landscapes, etc.

The work carried out recently in the context of the EULAC-MUSEUMS project will allow the application of the GIS in the space of the Huerta of Valencia, in the cultural heritage in Cortes of Pallás or in the territory of Moche, Trujillo, Peru.

The present manual has been made thanks to the GIS design and application experien-





**Cartography
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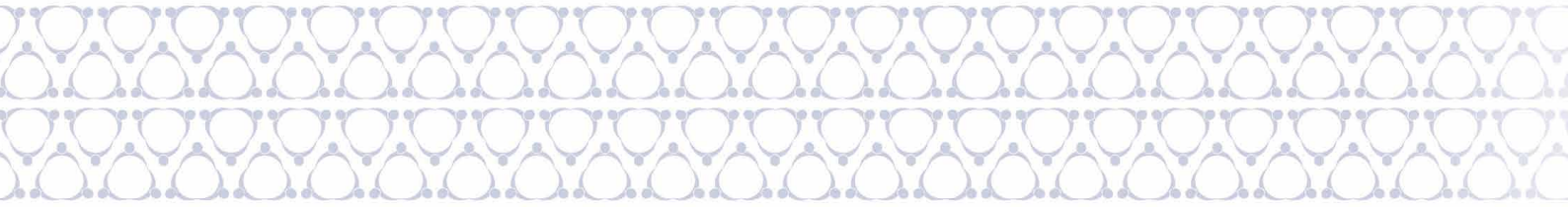
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Cartography and semiology graphic

Authors: Jorge Hermosilla, Mónica Fernández and Sandra Mayordomo

In the application of the different models that the UV has elaborated, such as the Strategic Planning, the Integral Management of the Cultural Heritage and the Method of Evaluation of the Cultural Heritage, in the museum territory, it is necessary to elabor-

ate a specific cartography related to the own heritage. Once a GIS has been prepared, the next phase corresponds to the preparation of maps, as a result of the combination of GIS variables.



1. DEFINITION OF A MAP

A map is a flat and simplified geometric representation, on a certain scale, of the entire Earth's surface or a part of it. The scale is established regarding the similarities among items. The representation of the surface on a map is conventional and abstract, that means, it's incomplete. In this way, even the most detailed maps are a simplification of reality. Therefore a map is a selective and representative construction that involves the use of appropriate signs.

A sign is anything perceptible by the senses, mainly sight and hearing, which we use to represent an entity. Signs:

- Icons: non-arbitrary symbols with a relationship of similarity with what it represents (onomatopoeia, portrait, traffic sign, etc.).
- Indications: it maintains a meaningful relationship of codependency with the object, but not of similarity.
- Symbols: socially conventional representation not due to any resemblance or relationship (words, flags, etc.).

The rules of this symbolism belong to the field of graphic semiology, which establishes some grammar guidelines for the car-

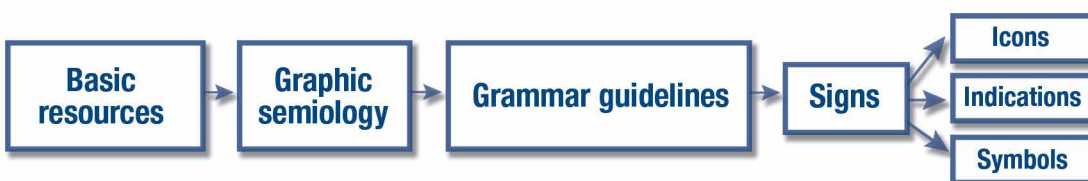
tographic language. Consequently, graphic semiology shapes the properties and rules of this language, and is the fundamental instrument for the development, reading and interpretation of maps.

Components of any phenomenon mapped:

- Location, expressed by geographical coordinates of latitude and longitude (X, Y),
- Magnitude, quantity measure or value of the phenomenon. It is the component (Z) that constitutes the place's characteristic variable and it's represented by a visual variable (retinal variable).

2. CHARACTERIZATION OF A GOOD MAP

The cartographer's work is limited by the content or information of the map that cannot be changed: continents' shape, coastline, borders, rivers, scientific data, etc. However, there is a creative task that leaves a wide margin of action within graphic design. Although cartographers are not artists, knowledge of some of the artistic norms is convenient. Let's not forget that a map that catches the eye will always be preferable to one that doesn't.



Next basic and essential elements that a map must contain will be analyzed, as well as the main qualities that characterize it.

2.1 Basic elements

Raster or edge, title and legend, scale, and grids and north are the basic elements that must be present in a map. As we can see in the following map:

A. Raster

The raster is a thin line that gives the map a limit to which its elements extend. However, it's not always necessary to indicate it, it's the cartographer decision whether to include it or not. Some maps extend as far as the paper allows.

Although the raster constitutes the map's limit, in some representations part of the territory (peninsula, islands, etc.) can extend beyond it. The advantage is that it allows the map's scale to be larger and to represent everything and in more detail.

Sometimes a second edge can be added to the map's raster, a line or several additional lines drawn in parallel outside it. It can be a simple line, usually thicker, or it can be more complex. In modern cartography, it tends to be simple.

A very useful type of edge is the one that alternates black and white bands that serve only as grid references. The indicatives of longitude and latitude can be done both outside and inside the raster.

B. Title and legend

A map must have a title and a legend, since they are the elements necessary for its reading and good use. Even if the map is included in a text, it can get out of context, therefore needs to be completed.

The title is the identity card of the map and allows you to recognize its subject. Must be:

- Short (usually there's not much space available),
- Complete (must be clearly understood and allow the easy identification of the map),
- Accurate (it is not necessary to include superfluous information, such as "Map of ...").

Also, the title must have information about:

- The location of the subject
- The content

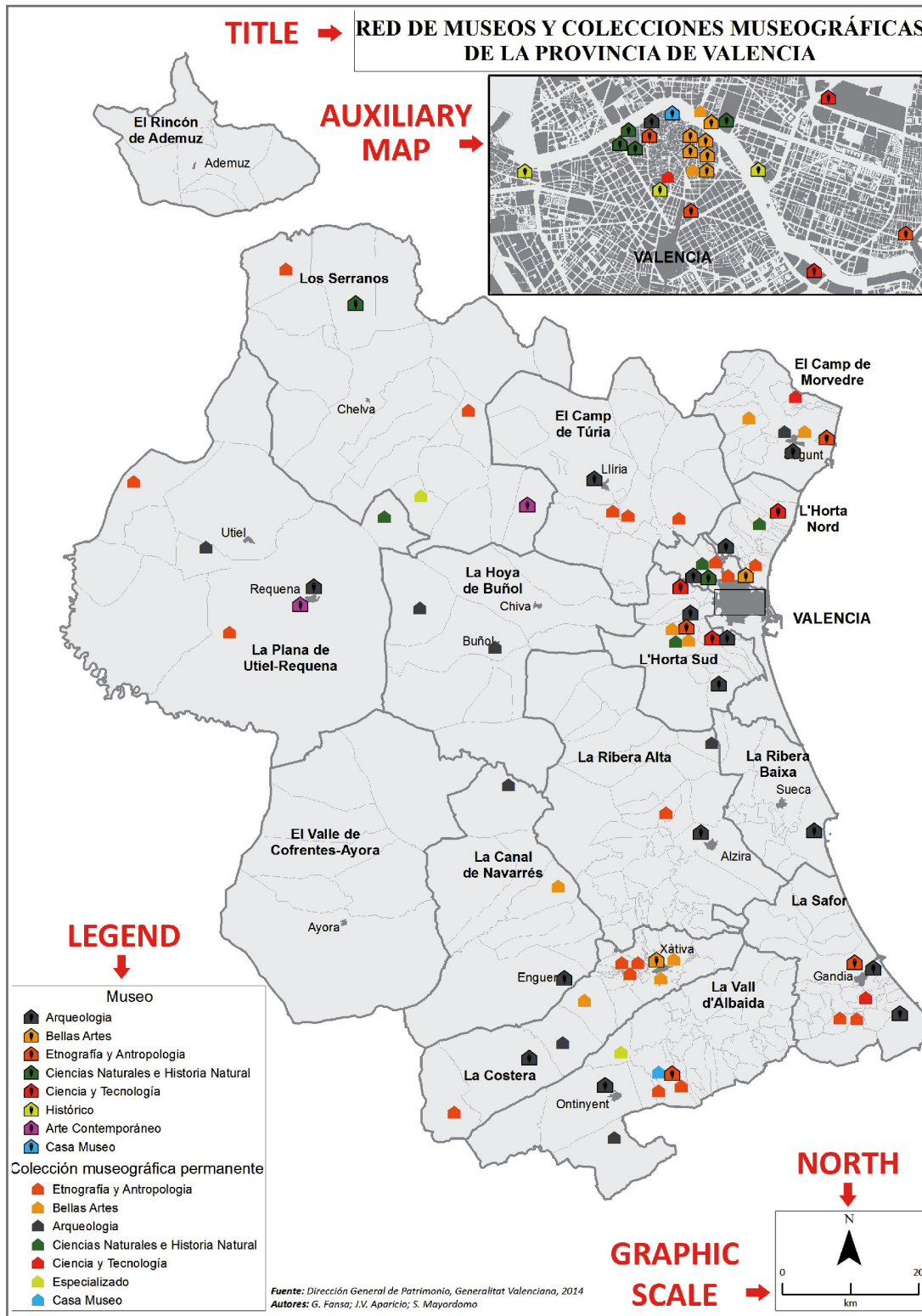
In some thematic maps (population, economic data, etc.) the date is essential.

The location of the title may vary in the context of the map: outside or inside the raster, next to the legend, centered, on one side, etc.

The legend is an indispensable element for the understanding of the document and its symbolism. It provides the reader with the key to the visual variables used and their sense of variation. None of the symbols used in that map, value changes, rasters, etc., must be forgotten. It goes without saying, they must be identical to the ones that appear on the map.

The key should include indications about the documentary sources used, the survey methods, the date of creation of the map, and the accuracy of the document. However, another type of information that is considered known (shore line, grid, wide use symbols, etc.) will not be necessary.

The place of the legend varies from one map to another depending on the space available. It can have its own raster or not. The arrangement of its elements is also important. Usually a grouping of elements and a hierarchy is preferred (roads, limits or borders, sizes, etc.).



C. Graphic scale

Graphic scales of diverse styles are used, from very simple to very complicated. Modern cartography tends to use sober styles that prioritize the functional element.

D. Grid and north

It's indispensable for the reader to locate the represented elements, a geographical reference raster is needed: geographic or projection coordinates used, and a reference to where the North is. If the geographic coordinates are represented, the inclusion of the North is not necessary.

The representations:

- The north is very simple, it's enough with a small arrow looking up in any point of the map,
- The grid varies from a complete one, or one only on water areas, or in small lines at the edges of the map; the choice will depend on the purpose of the map or the cartographer's preferences.

E. Optional elements: auxiliary maps

The auxiliary map is a small map that is represented within the raster of the map. It's not always included. Examples:

1. Extensions of an area that contains a lot of information and cannot be represented at the same scale of the map. It can be a box, a circle or an irregular shape.
2. A location map that helps the reader to recognize which area of the planet is represented.
3. An extension of a part of the map that does not fit.
4. The same map that we represent but of a specific topic different from the one that concerns us.

2.2 Qualities

Any map must have a series of qualities, which can be grouped in:

- Background qualities: those that value the map in terms of their employment and the credit that can be granted, technical and scientific,
- Form qualities: those that refer to the clarity of the map and the elegance of its presentation, of didactic and aesthetic order.

The main qualities of a good map are:

A. Accuracy

It is the quality of a map whose graphic error is minimal, taking into account its scale and the instruments used in its preparation. A map is precise when the position of the objects and the places that appear in it are rigorously homologous to the position they occupy in the terrain, in the relation given by the scale. If it meets this condition we can make measurements on it.

The accuracy of the map is reinforced when the necessary data for the execution of measurements are recorded (coordinate network, geodesic references, numerical and graphic scale, projection system, abacus for the calculation of quantitative variables, etc.).

The accuracy of a map decreases with its scale, since generalization increases and alters the accuracy of the drawing.

B. Expression

The expression in cartography is the art of graphically suggesting, at the level of detail, which objects or groups are important, as well as showing in the set the relative values of the various parts of the studied domain.

For the expression to be good, the visual variables must be carefully and logically chosen. They must comply with some rules such as:

- Gather what is comparable,
- Contrast what is different,
- Classify by ordered variables,
- Highlight the hierarchy of events,
- Use the most appropriate signs and graphics, establishing a small number of conventions that will be included in the legend,
- Avoid confusing, equivocal, irrational or irregular symbolism.

C. Legibility

Readability is the quality by which the information sought can be immediately and easily perceived, and even memorized.

The fundamental rule of legibility is that the document should never be overloaded, or should not give this impression. Sometimes it is better to use auxiliary maps at different scales or maps attached to the same scale.

D. Efficiency or performance

The most objective way to evaluate the qualities of a map is its degree of effectiveness; that is, analyze if it is fulfilling its objective. A map is effective when it is:

- Useful, able to answer all the questions that the reader asks about the topic;
- Concise, contains all the necessary data but not superfluous for the purpose of it;
- Complete, covers the whole of the studied surface;
- Truthful, the information you provide is true. Some scientific maps add comments or information about the nature of the data, critiques, work methods, or notation of the uncertainties.

The effectiveness summarizes all the above qualities. It is very necessary in didactic, scientific and application maps (risk map, road map, navigation map).

The value of a map depends on the minimum time needed to extract the maximum amount of correct information from it

3. DEVELOPMENT OF A MAP

Maps must be a readable and correct representation of reality, so a selection of appropriate variables is essential. Said process has some phases:

1. Collection of data
2. Analysis
3. The generalization, simplification and classification of the data

In the following sections the different typologies of existing variables, geographical and visual will be explained. Also other aspects related to the preparation and elaboration of a correct and useful map, such as texture, structure, symbology, colour, rasters, typography and labeling system.

3.1 Geographical variables

The totality of the aspects of the physical environment as well as those derived from the activities of the human being distributed on the earth's surface can be mapped in practice. It is possible to differentiate different types of maps according to the characteristics of the elements represented in four categories:

- A. Symbolic or puntual, for example wells, geodesic vertices, mountain passes, confluence of rivers, mills, waterwheels, bridges, etc.
- B. Linear, as frontiers, communication routes, rivers and their variants, top lines, coastline, flows or movements, isolines, etc.
- C. Superficial, for example certain land uses (urban areas, crops, forests, etc.), relief forms (glaciers), hydrological forms (lakes, seas, reservoirs, etc.).
- D. Volume, through numerical variables (abstract data), such as the population of

a city or territory, the amount of rainfall or thermal values, industrial or agricultural production, altitude, trade flows, etc.

It is not advisable to be too strict with the geographical variables, since we frequently classify the same element into different categories depending on what is considered. For example, a city can be represented with specific information (occupied place represented by a point), superficial (the space occupied by it) or volume (the number of inhabitants or the demographic density).

3.1.1. Classification of the geographical variables: continuity and uniformity

Continuity

The geographical variables can be classified as discontinuous (or discrete) or continuous. The former are represented graphically in specific places on the map. That is, its distribution is composed of individual elements in precise locations, while the intermediate areas are empty, such as buildings, roads, cities, etc. The continuous variables, however, are distributed throughout the map without leaving any empty sector, such as temperature, altitude above or below sea level, air humidity, etc.

Spatial data that are discontinuous, such as the number of inhabitants, can be transformed into a continuous variable if they are related to a variable of this same nature. For example, if the number of inhabitants is related to the territory (continuous variable), demographic density is obtained, which constitutes a continuous variable.

Uniformity

It is possible to classify geographic variables into uniform and non-uniform phenomena. The former are those whose differences between one place and another are transitory and not abrupt (atmospheric pressure, insolation, temperature, etc.). In

the non-uniform phenomena the distribution changes sharply (borders, land uses, GDP, lithology, etc.).

In general, the volumetric data are usually uniform, while the zonal data are usually not-uniform. However, some types of distribution tend to be both at the same time, such as population density.

3.1.2. The variable scale

In the realization of a map, in addition to locating the geographical phenomena, an order must be established. It is not enough to trace all the lines (rivers, roads, borders, trains, etc.), but we must differentiate them. In order to do this, it's necessary to establish an internal order in the variables through the scaling system. This system establishes four levels of precision:

A. Nominal scale (qualitative aspects)

Nominal scales are used to distinguish a set of elements based solely on qualitative aspects. They are mainly used for point, linear or zonal data, although they can also be used for volumetric data.

Examples: agricultural or non-agricultural land (without knowing the productivity); puntual data: a city or a quarry; linear data: a river or a road; zonal data: urban or forest land; volumetric data: population density or air mass. They are considered as zonal, linear or puntual rather than as volumetric. The volumetric data uses a higher order scale.

B. Ordinal Scales (ranges)

Ordinal scales involve nominal classification but also differ within a type of data based on their rank, according to some quantitative

measures. The range is the amplitude of the variation of a phenomenon between a lower limit and a higher one, both clearly specified. In this sense, only the range is taken into account, that is, the order of the variables is provided from lower to higher, but it is not quantified. For example, agricultural land will be more or less productive, but without quantifying its productivity; it's possible to classify first category mountain passes; or differentiate cold and warm temperatures. In short, it is indicated that some variables are more important than others but no magnitude that differentiates them is detailed.

C. Interval Scales (quantitative or indexes)

Interval scales add distance information between ranges. Conventional units should be used starting from zero (Celsius, meters, etc.). For example, to acknowledge temperature degrees are used, and number of inhabitants to size cities.

The three mentioned scales, nominal, ordinal and interval, are a progression. All are nominal, the ordinal adds rank, and the interval assigns magnitudes to the ranges.

It's easy to classify the geographical variables and indicate to what type of scale they belong. The difficulty lies in getting the geographic representation right. For example, in an interval variable such as the size of population centres, it's possible to order the cities of a country by the number of inhabitants through several intervals that have the same distance between them. Subsequently, each value is represented by a symbol of a hierarchical size. In this way, although it is not possible to deduce the concrete values from the chosen symbols, the representation provides information about the distance between ranges.

D. Index Scale

It's a refinement of the interval scale. It provides quantities that are intrinsically significant by using an interval scale that starts at

a zero point that is not arbitrary. For example, elevations above a reference level, the barometric pressure, the Kelvin temperature scale, precipitation, GDP, etc.

It is important to note that between the interval and index scales there is a difference touch, since from the point of view of the cartographic representation there are no differences in symbolization. In both cases, an order is presented, although the interpretation of the two scales is very different.

3.2 Visual variables

The representation of any type of geographic data requires the use of a series of visual variables that allow differentiating some elements from others. The visual variables are shape, size, value, orientation, colour and grain. Each of the variables has intrinsic properties that delimit its field of application, which is the length or margin of the variable: the number of non-identical and visually discernible elements that it allows.

The implantation of the variable in the map or document can be, in the same way as the geographical variable, of three types: punctual, linear or zonal.

A. Punctual

The point is a place on the map, geometrically without a surface, that can be defined by the intersection of two lines. Its centre has a well-defined position that has no surface significance. As it happens in all the representations, to be visible it has to have a surface, but this one is conventional and only its centre has the characteristics of the point.

B. Linear

The line is a place on the map without surface. It can be defined as the limit between two surfaces or as a set of points infinitely close together. It has only one dimension,

the length. It can be continuous or discontinuous, with twin lines, etc., but only the linear axis of the represented element has a positional meaning.

C. Zonal

It is a part of the map surrounded or not by a closed line. Its surface is measurable in two dimensions, width and length. The area covered by the representation of this surface cannot be modified. It is not possible to vary the form, the dimension and the orientation.

The variables are classified according to the degree of perception:

- **Selective:** A variable is selective when it allows to spontaneously isolate the geographic variables corresponding to the same category. These correspondences form "families": red signs, large signs, etc.
- **Associative:** A variable is associative when it allows to spontaneously group similar objects. Its form is often used. For example the association of squares, circles, triangles, etc. When the variable is not associative it is dissociative.
- **Ordered:** A variable is ordered when it allows to classify the objects represented in a progressive variation.
- **Quantitative:** A variable is quantitative when it is suitable to establish a numerical relationship, or a valuation between the categories of the same component.

3.2.1. Shape

A graphic element can take infinite shapes for equal surfaces:

- Geometric: geometric figures
- Symbolic: use of symbols
- Evocative: bring something to memory
- Figurative: representation of a geographical element or thing

When the form does not evoke the represented element it is necessary to go to an explanatory key.

The length of the variable (margin) is unlimited. However, in practice its use is limited by habit and ease of reading. Symbols or shapes that are not easily associated with the represented element are not used, and the use of widely known symbols is preferable.

The variation of form is not ordered or quantitative. A symbol such as a cross or a house does not have an ordination nor can it indicate a quantity. It is an associative variable, but it is not selective. It is difficult to know where a category represented by a form is.

The form is a scarcely adequate variable for differentiation and regionalization. Signs of the same size, value or colour but in a different way may appear similar. However, the association of signs with similar characteristics on the map is not simple.

It is generally used in puntual, linear, zonal and volumetric implantation.

3.2.2. Size and dimension

A symbol has a certain shape and size. This can vary without changing any of its other characteristics, but only its surface.

The size of the variable is limited by the minimum surface of the perceptible sign and by its maximum representation, which depends on the characteristics of the map and its scale. In this regard, it must be taken into account that:

- The topographic maps present more restrictions on size than the thematic cartography
- A very large sign hides the space to represent other information

- When it is necessary to distinguish in a map several similar figures, more than 4 or 5 degrees are not possible

The dimension variable allows you to classify spontaneously. It is selective and organized. The difference between two surfaces can be defined numerically; it is a quantitative organized variable.

The most frequent representations are:

- In puntual implantation it is represented with figures of different sizes (circles, squares, etc.)
- In linear implantation is done with lines of different width
- In zonal implantation it is carried out with puntual or linear elements that are inscribed within the surface

It is necessary to bear in mind that this variable can be confused with the value.

Considerations and advice in order to this variable:

1. Due to its characteristics, this variable is very useful for data with ordinal and interval or index scales. Only nominal and zonal data cannot be represented by this variable.
2. In order to make a quick selection in the whole map there must be a sufficient distance between the different sizes, so it is advisable to use a small number of levels.
3. If detailed statistical information is available, proportional elements are usually used.
4. If the variation between the extremes of a statistical series is scarce, it is possible that the variable dimension does not guarantee visual perception. It's necessary a choice of arbitrary sizes when there are proportional figures.
5. If the statistical series is very scattered and the criterion of proportionality is used, one sign can make the others disappear (superposition). For example, the population of a large city can make disappear the one of the neighbouring towns. That's the reason to use black circles for the small ones and white hollows for the great ones.

3.2.3. Value

The value is the relative clarity or darkness of a sign. For a black image on a white background, the value is defined as the relationship between black and white. It can

also be used for colours and white, or for a colour regarding black, or on black regarding another colour.

Value is the most effective variable for zonal data, however not for points or lines.

Considerations:

1. The length of the variable is greater in black images on a white background. It decreases when the background is coloured. When the images have colour on white, they have less margin, that is, less possibilities.
2. The length of the variable also depends on the size of the image.
3. For very small elements only black on white is distinguished.
4. Between black and white usually there are 6 steps, black and white included.
5. The variation of value is organized. Normally, clear values are associated with low values and dark values with high values. The set of signs of the same shape, dimension and colour, but of different values, are perceived as belonging to different categories (it is also selective), which are organized naturally. However, it is not a quantitative variable, but a dissociative variable.

For example, the representation of oil production in the world through variations in value allows the main producers to be seen quickly, but it does not facilitate the magnitude of consumption, so a legend would be essential. In these cases it's advisable to use a variable such as size since it allows quantification.

Tips to use this variable:

1. The visual perception is limited. In zonal implantation it has no more than 6 or 7 steps.
2. It's convenient to establish a regular and clear organization of the values, without jumps. It's not correct to go from points to lines, except in some cases.
3. It's convenient to use the maximum extension of the range including white and gray.
4. A greater selection (differentiation) of signs can be obtained by combining value and orientation.

3.2.4. Spacing or grain

Granulometry refers to the amount of separable elements per unit area. If we assume a given proportion of black and white (value) but we vary the size of the symbols that make up the raster, we obtain grain variations. The lattice surface takes different aspects,

preserving the shape, orientation and size. The size of the grain varies without varying the proportion of white/black (value).

For example, in 1 cm² there may be around 50 black spots, but always keeping 50% of it white.

Modalities:

1. The raster or coarse grain corresponds to the number 50 (50 dots per inch) (1 inch = 2.54 cm, 1 cm² = 0.15 square inches).
2. The fine grain corresponds to 300 dots per inch.

This variable, however, depends on the size of the image represented. If it is small, we can only use white and black. If it is medium, usually no more than six categories are used.

The spacing or grain is an adequate variable of selection, capable of clearly differentiating the symbols, especially in zonal implementation (selective). It's also suitable of clustering by similarity, so it is used to highlight the subgroups, especially if it's associated with another variable such as colour or shape. It can be used, as value, for classification of a successive series. It's an organized variable.

Thick grains adapt poorly to surfaces of very small dimensions.

3.2.5. Orientation

This variable refers to the directional arrangements of a sign.

Limitations:

- It has a limited field of application, since it only serves for certain symbols, the linear ones. Geometrical figures such as square or circle cannot be oriented, while other figures such as the triangle can.
- It is also limited with the length (margin of the variable), since only 4 orientations are distinguished as a maximum: horizontal, vertical, inclined to the left, or inclined to the right, regarding the shape of the map that serves as a reference.

The orientation of the symbol has no special meaning of classification or weighting, although it constitutes a good selective variable since it allows us to easily identify signs with a certain orientation. It's selective and associative. It's used for nominal aspects of puntual, linear or zonal data.

3.2.6. Colour

Colour is a very complex variable, strong, immediate and intensely perceptible, which is why it constitutes an excellent selective and associative variable.

The mind perceives the analogy between symbols of similar colours so this variable facilitates associations.

The colours serve to organize, accentuate, distinguish, classify, contrast and improve readability.

The colour can be used for all types of data and scales.

3.2.7. Combination of variables

The combination of all visual variables is possible. Two identical symbols can be differentiated by the shape only, by the form combined with the dimension and the value, or by the form combined with the dimension, value and orientation. If we also consider the colour, we have five variables, and each of them with a number of variable elements depending on their length or margin.

If F is the number of elements available for the shape variable, D for dimension, V for value, O for orientation, and C for colour, the number of different signs obtained is:

$$N = F * D * V * O * C$$

3.3 Colour

The great utility of this visual variable makes it a fundamental cartographic tool. Next we will study the main factors that determine the choice of one colour or another.

3.3.1. Definition and characteristics

The importance of colour in cartography comes from past times. It was applied directly on manuscript maps (*portulanos*) and in the early days of printing, the maps were illuminated by hand one by one. With the development of lithography and photography in the nineteenth century new techniques of colour printing emerged.

Colour is a visual variable widely used for its qualities. It allows greater detail, enhances the visual interest, increases the possibilities of design and extends the possibilities of hierarchical graphic structuring. Among its qualities:

- A. Great versatility: great adaptability to represent quantity and variety of information.
- B. It's a clarifying element: it establishes a visual order. For example, if you represent numerous geographical elements with black lines (roads, railroads, rivers, contour lines, borders, etc.), the map is difficult to read, but if it is colour-coded, it's easier. It's a selective and associative variable.
- C. Allows overlays: colour has the advantage that it doesn't cover or drown signs and details; you can draw on a colour without problems of readability.

The rules of use of colour are complex since they are the result of a compromise between: physical, physiological, psychological, subjective, symbolic and aesthetic factors. All of them determine perception.

3.3.2. How to choose a colour

Colour is a visual sensation that occurs due to the stimulus of the eye (acting as a sensor) on part of the electromagnetic spectrum from an object illuminated by white light.

It is a retinal variable and, in the same way as the rest of the variables, it is used in a very different way: in punctual, linear or zonal implementation (for example to fill large areas such as oceans, vegetation, lakes, etc.).

You can use colours for nominal geographic variables and also for quantitative ordered geographic variables (altitudes, temperatures, etc.).

The choice of colours is essential for the success of the map and also because it's convenient to avoid making disastrous combinations that distract the reader's attention to a certain point on the map.

As a general rule, regarding the design of the map one must keep in mind the objective pursued, which is not always easy. The design of the map implies having to choose between some objectives and some principles in the use of the variables, and sometimes conflicts are created that the cartographer has to solve at his discretion.

For example, if we want to distinguish lines by their colour (type of exports) and thickness (quantity), but for certain phenomena they are very thin, the tones will not be distinguished, which would force us to raise the conflict and assign priorities, that result sometimes in redesigning the map and the choice of another variable.

When choosing the colours, a series of considerations must be taken into account. The cartographer is interested above all in the aspects related to the perception of colour, what the user sees. These aspects can be classified:

- Physiological: tone, value and intensity
- Psychological and subjective: sensitivity, visual acuity, contrast, individuality of tones and artistic-emotional value
- Symbolic aspects

3.3.2.1. Physiological aspects of the colour (components)

From a perceptual point of view, the character of a colour is defined by three components: tone, value and intensity (or chromatism).

A. Tone

Tone is the property of the colour that we associate with differences in wavelength. The basic or primary colours are red, green and blue.

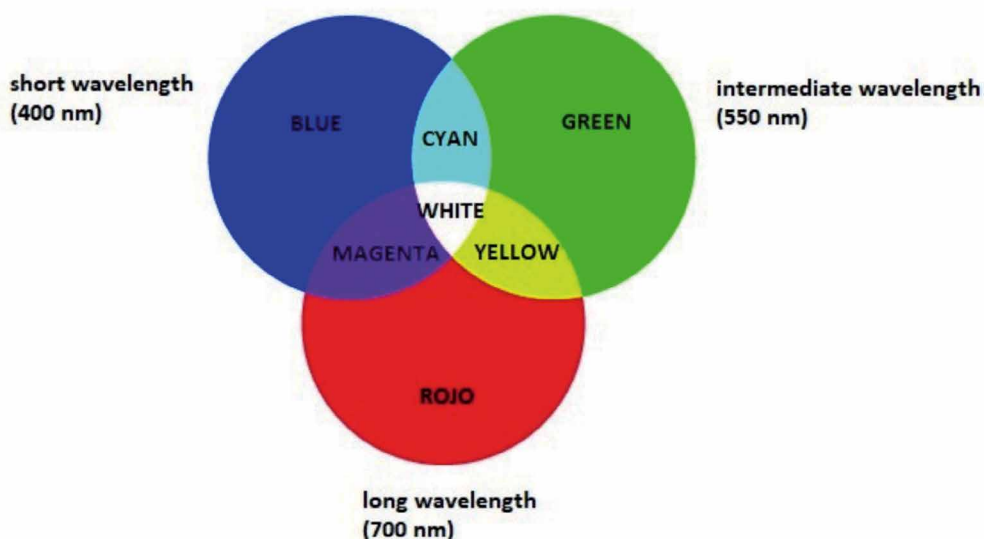
There is a great variety of tones since the wavelengths can be combined in almost infinite ways. The arrangement of tones in organized sequences or series depends on the selected criterion.

The most common or known sequence is the rainbow. Each colour corresponds to a narrow band of the electromagnetic spectrum, characterized by a certain wavelength. The colours organized according to the increasing wavelengths give the following range: violet-blue-green-yellow-orange-red

However, this continuous order of the spectrum does not correspond to an ordered perception, since the eye as well as the tonality perceives the value and the intensity, hence in practice other series are used.

If we divide the spectrum into three practically equal parts we have the three colours or tones that have been called primary, since all others can be obtained by mixing them. A primary colour is not a spectral tone but a combination of wavelengths dominated by a portion of the band. They are also called pure colours: blue, green and red.

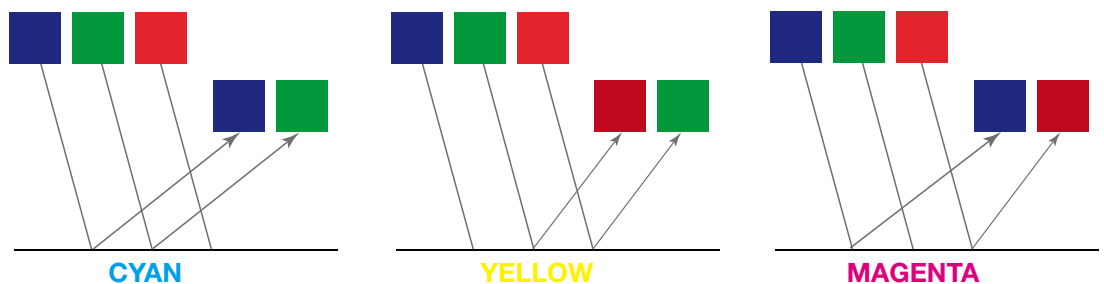
The other colours are the product of the combination of these three basics, and the sum of them gives us white light.



The combination of these colours provides the primary subtractive colours:

Red and green: YELLOW
 Blue and red: MAGENTA
 Blue and green: CYAN
 Red, green and blue: WHITE
 White - blue: green + red: YELLOW
 White - red: blue + green: CYAN
 White - green: blue + red: MAGENTA

The colours on the paper result from the pigments that are applied to the surface illuminated by white light, which subtract certain wavelengths and reflect the remaining ones, which is the colour we perceive.



The primary subtractive colours are complementary to the ones that it absorbs:

- Cyan is complementary to red
- Yellow is complementary to blue
- Magenta is complementary to green

If the light that illuminates the object is not white, the perception of the colour changes. For example, the spotlights in a nightclub.

B. Value

The value is the sense of clarity or darkness of a uniform tone. It depends on the dominant wavelength and varies according to the percentage of white or gray over pure ink (less or darker colour).

To describe this property, several equivalent terms are used: luminosity, brightness, reflectance.

Luminosity is the quality of emitting light and is not constant in all spectral tones. The colour green is the brightest.

Value is a sensation, and therefore it is not objective, it is something apparent. The clarity of a colour will be affected by the colours that surround it. The values of two surfaces can be different even if their reflectances are equal.

C. Intensity

This property is related to the purity of the colour. It is the ratio between the monochromatic luminous flux and the total flux emitted by the colour. For example, if a red is more or less orange, or a blue more or less greenish. Terms such as chromatism, saturation and colour purity are also used.

Rules of use

Of the three components of colour described (tone, value and intensity), the most important from the perceptual point of view is the tone, since it is the most attractive feature. Value is also very significant but it's a more common aspect, and intensity is the least important feature. Thus, when we see a colour, the first thing we point out, for example, is whether it is green or red before we say whether it is light or dark.

To build organized ranges of colour there are two possibilities:

- A. For the same dominant tone (green, red, etc.) we vary the value, in which case a monochrome variation would give the same result as a range of grays.
- B. For equal intensities (pure tones) we can vary the tones and build series. If we classify the colours according to their luminosity we can obtain a unique range:

Yellow-orange-green-blue-red-violet

We can also create, for example, two series of increasing values on both sides of yellow:

- Hot range: yellow-orange-red-violet
- Cold range: yellow-green-blue-violet

This organization is very useful for geographic variables that have positive and negative components (variable that oscillates around a mean). For instance, altitudes, temperatures, etc.

The use of colour would be simple if we limited ourselves to the physiological aspects described but there are other aspects linked to the perception that we have to consider.

3.3.2.2. Psychological and subjective aspects regarding the perception of the colour

The subjective aspects deal with the one's reaction to colour and they are very assorted. Those that we must have in mind at the

moment of the choice of colour are sensitivity, visual acuity, contrast, individuality of the tones and artistic-emotional value.

A. Sensitivity

There are a series of colours called perceptual primaries that comprise the tones that we perceive as distinct:

blue green yellow red
brown white black

The ability of the human being to remember the tonalities and retain an impression is restricted, because we cannot remember many colours. Therefore, when tones are used to distinguish elements, these must be as different as possible.

The proximity between tones is important. The human eye is less apt to recognize two identical tones far from each other on the map than to differentiate two tones of near wavelengths located next to each other.

If the coloured symbols (points or lines) are very small or thin it will be very difficult to distinguish the tones and we will have to use another visual variable to distinguish them, such as shape.

B. Visual acuity

A map is a set of symbols on a paper that serves as a background. The colour of this background is usually not considered map colour. Thus a monochrome map is one in which only one colour is used on a background. That is, we would have a map of two colours.

Visual acuity is the ease of seeing and it is better the more monochromatic the background is.

For example, a yellow background with black details would be very easy to distinguish, but on a brown background (mix of wavelength) it will be more difficult. If only one colour was available for the map, black would be the chosen one, not white.

C. Contrast

The sensation in the examination of a coloured area depends to a great extent on the neighboring zones, that is, on the effect of neighborhood:

- Two nearby tones are modified among themselves. A tone surrounded by another tends to approximate the background tone.

Examples:

- A green on a yellow background tends to be perceived as bluish-green.
- A colour appears lighter when printed on a light background and darker when surrounded by black. In the first case the contrast must be increased by surrounding the coloured symbol with a darker border.
- A small area is not seen if the values are very close between the background and the area, you would have to increase the contrast, that is increase the value.

D. Individuality of the tones

The primary perceptive colours are individualized and distinct tones (blue, green, yellow, red, brown, white and black), but there are other colours that are the result of the mixture of the previous ones. For example: orange is red and yellow; pink is red and white.

The phenomenon of tones is important in cartography. Individual tones should be used to distinctly symbolize different phenomena, and mixtures, to represent elements that share some of the phenomena they symbolize separately.

Examples:

- Maps of land use: 1. vineyard, red, 2. cereals, yellow; vineyard plus cereals, orange.
- Ethnic groups: 1. Hispanic, blue, 2. Asian, yellow; mix, green

E. Artistic-emotional value

Kandinski said that warm tones approach the viewer while cool tones recede them. Warm tones have an eccentric movement and cold ones have it concentric. The combination of both movements is the immobility and rest that represents the green (equilibrium colour).

In the artistic world colours are associated with temperatures:

- The red and orange tones are warm (sun, blood, fire, summer),
- The blues are cold (steel, snow, ice, shadow, winter),
- Green is an intermediate colour (natural balance, vegetation).

The emotional aspect of colour refers to connotations or evocations. The ardor, the passion, the combativeness, the danger, the revolutionary spirit, etc., they require red tones. There usually is a universal significance, although this emotional aspect of colour varies according to countries.

Example:

- Black is mourning in the West, but in India the colour for mourning is white.

Some colours attract or are liked more than others. Therefore, although the goal of the cartographer is not to make a map "to be liked", it's better to use colours that are pleasing to the eye. Studies conducted in the USA on the affective value of colour indicate three as the most "pleasant": blue, red and green.

3.3.2.3. Symbolic aspects

By force of habit and by analogy there is a series of tones that are conventionally used to represent certain phenomena.

Both old and modern maps use the following correspondences:

BLUE: liquid waters (seas, rivers, rain, reservoirs, channels, etc.) and solid waters (glaciers)

GREEN: vegetation, lowlands

BROWN: relief (this colour is widely used but it's not very useful for level curves)

YELLOW: drought, scarcity of vegetation, intermediate elevations

RED: heat, important elements (roads, cities)

BLACK: reserved for fundamental or basic elements that should attract our attention

For qualitative distinctions we use the a concrete form, for instance, spring: -O-, well: O; and for quantitative distinctions we use the value (hypsometric ink for the relief or range of blues for the bathymetry).

3.3.2.4. Complementary aspects

Finally, we will point out some considerations:

- Cuando se cartografian datos o fenómenos When nominally scaled data or phenomena are cartographed with colour symbols in zonal implantation, the problem is to select suitable colours. If no organization of the geographical variables is involved and no area is more important than another, colours that don't involve magnitud de should be selected. If there is a more important category, a dominant, darker or intense colour will be assigned.
- When there are different areas and different colours, the most intense tones will be reserved for the smaller areas in order to give them greater visibility, and the less intense ones for the larger areas, thus avoiding this area to stand out unnecessarily.

3.4 Complex graphic elements: texture and structure

There are complex graphic elements formed by simple elements in a certain relative arrangement. In the domain of the forms, complex graphic elements can easily be realized simply by the association of simple elements (identical or different), separated, together, juxtaposed or superimposed.

Same thing occurs with linear elements that are the result of combinations of simple elements, continuous or discontinuous lines and puntual signs.

The **texture** is the particular configuration resulting from the association of different constituent graphic elements.

The **structure** is the way of distribution of the constituents of a graphic set formed by identical elements, simple or complex. If there is no apparent order, it is defined as an irregular structure, whereas if the elements are distributed according to a geometric or periodic law, it is defined as a regular or geometric structure.

The structures are applied to zonal implantations, be they be a geographical surface, or a surface occupied by a puntual or linear symbol.

The objective of the structure is to give an impression of value, although a secondary effect is the differentiation that is produced by its constituent elements and their relative disposition.

In the case of geometric structures, the arrangement reveals certain privileged directions that define an orientation of the structure. There are referred as horizontal, vertical or inclined lines. These orientations may have a meaning or not depending on whether the orientation variable is applied or not.

The structure is defined as apparent or not according to whether the separation interval between the elements is seen or not. In some cases there are structures in which the scratching is very thin and is not appreciated.

Structure's characteristics:

- The nature of its simple elements
- The orientation
- The separation between the centres or axes of the elements (also called the "step").

The variation of value depends on the surface of the constituent element and the passage. In apparent structures, orientation is a method to distinguish structures of equal value with identical textures.

3.5 Schematization and symbology in cartography

Any graphic representation that is not 1/1 scale is a schematization. There are always differences between real dimensions and representation.

The limits to the representation that condition the schematization, are determined by the dimensions of the paper and by the limits of vision of the human eye.

The objects and the real forms must be transferred to the map with their exact contours and in the true magnitude to scale, whenever it is allowed. For example, in a topographic map the surface of the city must be real, the limits of the municipalities also, and even the size of the buildings if the scale allows it.

Normally the scale prints the first limitation and sends in a schematization. When the scale does not allow to represent the real surface (for example the width of highways, roads in a map to scale 1 / 100,000) it's ne-

cessary to resort to a distorted representation, which sometimes thickens the represented element.

On other occasions, very small individual elements (dunes, sinkholes) that could not be represented individually are represented as a collective with a symbol. The symbols are also used to represent intangible or abstract components (data, dates, political character, etc.).

3.5.1. Symbols

The symbol is the graphic representation of an object or a fact in an evocative, simplified or schematized way. The symbol visually translates the represented phenomenon. It can be:

- More or less figurative
- With simple or complex graphic elements
- Letters or numbers

The best symbol will be the one that is recognized more easily, that has no need of legends or keys. The symbols must be selected so that they communicate reality effectively, and they must give emphasis to the subject matter of the map. They are the main element of the map design.

However, the meaning of a symbol is not universal. A symbol can have several meanings. Symbolic analogies are a matter of habit rather than resemblance.

The symbols must meet the following characteristics:

1. Clarity: graphically simple
2. Easy to read
3. Easy to draw
4. Easy to reduce to small dimensions
5. Standardization

It's relevant to consider that the thematic maps are usually incomprehensible to the profane because very specific signs are used; as the symbology is enriched, the difficulty of communication increases.

The symbolism is conditioned by the scale. Large scales allow numerous real representations, and on small scales the degree of symbolism increases. For example, in a large-scale map a city can be represented with its streets and buildings, on a small scale it is reduced to a point.

The preparation of the symbols must take into account that not all visual variables are adequate. The form is the most useful variable; the variation in size is also very effective as a symbol of proportionality; the change of value (tone) serves to classify; and colour, grain, and orientation are symbols of selection and regrouping.

3.5.2. Classification of symbols

The symbols can be classified according to their design and the category of the phenomenon represented.

A. According to the design

They range from realistic and pictorial to abstract geometric symbols. The choice of one type or another depends on the information represented and the style and purpose of the map. There is no clear line to classify the symbols in one of these two groups:

1. Pictorial symbols (pictograms)

They provide an evocative or recognizable image of the reality they represent. For example, the drawing of a skier for a ski resort, a peak for a mine, or an airplane for an airport. The advantage of these signs is that they do not require additional explanation or legend, and that they are easy to remember. Most pictorial symbols are puntual or zonal. For example, regarding vegetation: forest, orange trees, vineyards, etc.

The amount of pictorial symbols that we can design will depend on the type of map.

2. Abstract or geometric symbols

Abstract symbols refer to circles, squares, dots, triangles, etc. They are used when information cannot be represented by pictorial signs and its meaning is fixed in the explanatory legend. In some cases the use of the symbol is so conventional and widespread that it does not need a legend. For example, a point or circle with a name next to it to indicate a city. Abstract symbols with variations in colour, value and size are used to establish categories and subgroups within the variable, which can be quantitative.

Typography as a symbol

The style of the letters can be used as symbols. For example, cursive letters are often used for hydrology (rivers, lakes, glaciers, etc.). Likewise, it's possible to reserve a letter for the physical features of the map and another for human features.

The letters can also be used as a symbol of zonal implantation. For example to distinguish crops, lithologies, etc. Letters or numbers can also be used as point symbols, usually in combination with a geometric symbol. For instance, a letter inside a circle.

B. According to the category of the phenomenon represented

There are four categories of phenomena (geographical variables) that can be symbolized in maps.

1. Puntual symbols

Those that represent specific geographic variables (mines, buildings, mountain peaks, etc.). However, the fact that a geographical feature is represented or not by a specific symbol depends on the scale of the map. A geographical feature that occupies a large area in reality may be a puntual symbol on a small-scale map, but it will be a zonal symbol on a large-scale map.

Punctual symbols can be real points (point, circle, triangle, cross, star, etc.) and other types.

This typology of symbols can change in size, shape, colour, value and orientation. In specific implementation it is not very practical to use ideograms or pictograms that are difficult to change their variables (size, grain). It is advisable to use geometric symbols that are easy to locate and vary:

- The family of circles is easy to read. They can be complete circles, semicircles, empty, full, crown, etc. Their derivative forms are multiple: cogwheels, stars, spheres, etc. They allow orientation if a line is drawn inside the circle.
- Rectangles and squares are also easy to read and it is possible to easily calculate the proportional surface. They allow orientation.
- Triangles are difficult to read and their derived forms are scarce and unrepresentative.

2. Linear symbols

Linear symbols represent geographic features that have only one dimension. They can represent:

1. Real phenomena (roads, rivers, canals, pipes, power lines, etc.)
2. Conventions (borders, watershed, slope changes, administrative division, etc.)
3. Transported volumes or flows between two points. The width of the line can be proportional to the quantity.

A very useful type of linear symbol are the isolines, that is, lines that join points of equal value, such as isohyets, isogones, isohipses, isochrones, isobars, etc., depending on the variable that is represented.

The surface that represents the line can vary in size, value and colour. The variables form and orientation intervene only in the details of the signs that constitute the line. The value or the grain of the line cannot change.

When we need to establish a hierarchy in the lines, value, thickness or form will be used. The lines can be continuous or discontinuous, simple, double, different, serrated, etc. Continuous lines are normally associated with continuous phenomena (river with water, rail, etc.) while discontinuous lines are associated with discontinuities, weakness, disappearance, etc.

3. Zonal symbols

They represent surface-type geographic phenomena found in defined areas of the earth's surface, such as qualitative categories: types of crops, land uses, climatic regions, linguistic zones, lakes, etc..

It's generally assumed that this category applies uniformly to the entire area covered. Zonal symbols are also used to represent data referring to political units such as states, provinces or municipalities.

The area covered by the representation of this surface cannot be modified. The form, dimension and orientation can't change. Therefore, the only visual variables that we can use are value, grain and colour. The realization of a hierarchical classification is difficult since the value is not quantitative.

To solve these problems on surfaces we use a shading that overlaps the area.

This shading can be indicative of an activity in a simply descriptive way if an appropriate symbolization is used. Shading can also contain numerical information if value and dimension are combined, so that ordered values are created using identical graphic elements visible to the eye, whose dimensions vary without the modification the surface. These shadows are called chorograms or rasters.

The repetitive and generalized use of the patterns ends up turning them into conventional signs, such as signs to represent forests, marshes, vineyards, lithological materials, etc.

4. Surface symbols




























They are used to represent data distributed over the entire surface (altitude, rainfall, temperatures, etc.). They are phenomena whose magnitude varies from one place to another but is distributed throughout the Earth's surface. Usually we use rasters or isolines (choropletics and isolines maps).

3.5.3 Proposal of graphic symbology applied to cultural heritage

Here we present two proposals of graphic symbology that completes this section: (A) the first applied to cultural heritage, and (B) the second, applied to the hydraulic cultural heritage. This symbology has been satisfactorily tested in the study territories of the EU-LAC-MUSEUMS project, both in the Huerta of Valencia and in the Huerta of Cortes de Pallás.

SYMBOLY APPLIED TO CULTURAL HERITAGE		SYMBOLY APPLIED TO CULTURAL HERITAGE	
Symbol	Description	Symbol	Description
	Farmstead		Museum
	Monumental trees		Urban area
	Arabian baths		Palace
	Calvary		Municipal natural place
	House		Main peaks
	Historical centre		Cave paintings
	Castle, fort		Bull ring
	Walled city, walls		Parapet
	Caves		Bridge
	Religious building: cathedral, collegiate church		Red Natura 2000 (protected natural areas)
	Chapel		Road network
	Factory		Main rivers
	Railways		Theatre
	Room		Bath
	Church		Observation post
	Garden		Tourist Info
	Lagoon		Live stock road
	Mill, windmill		Archaeological site
	Microrreserve		Paleontological site
	Viewpoint		

SYMBOLGY APPLIED TO HYDRAULIC CULTURAL HERITAGE

Symbol	Description	Symbol	Description
	Tank		Scale to measure water's height
	Aqueduct		Mine
	Cistern		Mill
	Stream		Motor
	Diversion dam, Reservoir, Dam		Waterwheel
	Pond		Parada (device to stop water flood)
	Hydraulic pump		Divider
	Floodgate		Well
	Spill way		Ventilation shaft
	Surface drain		Salt lake
	Foggara		Siphon
	Fuente		Siphon (entrance and exit)
	Washing place		Tornillo (water pump device)
	Ventilation shaft		

	FUNCTIONAL		NON FUNCTIONAL		GONE
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3.6 Rasters

The term raster denotes in cartography any systematic repetition of visible signs that cover part of a representation.

The character of a normalized rasters depends on how its signs are structured and on how the qualities of the most important graphical or variable elements are articulated:

1. Size: if the signs are large or small, more or less thick, etc.,
2. Grain: if the signs are together or separated,
3. Orientation: direction of the signs in relation to the framing of the map.

The rasters can be clear on a dark background or inverted, when the background is clear. There's a wide variety of standardized rasters that can be grouped into three categories:

A. Linear rasters:

- Usually formed by straight lines, although sometimes they can be wavy, parallel, etc.

- Different thicknesses and spacings,
- Sometimes two sets of lines are crossed, forming a striped cross, which can be perpendicular and oblique.

B. Puntual rasters:

- Series of round points arranged triangularly or rectangularly,
- Irregularly arranged, but in a fairly uniform spaced manner, forming what is called dotting.

C. Other rasters:

Varied. Some have a symbolic nature (bundles of herbs to represent swamps and marshes) and others do not.

In edaphology or geology some of these rasters have acquired a conventional symbolic value.

Rasters have different uses, but one of the most frequent is to provide a certain unit to a geographical area (lithology, type of vegetation, climate, etc.). That is, the zonal implantation of the symbols.

Use of rasters. Considerations

1. A sufficient distance must be maintained between the elements that constitute it.
2. The separation of the elements in the raster and the legend should not be modified. It must be identical. This is a very frequent mistake.
3. Normally rasters are usually lines or points. The line rasters present more problem than the puntual:
 - the differences of the lines can be of shape, size or thickness and also of orientation. In this case, the eye changes direction many times and concentration is difficult in order to see the zone limits. Puntual rasters don't have this problem;
 - they provoke a sensation of instability that the puntual ones don't give and make the reading of the limits between the zones hard;
 - they cause visual irritation ("dizziness"); to overcome this effect, the lines must be separated by blanks greater than the thickness of the lines.

Recommendations for use

In order to facilitate the map reading, it is advisable to follow several indications:

1. Lines and points should not be mixed

To create a uniquely organized variation, it is advisable not to mix lineal rasters and punctual rasters. Generally in a variation of 5 or 6 rasters you will choose one of the two graphic options (lines or points).

However, an exception is allowed if the range-variation of lines is extensive (that is, more than 6 rasters): the first and following boxes after the “target” can be represented by a network of points. In this type of variation, when we draw the first line raster (after the last one punctual) we'll maintain or reduce the pace of the previous raster (the last punctual).

2. Double organized variation

This is the evolution of a geographical variable where there are positive and negative variations. Graphically, it's solved through the joint use of dots and lines rasters, which will represent, in both directions, the ordered evolution, from light to dark, from the “0” value. This will occupy the central place of this double variation. The variation of dots will be used for negative values. Black is not useful in a double organized variation.

The line rasters will maintain the same orientation, since it isn't advisable to add another differential aspect to the one created by the opposition of dot and lines.

3. The change of orientation of line rasters

The introduction of a variation of line's orientation is useful to differentiate and better identify each raster. This variation of orientation is more useful when the number of rasters is large.

Clarification: the change of orientation (visual variable) doesn't have the quantitative property, so we will necessarily have to reduce the pace or increase the size (width) of the lines.

Regarding the type of implementation, we consider the following warnings:

- In punctual implementation it is not usual to go over 6 rasters.
- In linear implantation only 4, plus the axis of the line and the perpendicular.
- In zonal implantation more changes can be made, but it's rare to exceed 4, especially with linear implantation.

3.7 Typography and labeling system

Typography is a key part of graphic representation and its quality determines the graphic quality of the map. Sometimes they provide us with information about how, when, where and by whom the map was made.

Although some cartographers have claimed that the names that appear on the maps pile up, complicate the representation and are not on the earth's surface, we must not forget that the letters are very important since

they provide the main means of communication.

The letters (type, character) are generally used for the identification of places or to provide some data that cannot be represented by graphic expression.

Letters should not be used for geographical facts that can be represented by symbols. For example, if a raster can be used to represent vineyards, we will not write the word “vine”.

The **labeling** of the map is the process of selecting types, preparing names and placing them in the right position. When there's a great variety of names, this process becomes one of the most complex and entertaining. The computer is a very useful tool for the cartographer, both for the realization of types and their placement.

From a graphic point of view, writing can be considered as a form (visual variable) and as such it is associative. It's not selective, because we have to read the names one by one to identify them and differentiate them.

However, if we vary the size of type, orientation, value or colour, we can differentiate classes. Size can represent even quantitative data (the name of a city and its number of inhabitants).

Technically writing is defined by the following data: size or body and style or type of characters.

3.7.1. Size or body

At the beginning the printing was done through the so-called types, moving parts with a character that moved to form words. This types

are still in use today, although there are other forms of printing. However, the designation of the size of the types is based on the size of that piece.

The unit of measurement is called a point, which equals $1/72$ inch (one inch is 2.54 cm). The type measure is based on the body size of the type and not the letter itself.

Three factors determine the actual size of a type:

- the length of the lowercase letter,
- the length of the ascending letter portion (d),
- the length of the descending letter portion (p).

Also it must be added the space around the letter between lines, which depends on the style of the letter. A font size of 30 points may appear different depending on the style.

The size of the letters is very important in cartography because it determines the legibility of the map. Some atlas maps are made with the condition that the reader will use a magnifying lens. In these maps the detail is more important than the ease of reading. Although the usual is to make the map legible to the naked eye.

General advices

1. Consider the function of the map and your reading needs. Eg: book map, wall map, etc.
2. Sizes less than 5 points are not suitable to be read at normal reading distance.
3. The readability of the different types styles varies, so it's necessary to review the styles and determine the size according to it. Also not all styles are available in all sizes.
4. A letter of small size is not usually a photographic reduction of a larger letter of the same type, but the proportions vary to obtain a better readability. Therefore, extreme reductions (or enlargements) of originals that include typography should be avoided.

3.7.2. Style

The style refers to the shape of the letter and its orientation. Some 30,000 type styles have been designed since Gutenberg, many of which are available for the cartographer. In practice only a few are used, either by conventionalism or because some styles are more suitable for maps.

There is no generalized agreement for the classification of types. Some aspects that can serve as criteria are vertical or inclined alignment, bold, contrast, high or low letters, width, etc.

Definitions and characteristics of the most used styles in cartography:

- Roman style: vertical letters with small lines of termination (serif) at the end of the main lines of the letters. These serifs can be square, curved or straight.
- Some letters use lines of the same width, but others have a different contrast. Styles that have the maximum width of the line of the thick part of the letter vertically are called modern appearance (gives a vertical aspect to the writing); those with the wide diagonal part are old-looking.
- Without serif: includes all the styles that lack these endings in the letters.
- Italics: are the styles that are inclined or oblique (italics). Most styles can be produced in a vertical or italic way. It provides a certain sense of movement to the letters and is used for the names of the rivers of the National Topographic Map.
- Most styles can be capitalized or lowercase. There is a type of letter called versalitas (small capital letters).
- Bold: is a variation of the style that consists of varying only the width of the letter. There's also the opposite case in which the finest type is made.
- Width: the styles can also be distinguished by the total width of the character series. The letters of a word can be condensed or extended, varying the separation between the types and giving the whole a different aspect.

3.7.3. Selection and location of the signs

Most of the styles of letters have been designed for books or for decorative use. Letters designed for books are not necessarily suitable for maps. Mixed capitals and lowercase letters are used in the books and placed in parallel rows. This is not the case of maps where you

choose between uppercase and lowercase and whose location varies enormously, sometimes in curved arrangements, for example following the course of rivers.

Letters designed for decorative purposes tend to be complex and difficult to read, and divert attention from the map.

Consejos:

- The cartographer must always keep in mind the objective of the map and experiment with the different styles to see which one fulfills the purpose, as well as observe the styles used in other maps that are attractive to us
- It's usual to use different styles to distinguish between different categories. Examples: italics for water, vertical letters for cities, etc.
- It's also not convenient to abuse and use many styles, it is convenient to limit yourself to a few.
- You can work very well by combining size variations, capital letters and italic-vertical letters, different letters to distinguish between categories of elements.

Once we have selected the appropriate font styles, we have to decide where to place the labels. The main objective of the location is that the sign is easily identifiable.

Given the complexity of the maps (rasters, symbols, tonalities, etc.) the location of the label is not easy to decide. We must count on the placement of other signs. To decide the most appropriate location we can count on some conventions that have been developed over the years (based on the left-right reading of Western culture) and that can serve as a guide in some cases:

1. Each map label should be easily associated with the element it identifies. It should not interfere with other names or symbols on the map.

For example: you should not cross a line, although this is very difficult to avoid. When it can't be avoided, the line is interrupted to place the name. If the line is very thin compared to the name, or is a lighter colour, it's possible to interrupt it.

2. Signs should be aligned horizontally whenever possible. If a name is placed on a straight line, the observer can have the impression that it is crooked. This

effect can be avoided if a curved alignment is given to the name. An exception to this is when the sign (straight line inclined) is located following a straight line element that is not horizontal (road, rail, border, etc.).

3. When there is a grid on the map that is not horizontal, the horizontality in the location of the signs is questioned because the reader may be more comfortable following the grid, and the names must follow a layout parallel to the grid.
4. The vertical signs should be arranged so that they can be read if we turn the map to the right. That is because vertical names are not easy to read and we will usually rotate the map to the right. All vertical names must be located in the same layout to avoid having to rotate the map on numerous occasions.

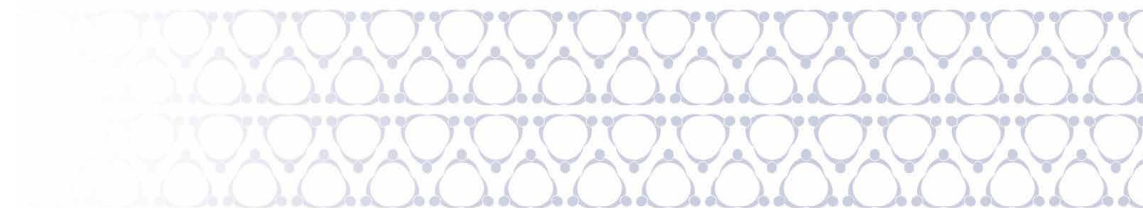
When placing a label we have to decide where it should be in relation to the element that it represents. The rule to follow is that it's easy to associate the element with the name. It is very annoying to find several names and symbols and not know what each one corresponds to. The rules vary depending on whether the element is a point, a line or an area:

A. Point: the point should be seen first and the name should be located on its right and be aligned slightly above the center of the symbol. This should not be confused with the name. This ideal location is not always possible and there are alternative locations. If the space is very tight, it is possible to use curved labels. It is also possible to use guide lines.

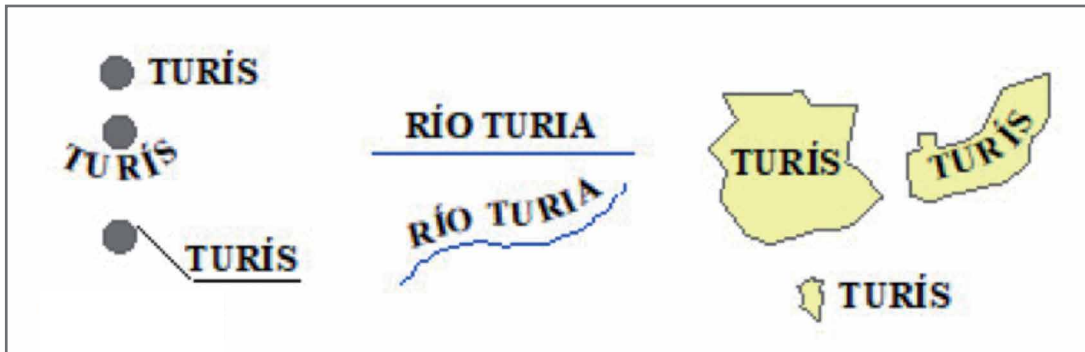
B. Line: the labels that identify linear symbols should be placed parallel to the line, but they should not follow each line, but the general trend of the line, in a smooth curve. It can be placed above or below the line although above is preferred.

C. Zone: the signs that identify a zone should be placed inside it if there is enough space. It should be aligned so that it follows the general form of the represented element. It is also convenient to extend the name in the area, although the individual letters should not be too far apart. If the area is too large we can reduce the sign size or concentrate the name and repeat it.

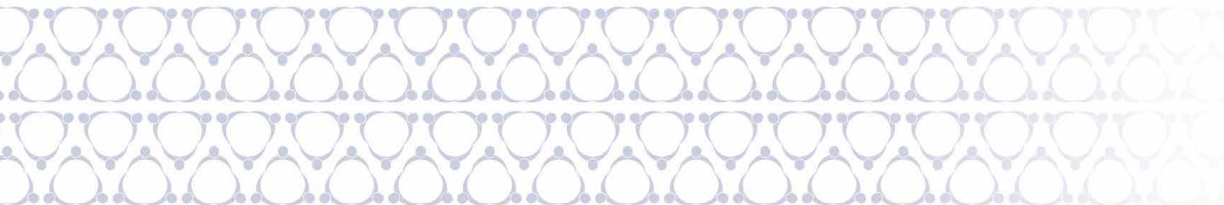
However, if the sign must be outside the area it must be aligned following the general form of the element. If the element is compact then it is placed horizontally next to it, as if it were a punctual symbol.




Correct



Incorrect







**Practical manual
for the implementation
and management of a geographic
information system
applied to cultural heritage**

02

Practical manual for the implementation and management of a geographic information system applied to cultural heritage

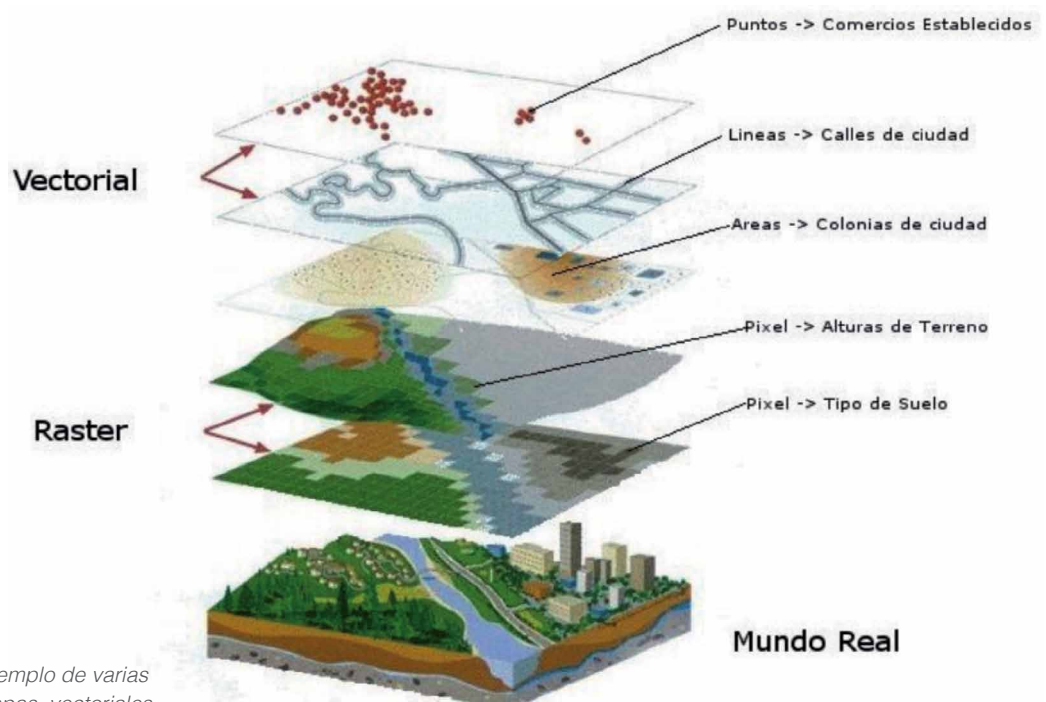
Author: Ghaleb Fansa

1. ¿WHAT IS A GIS?

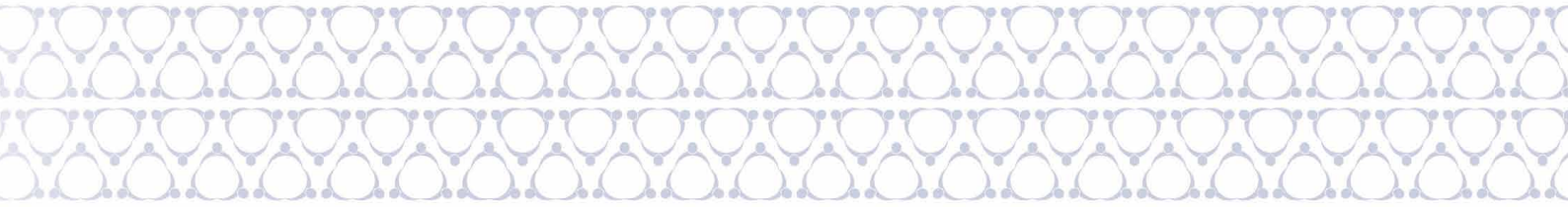
A Geographic Information System (GIS) is composed of hardware, software and geographical data, in different formats, that allows us to create, store, visualize, manipulate and analyse the information spatially in order to make an adequate planning and management of the territorial resources. It also facilitates the incorporation of social-cultural, economic and environmental aspects that lead to decision-making in a correct and effective way.

There is a wide range of GIS software, free or licensed, for desktop or in online platforms. In this manual we'll focus on how to use QGIS Desktop, which is a desktop and free GIS application.

QGIS (formerly also known as Quantum GIS) is a free geographic information system for GNU/Linux, Unix, Mac OS, Microsoft Windows and Android platforms. It was one of the first eight projects of the OSGeo Foundation and in 2008 officially graduated from the incubation phase. It allows us to handle raster and vector formats through the GDAL and OGR libraries, as well as databases.



Ejemplo de varias capas, vectoriales y ráster.



The geographic information is depicted as layers. Each layer represents a particular set of data, information through collections of points, lines, or polygons, in vector format, or continuous surfaces in raster format, such as digital elevation models, aerial photographs, or satellite images. Each one of these layers responds to a spatial item (patrimonial elements, museums, natural reserves, administrative divisions, road network, fluvial network, ground uses, elevation digital model, aerial photograph, etc.). This information is geo-referenced in the same coordinate system, allowing its visualization and management.

There are no minimum requirements established for a GIS software, since it depends on the task - visualization, research, analysis - and the volume of information and its format, vector or raster. Regarding this manual we recommend the following hardware requirements, though older versions are also valid, at the expense of speed and feasibility.

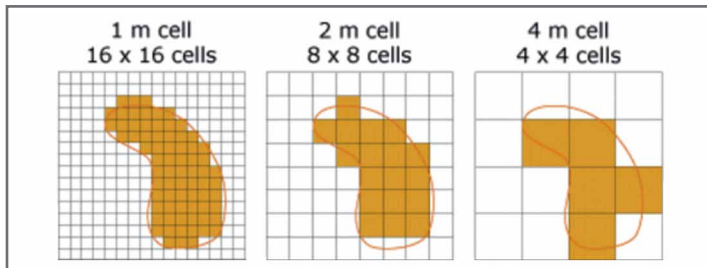
Component	Recommended features
Processor	Intel Core i5 or i7
RAM	8 or 16 GB
Graphic Card	1 or 2 GB
Hard Disk	500 GB or 1 TB

We also recommend a printer that allows large sheets of paper, and a big screen for visualization and digitalization.

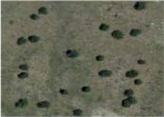
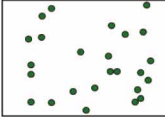



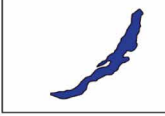
2. INFORMATION FORMATS: VECTOR AND RASTER

As said before, there are two data formats that are known as vector format and raster format. Both lead to two big types of spatial information layers. GIS allow us to manage information in both vector and raster format.

In raster format, the surface is divided into a regular set of cells (rows and columns), each one of them containing a number that represents the value of a variable. The smaller the dimensions of the cells of a raster layer, the greater its resolution, therefore a more accurate representation. The information in raster format can be obtained through digital images captured by satellites, or by scanning a map or photograph.



Source: <http://desktop.arcgis.com/es/arcmap/10.3/manage-data/raster-and-images/cell-size-of-raster-data.htm>

Primitiva	Entidad espacial	Representación	Atributos																					
Puntos			<table border="1"> <thead> <tr> <th>ID</th> <th>Altura</th> <th>Diámetro Normal</th> </tr> </thead> <tbody> <tr><td>1</td><td>17.5</td><td>35</td></tr> <tr><td>2</td><td>22</td><td>45.6</td></tr> <tr><td>3</td><td>15</td><td>27.2</td></tr> <tr><td>4</td><td>19.7</td><td>36.1</td></tr> <tr><td>.</td><td>.</td><td>.</td></tr> <tr><td>.</td><td>.</td><td>.</td></tr> </tbody> </table>	ID	Altura	Diámetro Normal	1	17.5	35	2	22	45.6	3	15	27.2	4	19.7	36.1
ID	Altura	Diámetro Normal																						
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Lineas			<table border="1"> <thead> <tr> <th>Ancho máx(m)</th> <th>Cañado máx(m)</th> <th>Longitud(km)</th> </tr> </thead> <tbody> <tr><td>15</td><td>4.3</td><td>35</td></tr> <tr><td>6.3</td><td>3.9</td><td>5.2</td></tr> </tbody> </table>	Ancho máx(m)	Cañado máx(m)	Longitud(km)	15	4.3	35	6.3	3.9	5.2												
Ancho máx(m)	Cañado máx(m)	Longitud(km)																						
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Superficie(m ²)	Profundidad máx(m)																							
31484	1637																							

Types of representation of the geographical entities in the vector format.
Source: Olaya, V., Geographic information Systems

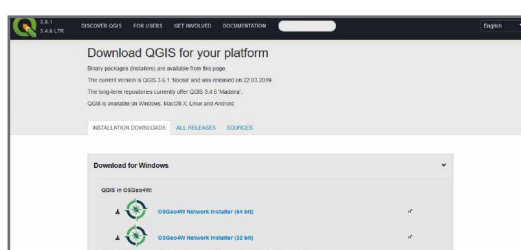
The vector format represents geographical phenomena, entities such as points, lines or polygons, depending on the magnitude of the phenomenon and the analysis scale, although there are other less common types. Vector space objects have attributes, that is text or numeric information that describes the entities in the layer.

Normally points are used to define the location of entities that have small dimensions regarding the scale of the analysis, such as small buildings, mills, monumental trees, etc. Lines represent entities too narrow to be mapped as areas (river courses, roads, irrigation canals, etc.). Finally, polygons represent the shape and location of homogeneous entities such as plots, soil types or land uses, etc.

3. DOWNLOADING AND INSTALLING QGIS

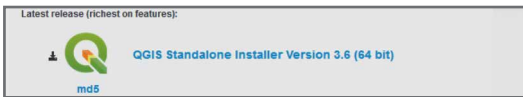


First of all, we download the installer of the program QGIS from the official website <https://www.qgis.org/es/site/forusers/download.html>. QGIS is available for Windows, MacOS X, Linux and Android. Here is an example of downloading and installing QGIS for a Windows 64bit platform.

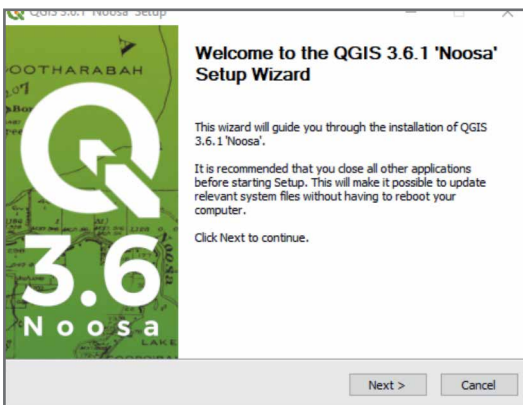


We click on “Download Now” and choose “Downloads for Windows”. A drop down menu will be opened.

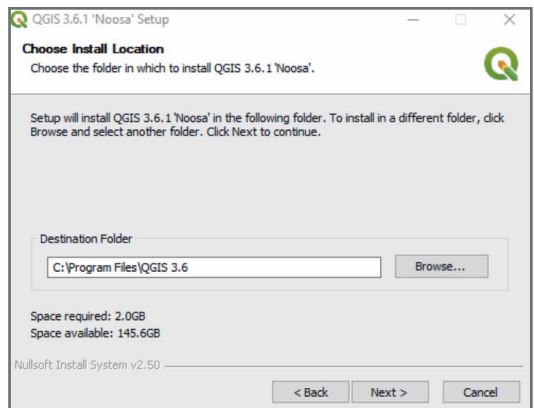
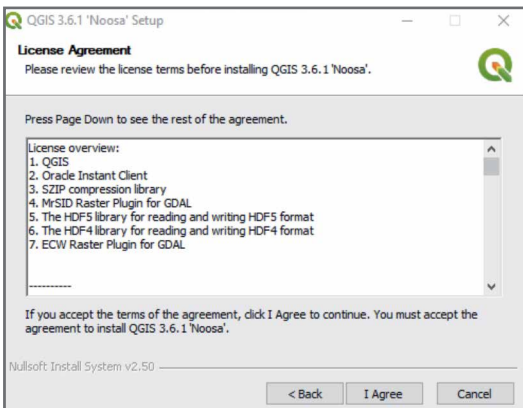
In order to install the latest version of QGIS, we must go to the “latest release (Richest on features)” and choose “QGIS autonomous installer Version 3.6 (64 bit)”



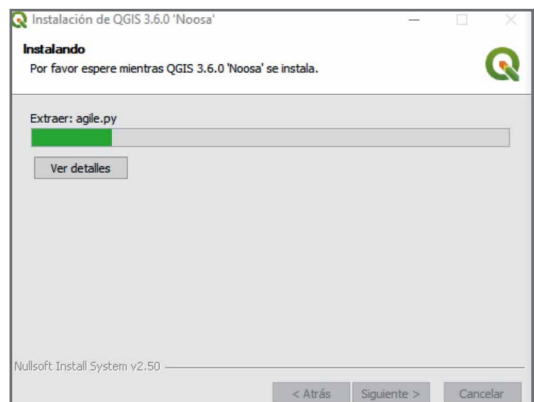
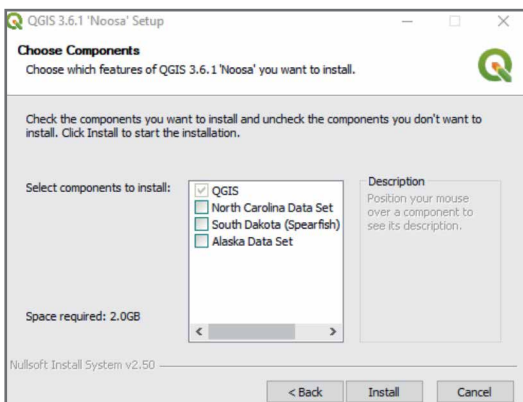
Click to confirm the download and once complete, execute the installer “QGIS-OS-Geo4W- 3.6.0-1-Setup-x86 _ 64” and click “Next”.

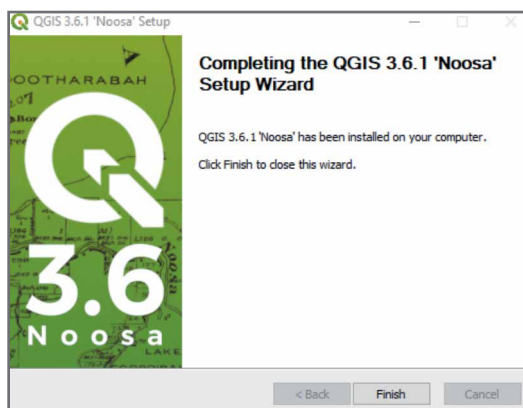


In the following dialogue box we accept the License Agreement and then choose the Destination Folder. It's recommended to accept the one proposed by the default program. Click on “Next”.



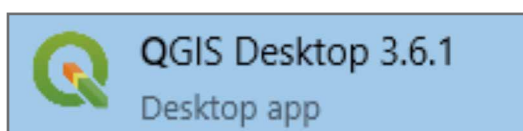
A new dialog box opens to select the components that are part of the installation, we leave it as it is by default and click on “Install”.





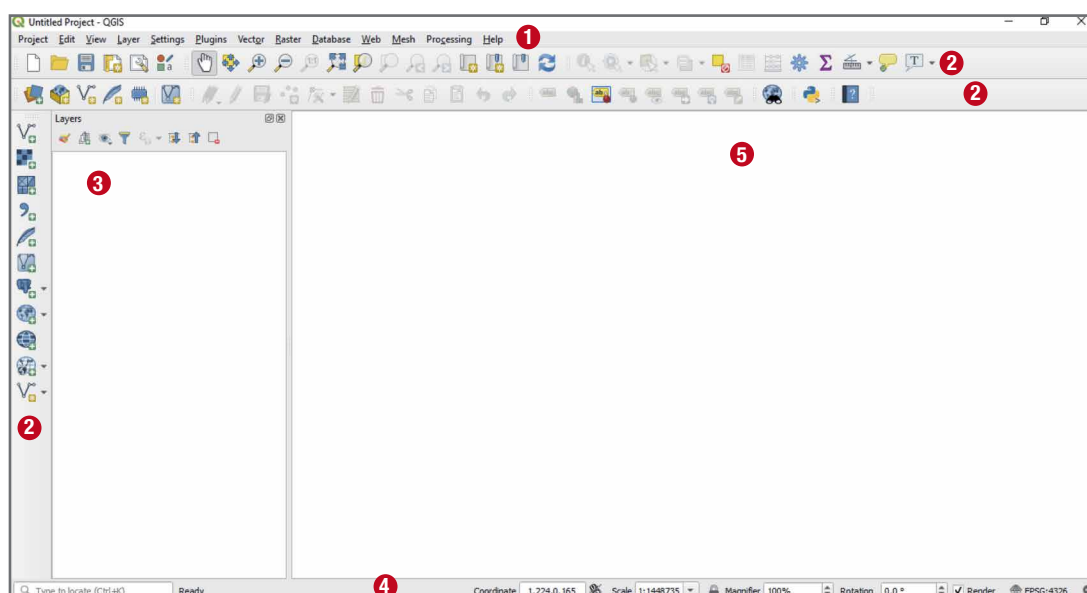
Under normal conditions, the installation of the QGIS “Noosa version” will be satisfactorily completed. Click “Finish”.

4. QGIS INTERFACE



Firstly, we run the program and look for the icon of “QGIS Desktop 3.6.0” in the menu and click on it.

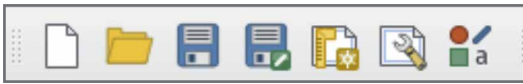
The program opens with an interface of five areas, signposted in the following figure.



1. Menu bar: 13 menus, through which we access to all the functions of GIS analysis and management.

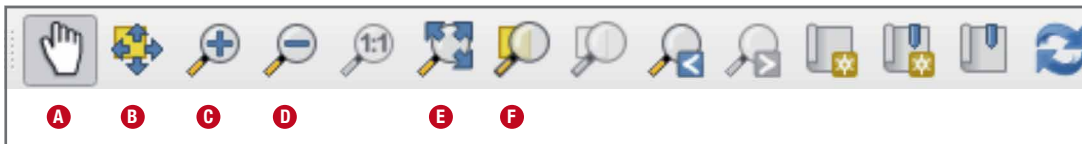
2. Toolbars: thematic bars that facilitate the access the most commonly used functions, in a quick and comfortable way. They can be customized by right-clicking on the gray space of

any bar or panel. That will open a drop-down menu that allows us to activate or deactivate whatever we want.



The first bar is the “Project Toolbar” that allows us to directly access to the functions “open new project”, “open an existing project” and “save project”, and other functions of lesser use.

One of the most used toolbars is “map Browsing”



Most used Buttons:

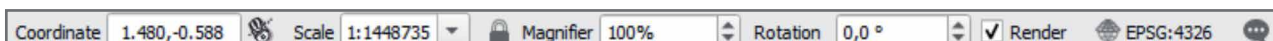
- A** Moves the map without changing the scale;
- B** Moves the map to the selected items;
- C** Brings the map closer;
- D** Gets the map further;
- E** Makes a general zoom so that all the inserted and active layers are visible;
- F** Zooms to selected features.

Another one of the most used bars is “Attributes”. It allows us to identify the spatial objects and to perform the tasks of selection according to the elements attributes or their location regarding other elements (see Identifying spatial objects and Items selection according to characteristics and location).



3. Panels: the panel enabled by default is layers, where we see the layers of our project. Like toolbars, we can customize them by right-clicking on the gray space of any bar or panel, which opens a drop-down menu that allows us to activate or deactivate the layers that interest us.


4. Status bar: it gives us information about the project. It also allows us to adjust the scale, rotate the map, select the coordinate system and see the coordinates of where the mouse cursor is at any moment.

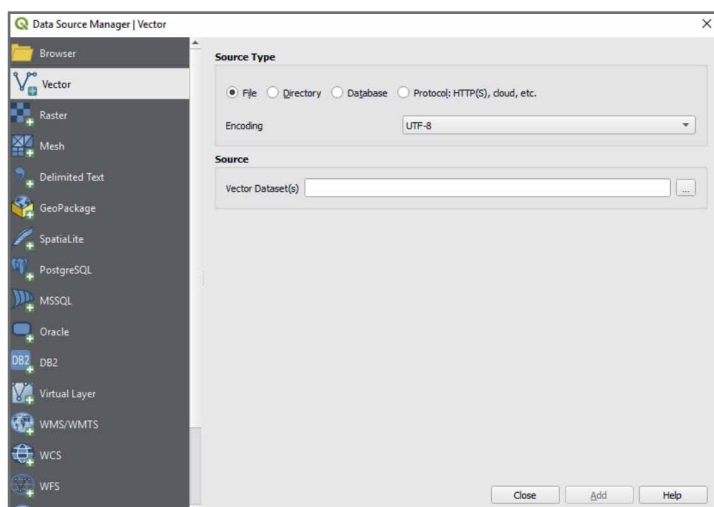


5. Map Display Area

5. INSERTING VECTOR LAYER

In order to start working with a QGIS project, the first thing to do is to assign the appropriate coordinate system for our geographical location, name the new project and save it. To choose the coordinate system click on the status bar, on the right side (EPSG), to open a dialogue box, in “World coordinate reference system” select the most appropriate system. In any case, by introducing the first layer with reference system, the project adopts that system automatically. To save the project click “save” in the menu bar, in “Project”. This opens a dialogue box that allows us to assign the project a name and choose the path where we want to have it.

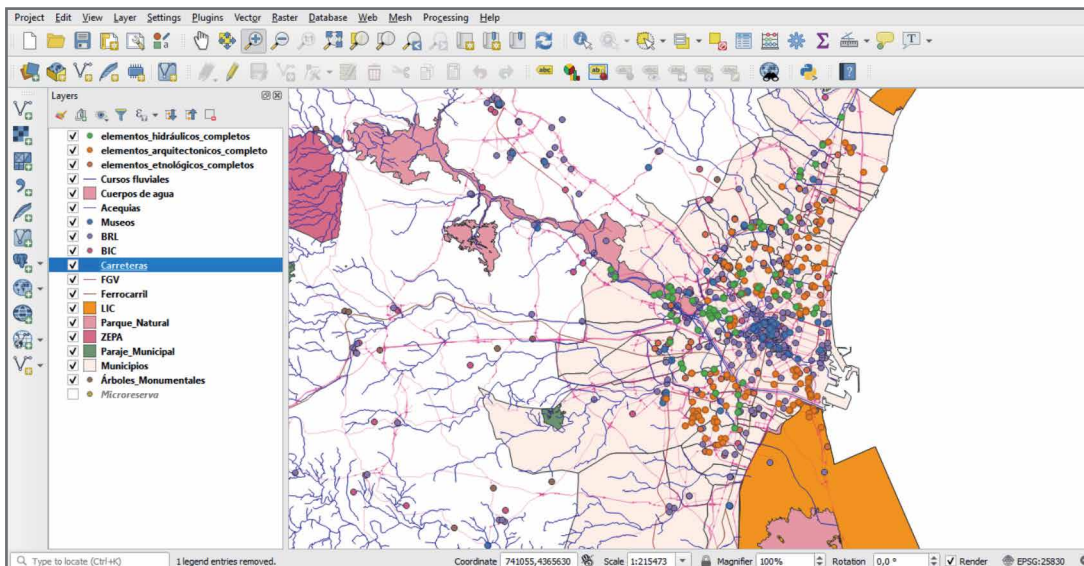
There are several ways to insert a vector layer, usually Shape file, in a QGIS project. The most direct way is to go to “Manage layers” and click in “Add vector layer” . The same function can be accessed by pressing the key combination “Control + Shift + V”. We can also add a layer through “Layer--> add layer--> add vector layer” menu. The following dialogue box opens.



In the dialogue box, in “Source Type”, we are asked to specify the path of the Shape-file that we want to add to the project (a shape-file are several independent files, each one of them with a specific function, that stores information such as geometry, attributes, projection, metadata, etc.). We have to select a file with one of the following terminations: .SHP, .shx or .dbf. Once we have selected the file we click the “add” button and then the “close” button. The layer inserted in the map display area and the layer panel will appear. In the following figure we have added the layer

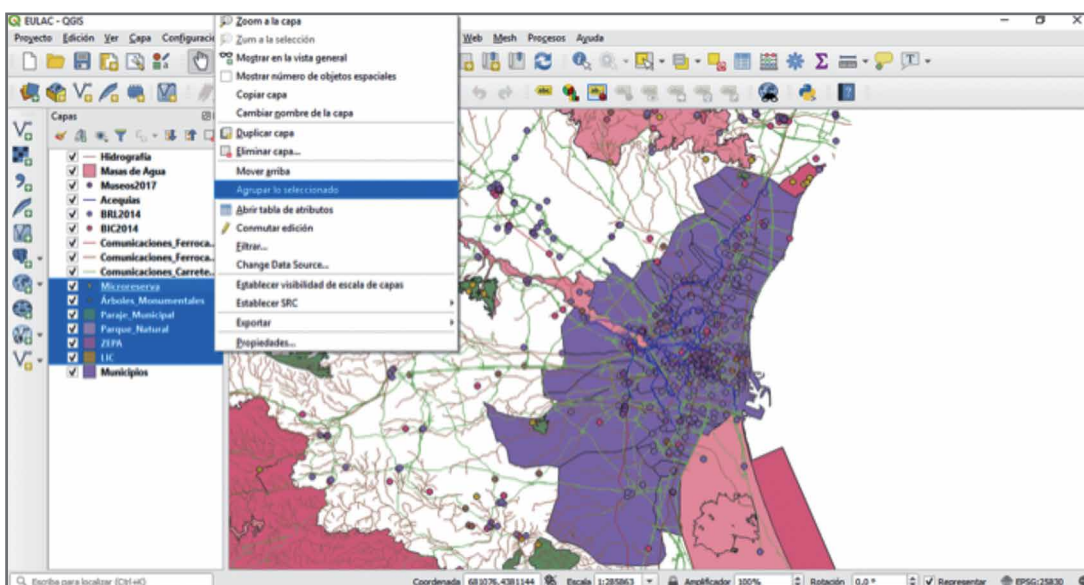
of the municipalities that form the study area of La Huerta de Valencia, the transportation network (roads, railway, etc.), the hydrographic network (waterways, water bodies), natural reserves (LIC, ZEPA, Natural Parks, municipal Sites, microreserves, monumental trees), BIC and BRL (heritage of cultural interest), museums, traditional irrigation canals network, patrimonial elements included in the study found in three separate layers: architectural, ethnological and hydraulic elements.

The elements inserted are listed in the Layers panel (on the left). These layers can be activated or deactivated by clicking the box on the left of the layer name. There’s the possibility to group the layers according to the thematic in order to organize and speed up the tasks of visualization and analysis. The grouping is done by selecting the layers that we want to get together, keeping the “control” button pressed and clicking the right button of the mouse on the selected layers. The drop-down menu “group selection” will appeared.




We can create as many groups as we need, and we can also assign and rename the group or layer at any time, by right-clicking the layer or group, and selecting from the “Rename layer” or “Rename of the group” drop-down menu.

In the place reserved to view the content of the project we can see the inserted layers, but with random colours assigned by the program by default. The order of the layers follows the order in which the insertion was made. It's necessary to adapt the symbology of the layers for a suitable visualization (see Vector layers' symbology and Raster layers' symbology). It's also necessary to sort the layers so that they don't overlap. The polygonal layers are at the bottom, followed by the linear, and then the points layers. When there's an overlap between

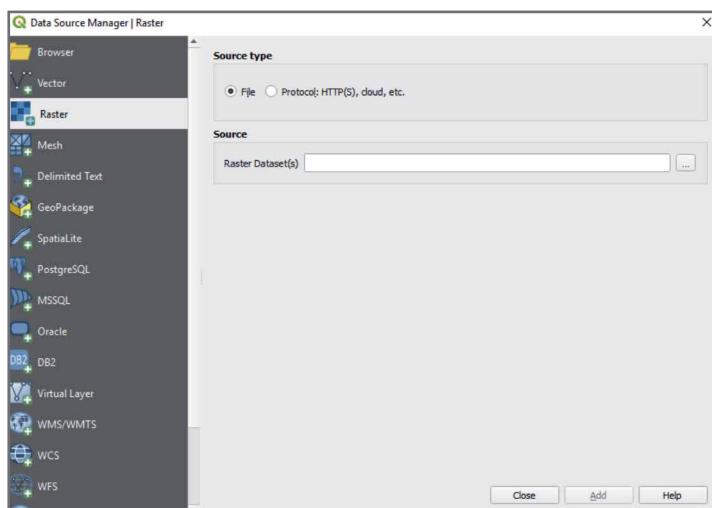


polygonal layers, a symbol of empty frames can be applied to the layers in order to see the polygonal layer below. Another solution is applying a certain transparency to the top layer thus allowing the visualization of the lower layers.

6. INSERTING RASTER LAYER

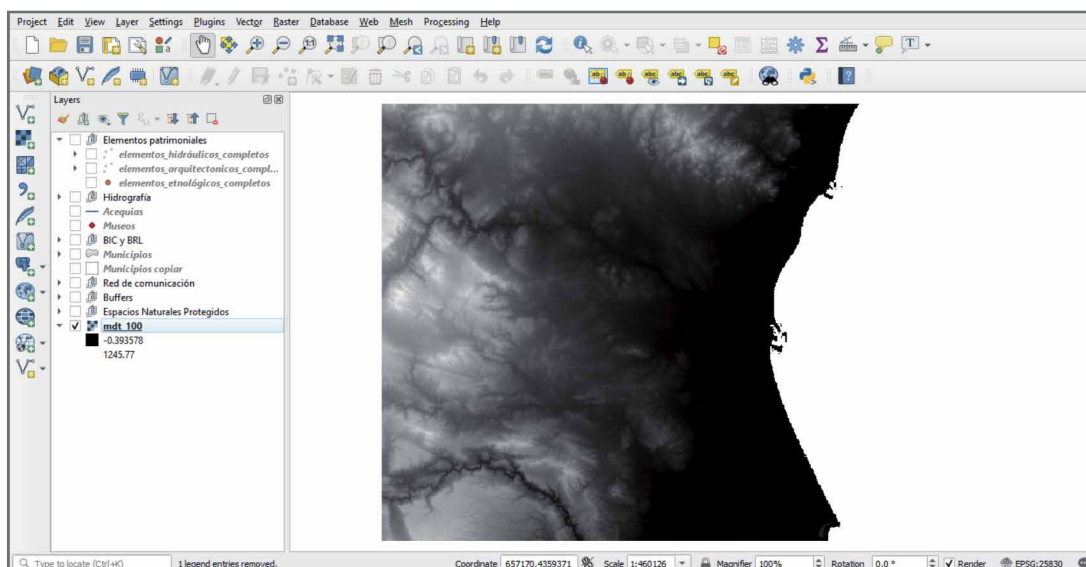
There are several ways to insert a raster layer, Shapefile. The most direct way is to go to the “Manage Layers” toolbar and press the “add Raster Layer” button . The same function can be accessed by pressing the key combination “Control + Shift + R”. We can also add a layer through the “Layer--> add layer--> add Raster layer” menu. The following dialogue box will open.

In the dialogue box, in “Source”, we are asked to specify the path of the raster file that we want to add to the project, once the file is selected, press the “add” button and then the “close” button. The layer inserted will appear in the map display area and the layer panel. In the following figure we have added the altimetry layer, i.e., the digital terrain model.



The raster inserted is seen in the Layers panel. Like vector layers, the raster layers can be turned on or off by clicking on the box on the left of the layer name. We can also group the layers according to the topic in order to organize and speed up the tasks of visualization and analysis. The grouping is done by selecting the layers that we want to group, keeping pressed the “Control” button, and pressing the selected layers with the right button of the mouse, the drop-down menu “Grouping the selected one” is selected.

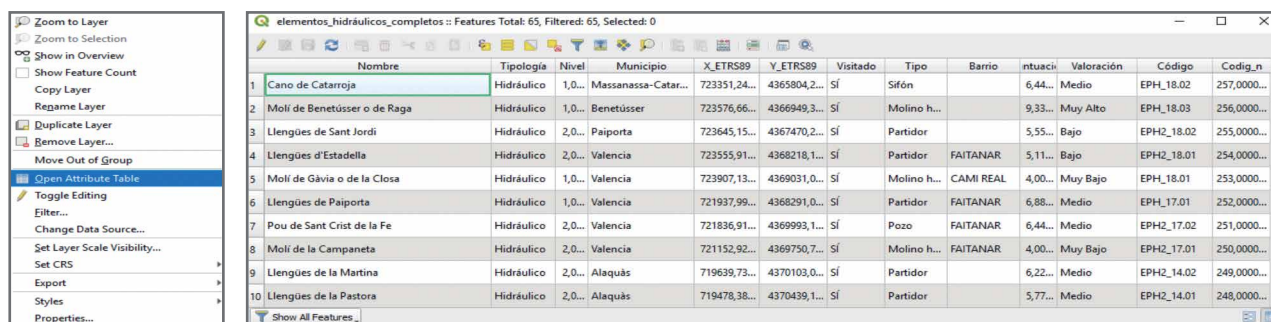
In the space reserved for the visualization of the content we see the raster layer inserted, but with a scale of grey assigned by the program by default. It’s necessary to change the symbology of the layers for a suitable visualization (see Vector layers’ symbology and Raster layers’ symbology). The raster layers are usually below the other layers, and as with the vector layers, transparency can be applied thus allowing the visualization of the lower layers.



7. ATTRIBUTES TABLE OF A VECTOR LAYER

All vector layers have a Attributes Table formed of rows and columns. Each row represents a spatial element from the layer, however, the columns contain diverse information. A column can have textual information (name of the element, its location, etc.), numerical, both integer and decimal numbers (geometric information such as the surface, length or other type of numerical information), it can set date and time, etc.

To open the Attributes Table of a layer we go to the layers panel (on the left side of the interface), right click on the layer whose Attributes Table we want to see, and in the drop-down menu select "Open attributes' table"



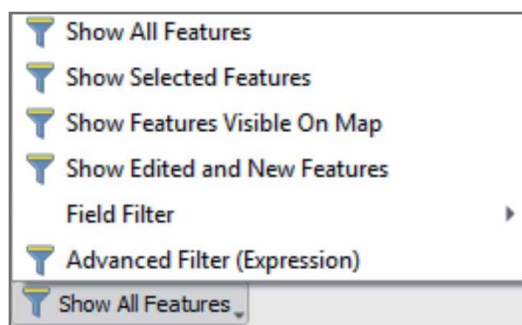
At the top of the Attributes Table is the toolbar that gives us access to all the management and analysis functions.



Most used Buttons:

- A** Starts the edit mode;
- B** Saves the changes made;
- C** Adds a new row;
- D** Deletes a row;
- E** Selects items that have an expression set by us;
- F** Selects all elements of the layer;
- G** Reverses the selection, that is, deselect the already selected items and select others;
- H** Removes the selection;
- I** Filters items by some criteria;
- J** Moves the selected items to the top of the table;
- K** Moves the map to the selected items in the Attributes Table;
- L** Zooms in the map to the selected items;
- M** Adds a new column;
- N** Deletes a column;
- O** Field calculator.

In the lower-left part of the Attributes Table we can filter the items according to the value or content of one of the columns, or select one of the modes of displaying the rows in the Attributes Table, as shown in the figure.

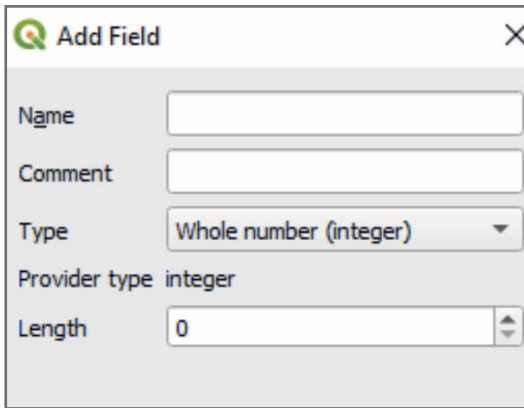


We can organize the rows of a layer according to the value of one of the columns directly by clicking the left mouse button on the column title.

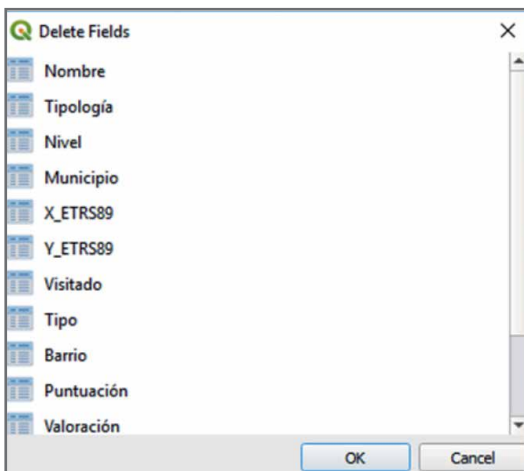
To edit the table contents, press the “Start edit Mode” button on the table toolbar. Editing is made as if it were a normal table, or through the field calculator. In any case, at the end of editing it’s necessary to save the

changes using the “Save changes” button in the toolbar.

To add a new column to the Attributes Table of a layer first, start the edit mode, then press the “Add Field” button on the table toolbar. The following dialogue box opens:



In this box you must enter the name of the new field and select the type according to the information that you want it to have (number, long number, decimal number, text, date or date and time) and accept. We will have to save the changes when we are done editing.



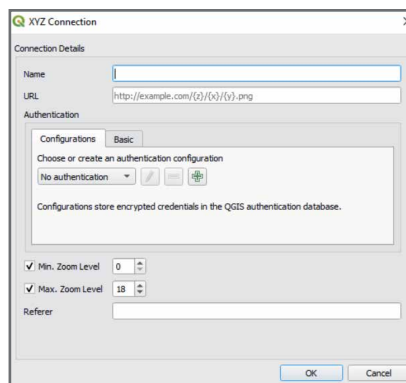
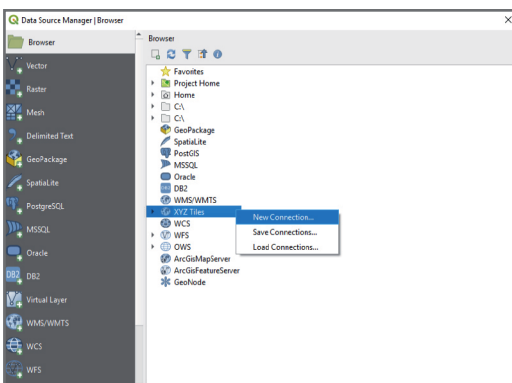
In order to delete a field from the table, we also have to start the edit mode, and then press the “Delete Field” button on the table toolbar. The following dialog box opens:

We have to choose the fields that we want to delete and click OK. To preserve the changes, we have to save before we stop editing.

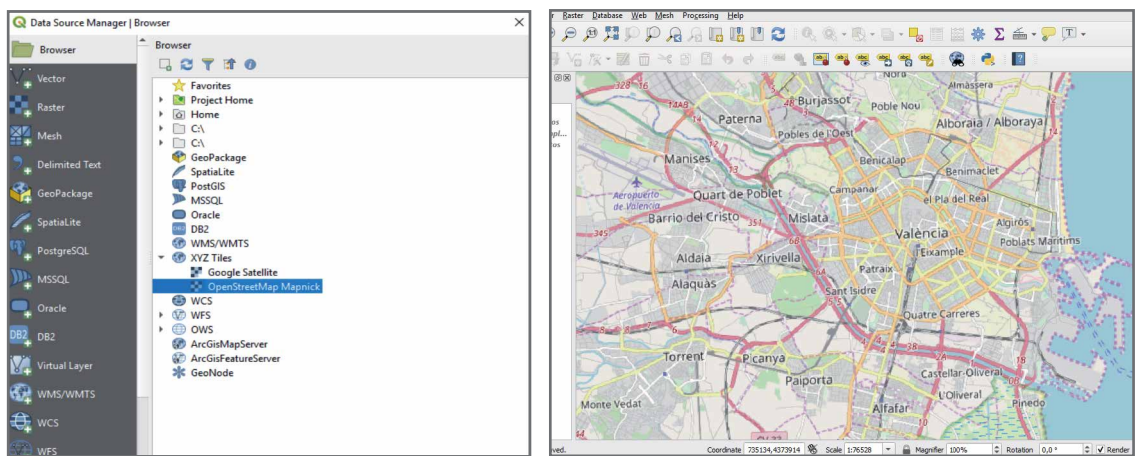
8. BASE MAPS USING XYZ TILES CONNECTION

An easy way to have a base map (photo area, street map, etc.) is to insert it as an XYZ Tiles connection. To add this kind of connection to a project QGIS we go to the menu bar, in the layer menu, select “Data Source Manager” and the following window opens:

We click on “Browser” from the list on the left, and in the list on the right we right click on “XYZ Tiles” and select “New Connection...”, and a new box is opened.



In the space assigned for the name, we must put a significant denomination for the base layer, because that connection will be maintained in the program and can be used in other projects. For example, we added “OpenStreetMap Mapnick” which is a layer of street map. In the space of the URL we enter the address of the corresponding base map, we leave the rest of the default values and accept. We double-click on XYZ Tiles, then double-click on the base map to insert it into the project.




There is a wide variety of base maps. The following table sets out the most extended along with their URLs.

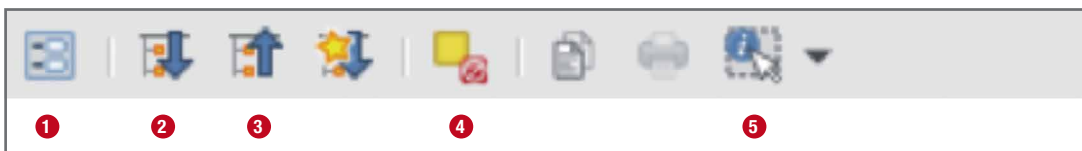
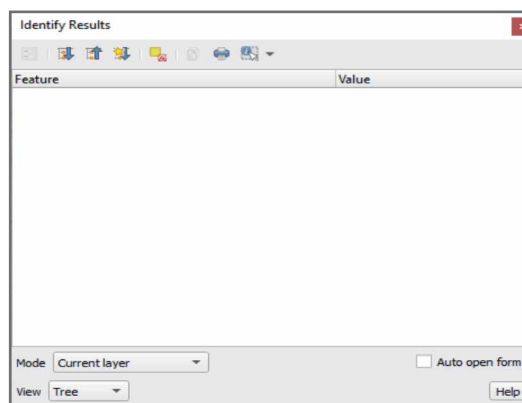
Nombre del mapa base	URL
OpenStreetMap Mapnick	http://tile.openstreetmap.org/{z}/{x}/{y}.png
Google Satellite	https://mt1.google.com/vt/lyrs=s&x={x}&y={y}&z={z}
Google Streets	https://mt1.google.com/vt/lyrs=m&x={x}&y={y}&z={z}
Esri Imagery/Satellite	https://server.arcgisonline.com/ArcGIS/rest/services/World_Imagery/MapServer/tile/{z}/{y}/{x}
Esri Streets	https://server.arcgisonline.com/ArcGIS/rest/services/World_Street_Map/MapServer/tile/{z}/{y}/{x}
Esri Topo	https://server.arcgisonline.com/ArcGIS/rest/services/World_Topo_Map/MapServer/tile/{z}/{y}/{x}
Carto Positron	https://cartodb-basemaps-a.global.ssl.fastly.net/light_all/{z}/{x}/{y}.png

URLs for base maps. Source: Our own elaboration, from <https://www.spatialbias.com/2018/02/qgis-3.0-xyz-tile-layers/>

9. SPACE OBJECTS IDENTIFICATION

Identifying space objects refers to the consultation of the attributes of an element that is part of one of the layers inserted. To do this we press the button “identify space objects”  in the toolbar of attributes, and click on the element whose attributes we want to know. The following opens:

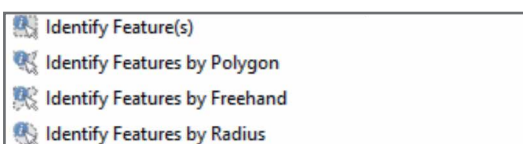
This box lists the attributes of the item which information we have requested. In the bottom left of the box, in the drop-down menu, we can select the selection mode of the elements that are going to be identified. The first mode is from the “Current Layer” list, which performs the identification for the elements of the layer that is highlighted in the Layers panel. Second mode is “top to bottom, stop at first”, the third is “top to bottom” and the last mode is “Selection by layer”.



The space object ID toolbar is located at the top of the box. It provides shortcuts to the basic functions of the identifier

Most used features:

- 1 Opens the space object form that is highlighted in the box;
- 2 Expands the tree, in the event that there are several items identified in more than one layer;
- 3 Contracts the tree;
- 4 Cleans results;
- 5 Allows you to choose how to proceed with the selection: In the first option the selection is made by clicking directly on the item or by making a box on a set of elements. The second identifies the elements that are limited by a polygon that is drawn by marking its vertices with the mouse’s left button and closing it with the right button. The third option is similar to the previous one, but the polygon is drawn freehand so the left button is clicked and the polygon is drawn, and also it closes with the left button.



Perhaps the fourth and last option is the most analytical: “Identify space objects by radio”. In order to proceed with identification, the centre of the identification circle is clicked, and a radio selection box is opened at the top right of the map display area. There are two ways to choose the search radius. The first one is done by moving the mouse to the right to increase the radius, or to the left to reduce it, and click when the desired radius is reached. The second is more accurate, and is done by entering the search radius manually in the Radio selection box and then pressing Enter.

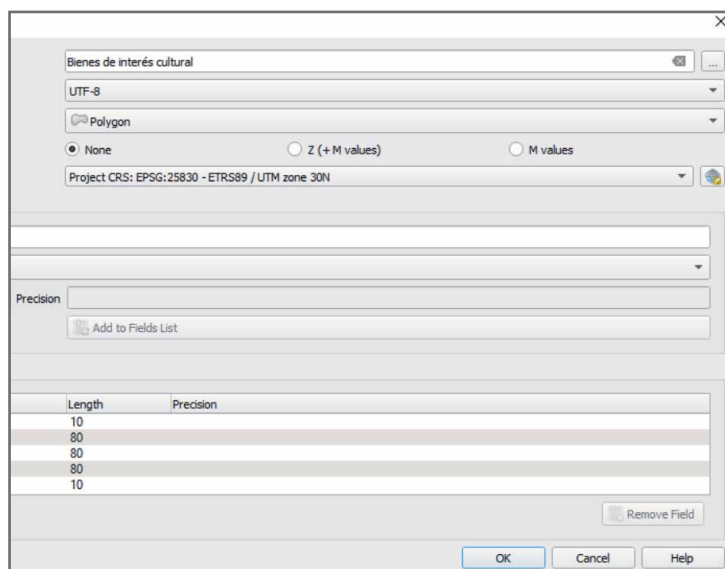
10. CREATING A VECTOR LAYER

We have previously seen how to insert a vector layer into QGIS. However, sometimes we need to incorporate information that is not available in layer format, or information that we have generated and we want to add to the project. In these cases, we must create a new layer with the information we want to reflect.

Creating a layer can be made in several ways. In this manual we will focus on three of them: direct digitization on a base map; importing GPS data; and importing the coordinates of a delimited table or text.

To create a layer by direct scanning on a base map, first of all, we have to have the base map in the project, which could be an aerial photograph or a street map (see Base Maps using XYZ Tiles connection). We insert the connection “Google Satellite” of photography area. The second step is to create an empty layer of the appropriate geometry type (points, multi-points, lines, or polygons) with the structure of the Attributes Table that stores the layer (a table of attributes of a shapefile file could get up to 255 columns or fields, bearing in mind that the name of the field should not be more than 10 digits). In order to create the layer and structure of the Attributes Table we go to the menu bar, in the Layering menus, select “Create layer” and then “New shapefile layer...”. The following window opens:





For example, we are going to create a layer with the Cultural Assets (BIC) in the study area. In the table of attributes, we will create a field “BIC” with the name of the asset, a field “Municipality” for the name of the municipality where it’s located, a field of “Typolo-

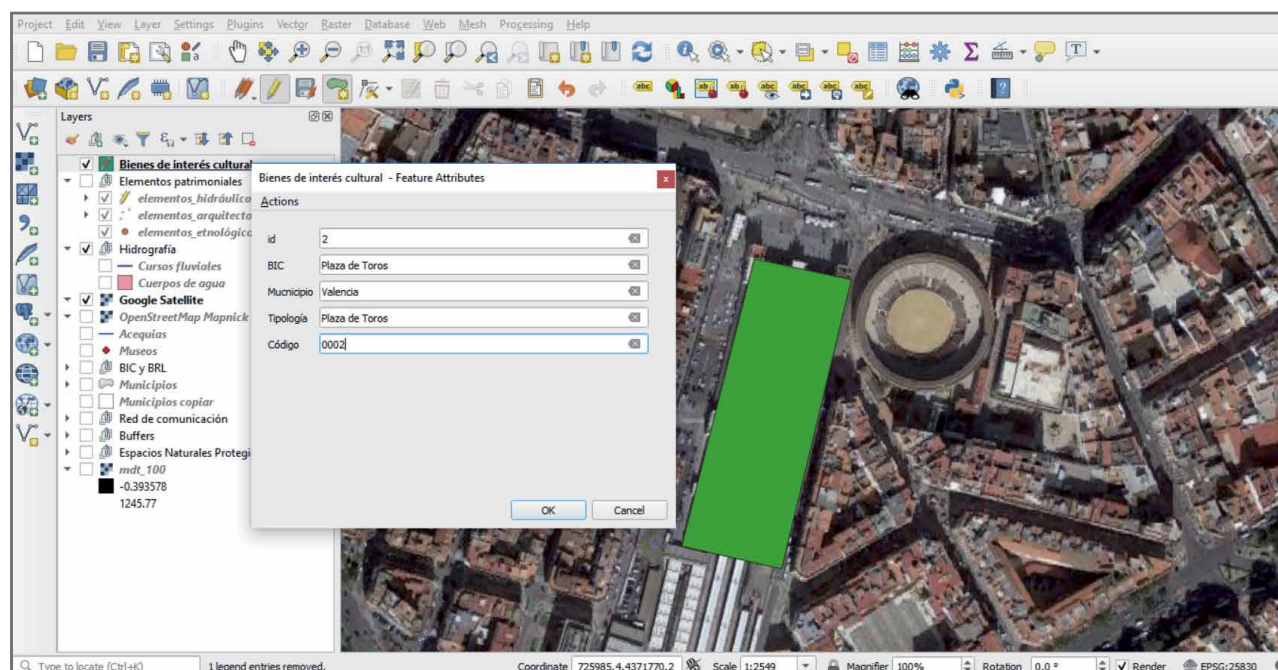



Length	Precision
10	
80	
80	
80	
10	

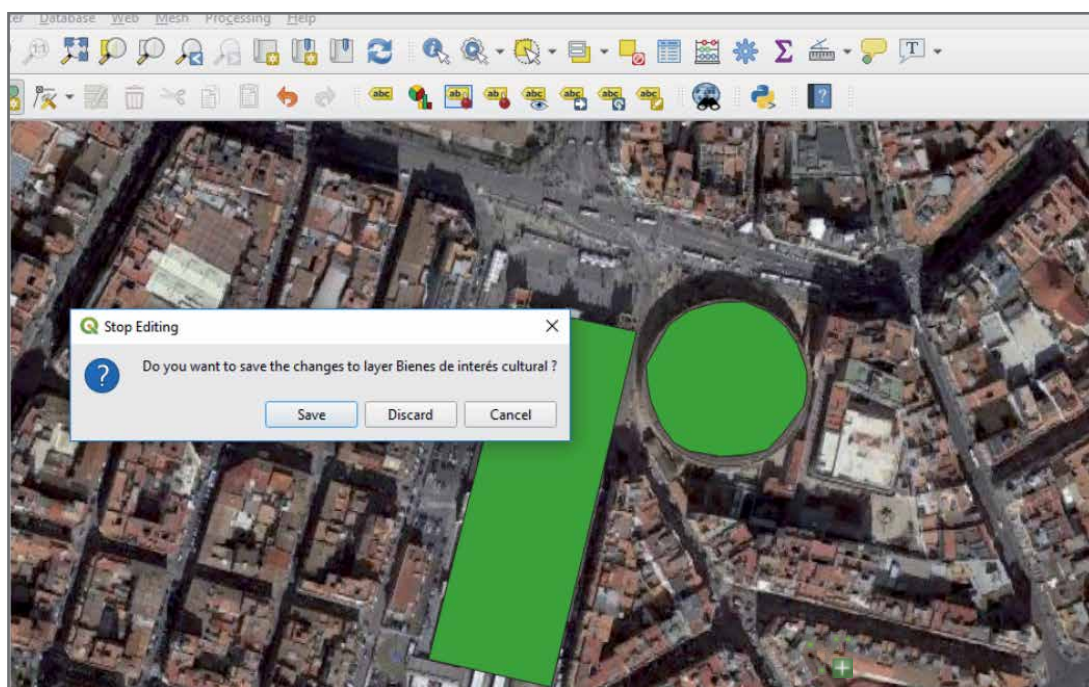
gy”, all of them of type text and of a length of 80 digits, and finally a field “Code” of type integer number. In the place reserved for the name of the layer we write “Cultural Interest asset”, in the following drop-down the file encoding is “System”, in Geometry type select “Polygon” (could be points or lines according to the type of the information we want to digitalized), and we see that, by default, the program has assigned the layer the same coordinate system that the project has. In the event that the project was not new and did not have an assigned coordinate system, we should choose the appropriate system according to the study area.

In order to create the structure of the table, we enter the data (name, type and length) of each field separately and click on the button “Add to the list of fields”. If we want to remove a field before we are done creating the layer, select it and click the “Remove Field” button at the bottom right of the window. To finish the process of creation of the shapefile we click on OK.

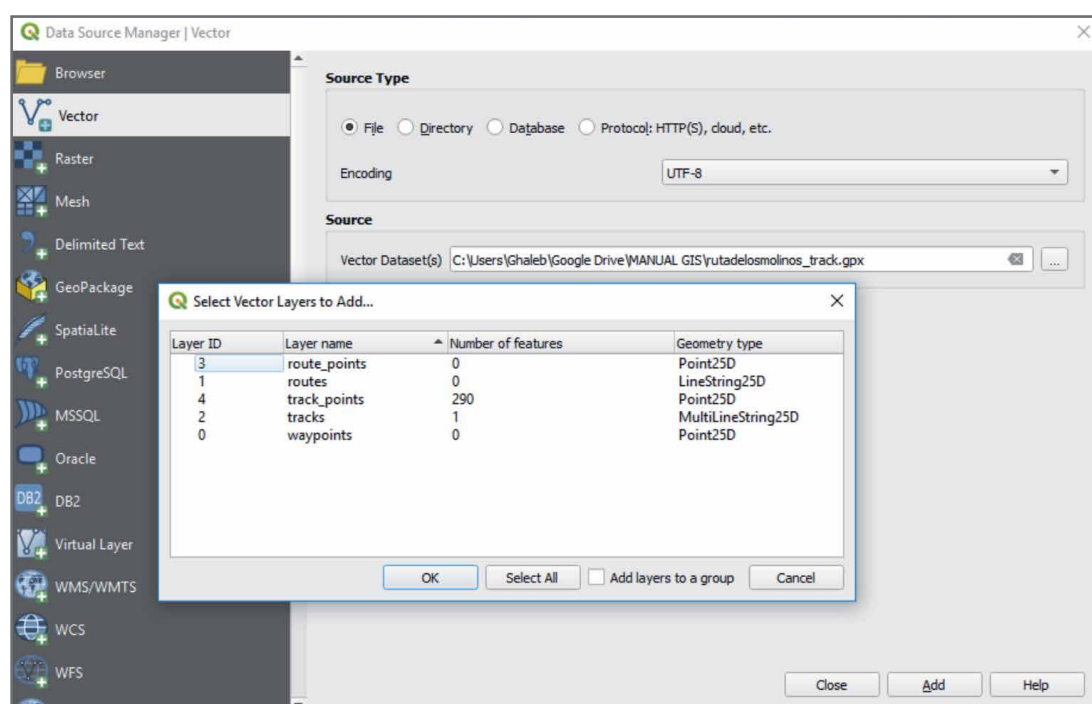
To start digitalizing, select the layer in the Layer panel, click the button  on the digitalizing toolbar, and then click the button  in said bar (in the case of points layers we click the button  and in the case of a layer of lines we click ) and we start digitalizing using the mouse's left button to mark the vertices of the polygon and the right button to finish. Then a window opens to fill in the attributes of the element that we just drew.



Once the attributes of the element are filled in, click accept, and the digitized element appears. At the end of the task, click again  to stop editing and click Save.

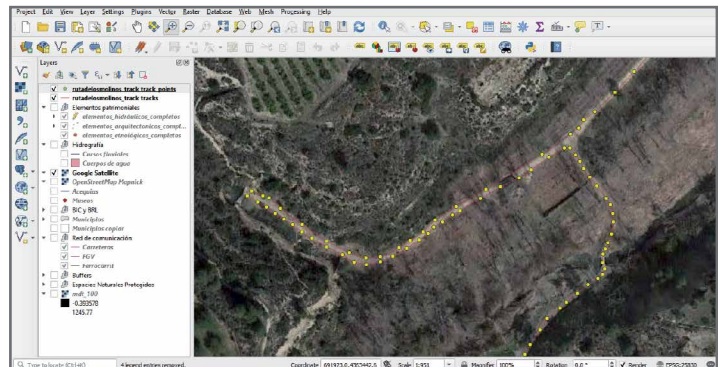


The second option to create a vector layer is by importing GPS data. These devices save routes and points in GPX format.

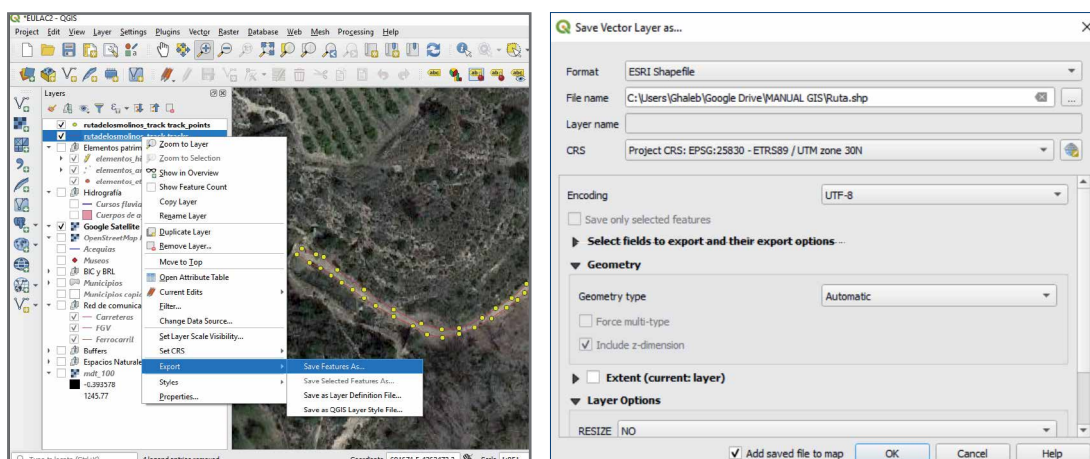


There are several ways to insert a GPX file into a QGIS project. The most direct is to go to the “Manage Layers” toolbar and press the “Add vector layer” button . The same function can be accessed by pressing the key combination “Control + Shift + V”. We can also add a layer through “Layer--> Add Layer--> Add vector Layer” menu. In every case the following dialogue box opens, where we select the GPX file and click on “Add”. A new box opens, as shown in the following figure.

The table shows the layers that formed the GPX file and the number of space objects that each of them contains. In our example we have two layers, the first one is of puntual geometry “track_points” with 290 number of features, and the other one is of linear geometry and contains a single space object that is the line that represents the route. We select only the layers that have information and click on “OK”. They will be added to the project. These layers can be saved in shapefile format.

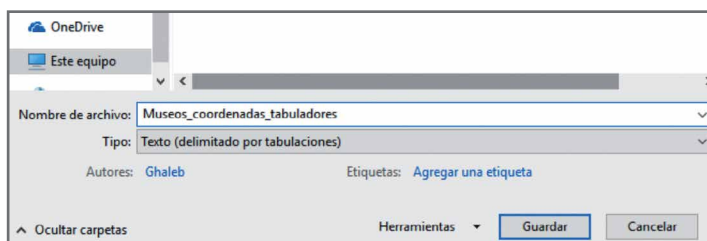


To convert these layers to shapefile format, right-click on the layer name in the Layers pane, select “Export”, and then “Save objects as...”. It opens a new window where we have to choose the format in which we want to save the file (choose “ESRI shape File”), enter the path, the name of the new file and select the coordinate system according to our work area. We make sure that the “Add saved file to map” option is enabled, and we click “Ok”.



These layers can already be edited, in order to add new items, add new attribute fields and modify existing ones.

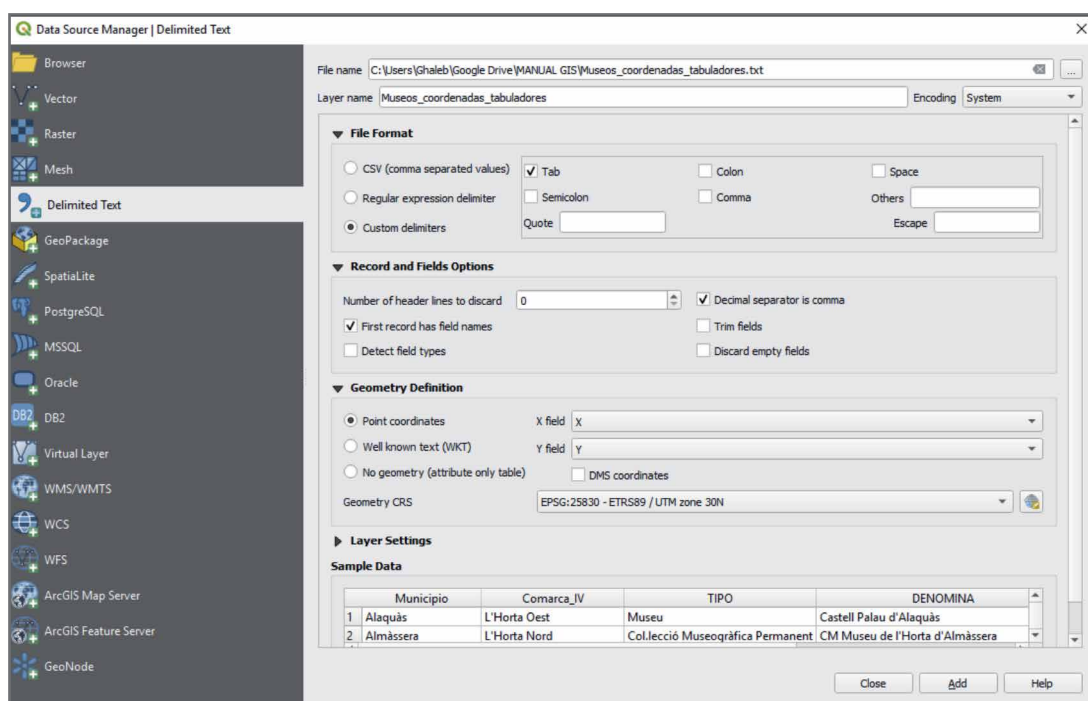
The third way to create a vector layer is by importing the coordinates of a delimited table or text. This form of vector layer creation is used to generate a points layer. We must have written information about the points and their XY coordinates. In case we have the information stored



in an Excel file, we have to use, in the same program Excel, the option to “Save as” and choose to save it as “tab-delimited Text”.

There Are Several ways to insert the “delimited texts” into a QGIS project. The most direct one is to go to the “Manage Layers” toolbar and press the “Add vector layer” button.

We can also add a layer through “Layer--> Data source Manager” menu and select from the left list “delimited Text”. In every case the following dialogue box opens:



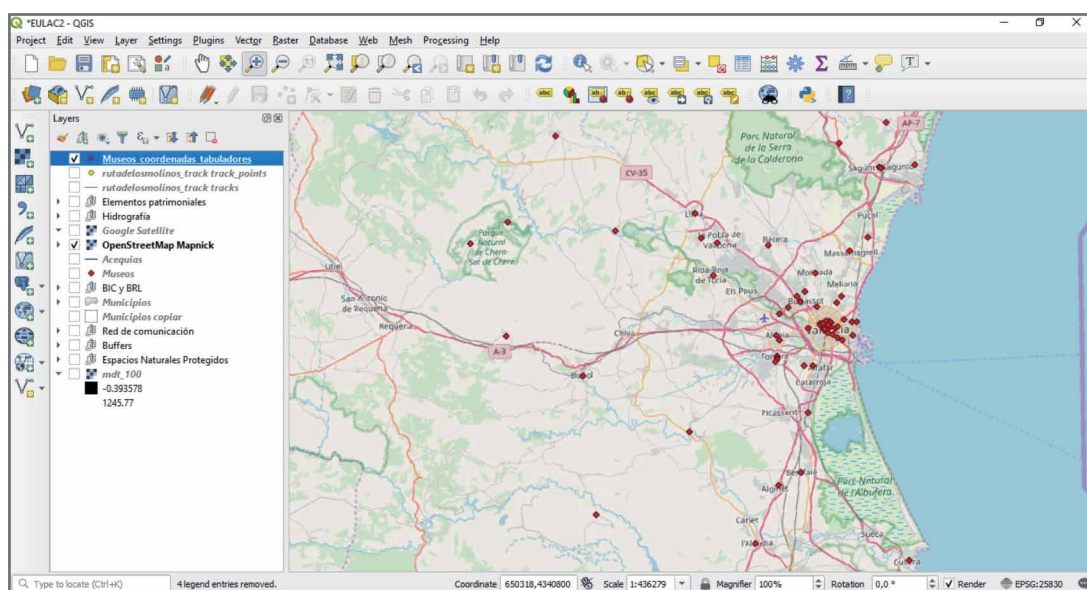
In the place reserved for the name of the file, we insert the file that we have saved as text delimited by tabs. The name of the default map layer is the same filename. In “Encoding” we choose “System”.

In the section “File Format” we marked “custom delimiters” and marked “Tab”.

In the section “Field Records Options” we mark the option “First record has the fields names”. We have to figure out the decimal separator used by our system (we open the table and we look at the decimals of the coordinates), if the mile’s separator is the comma, the “miles separator is the comma” option is very important.

In the section “Definition of Geometry” we have to choose the field X and the field Y where the coordinates of the points are stored. We also have to choose the coordinate system that has the information. To finish, click “Add” and then “Close”.

To convert these layers to shapefile format, right-click on the layer name in the Layers panel, select “Export”, and then “Save objects as...”. It opens a new window where you have to choose the format in which we want to save the file (we chose “ESRI shape File”), enter the path and the name of the new file and select the coordinate system according to our work area. We make sure that the “Add saved file to map” option is enabled, and we click “Ok”. This layer can already be edited, we can add new items, add new attribute fields and modify existing ones.

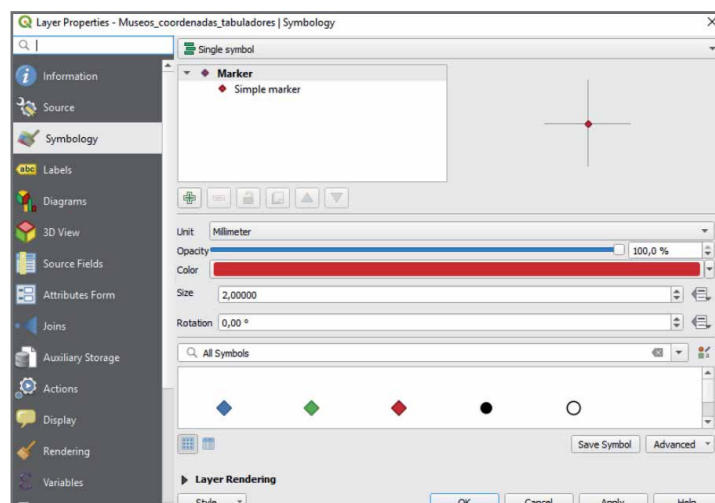


11. VECTOR LAYERS' SYMBOLOGY

For a better visualization and clarity when interpreting a map is necessary to characterize the different layers and elements with an appropriate symbology.

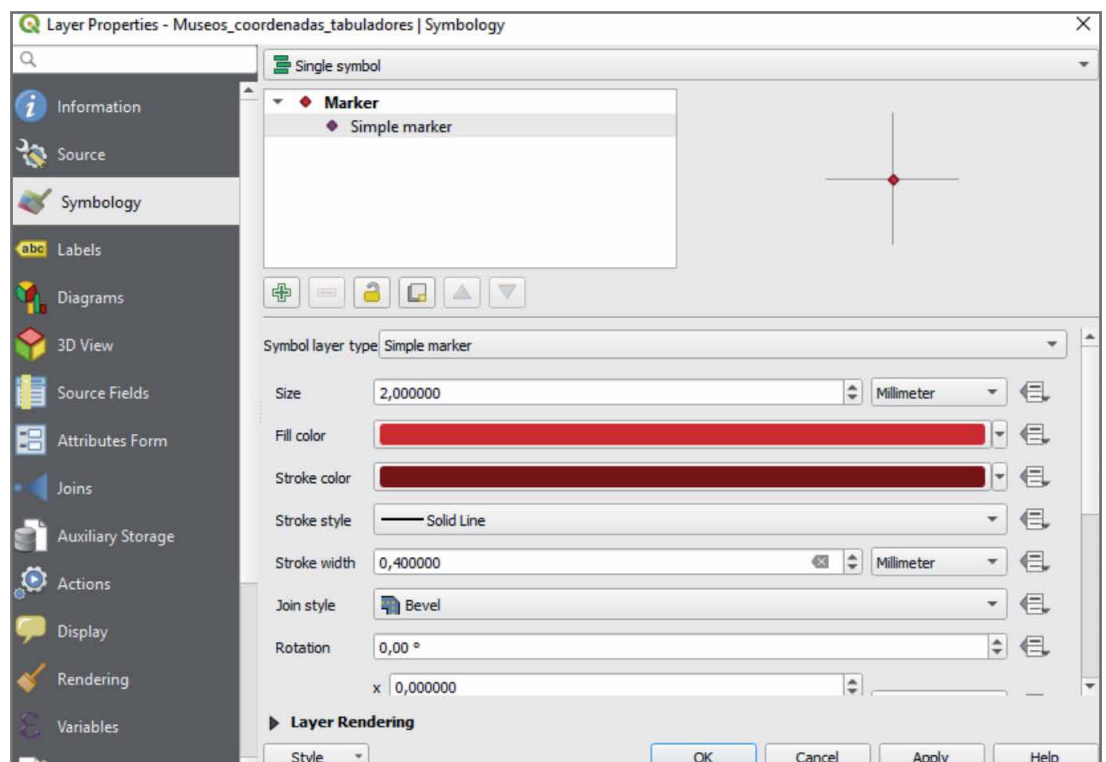
In this manual we only explain the three most used methods, the unique symbol method, the categorized and the graduated method. To get to the symbology box, right-click on the layer and select “Properties”.

In the symbology window, in the dropdown menu at the top we can choose the method that we want to use. We choose “Unique Symbol”. In the space below, click on “Bookmark”, as seen in the previous figure, and so we can choose, among other options, the symbol we want to use, its size and the angle of rotation we want to apply.



Click on “Simple Marker” and choose the colour of the symbol fill, the format, colour and width of the line that borders the symbol.

The “unique Symbol” method can be used for polygonal or linear layers. The differences in their application are minimal.

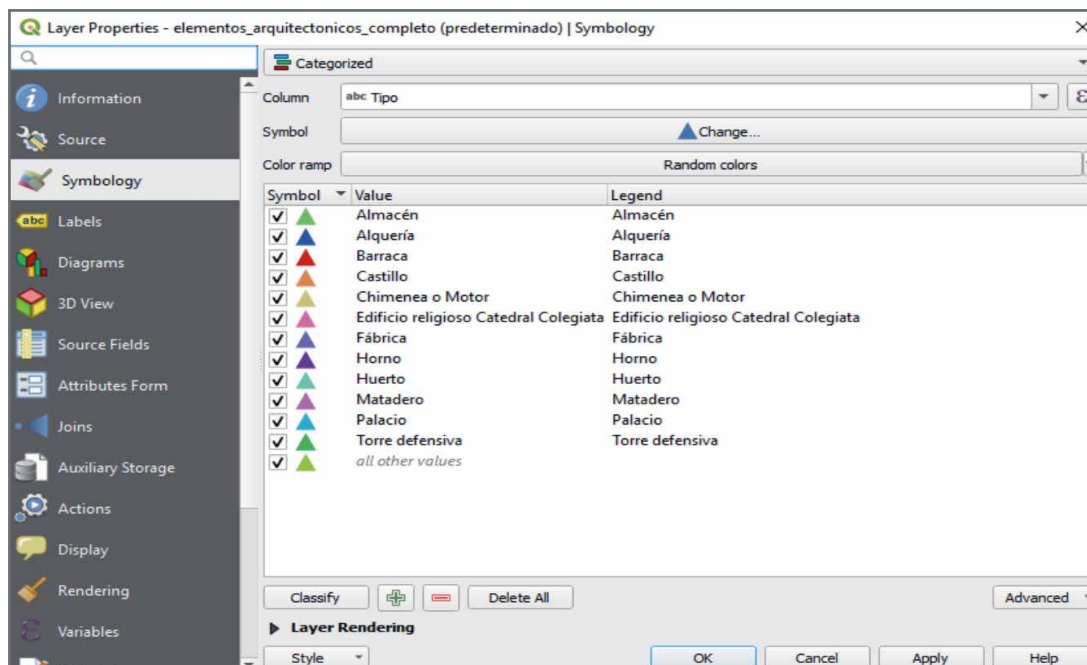


The categorized method allows us to assign different symbology to each category of spatial elements in the same vector layer.

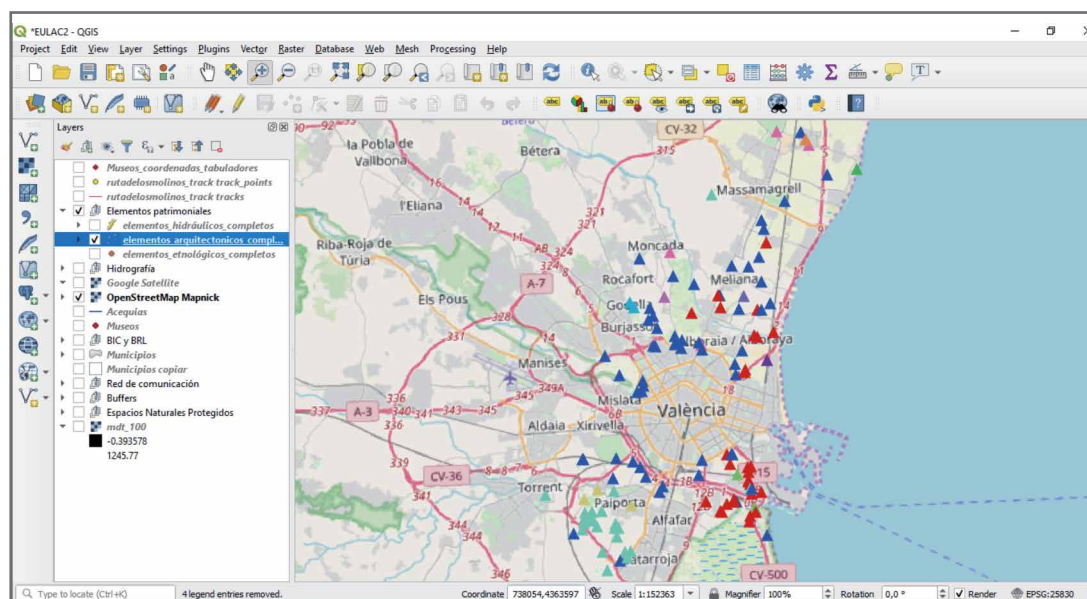
These categories will be defined in one of the attributes of the layer table. As an example we will adapt the symbolism of the layer of “architectural Element” depending on the type of element.

We open the symbology box by right-clicking the name of the layer and selecting “Properties”. In the symbology window, at the top, we choose the option “Categorized” in the drop-down menu.

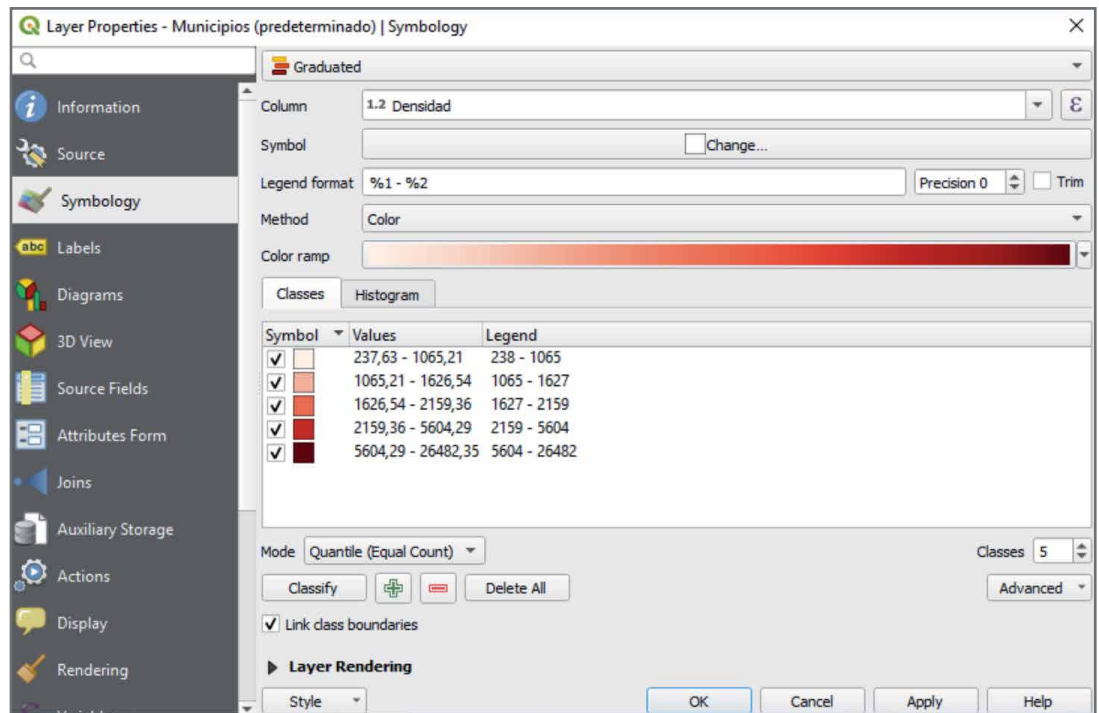
In “Column” we must choose the column or field of the Attributes Table that contains the information on which the categorization of the elements is to be based (in this example the field is called “Type”). In symbol, we can choose the symbol for the points, their size, their angle of rotation and the width of the line that borders it (we have chosen for our example a triangle without border). In “Color Ramp” we choose a coloured ramp or randomly assign the colors.



Finally, we click on sort and then “Ok”. We can change the symbology of each of the categories separately; we can also disable the categories that we do not want to be represented in our cartography. We can use the “Categorized” method for polygonal or linear layers. The differences in their application are minimal.



The graduated method is usually applied to represent numerical variables such as population density in the municipalities, the number of visits received by the museums per year, the score that the elements get in an evaluation process, etc.



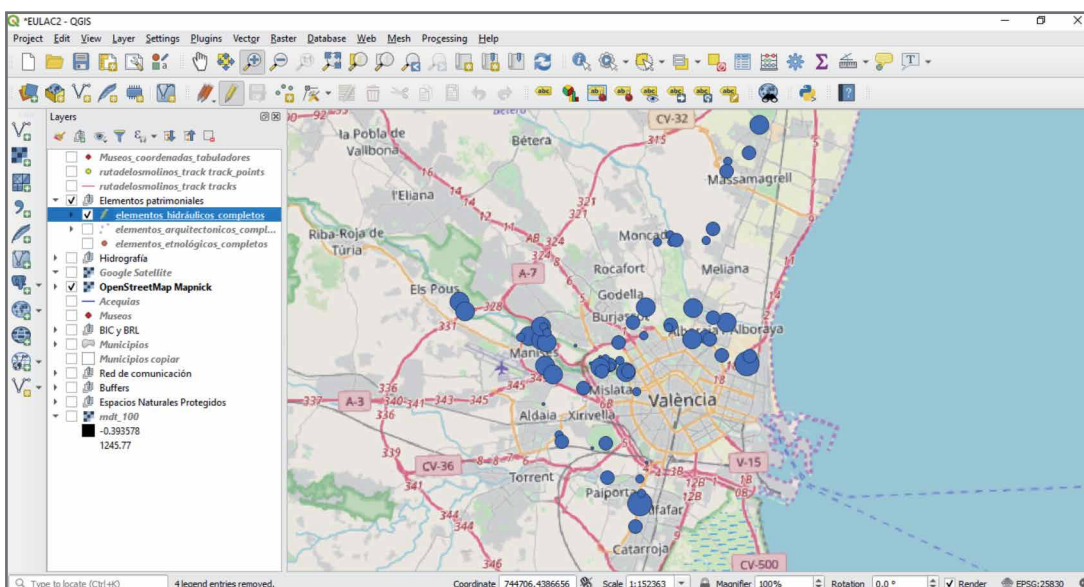
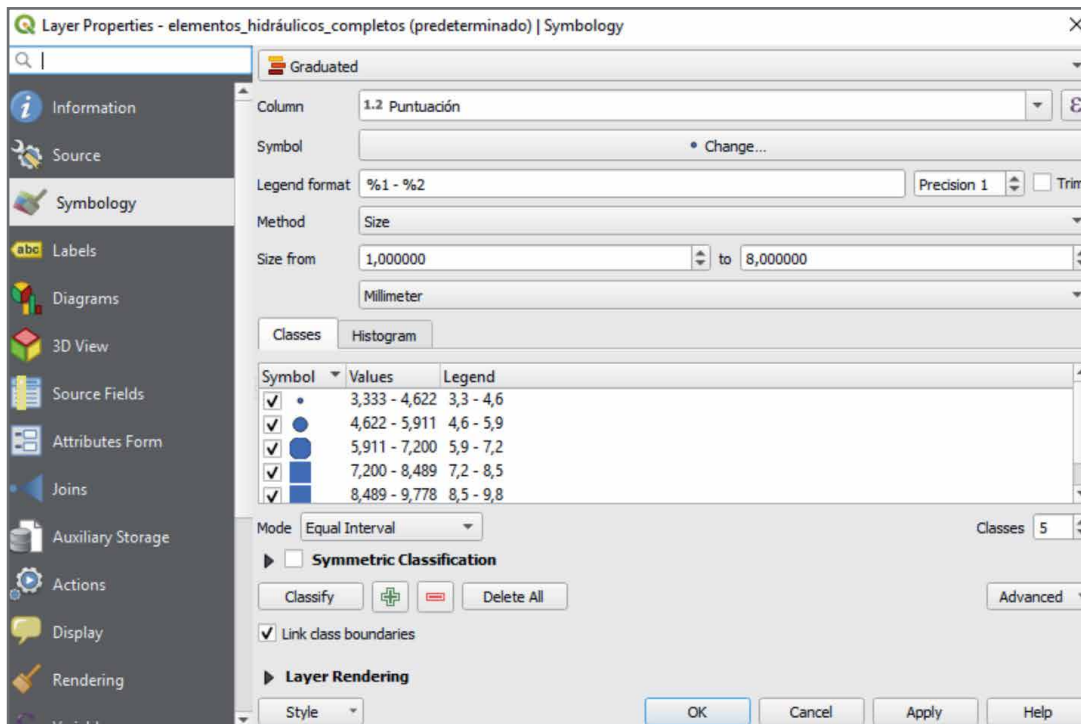
In case of the punctual layers, there's the possibility to represent the points according to the value they regarding a colour ramp and a symbol size.

We open the symbology box by right-clicking on the name of the municipality layer and selecting "Properties". In the Symbology window, at the top, we choose the "Graduate" option in the dropdown

In "Column" we must choose the column or field of the Attributes Table that contains the information on which the classification is to be based (In this example the field is called "Density"). In "Color Ramp" we select a suitable ramp. We choose the number of types and the classification mode (same intervals, quantiles, natural fractures, etc.) and click on "Classify". We can turn off the categories that we don't want to represent in the cartography. And finally we click on accept.

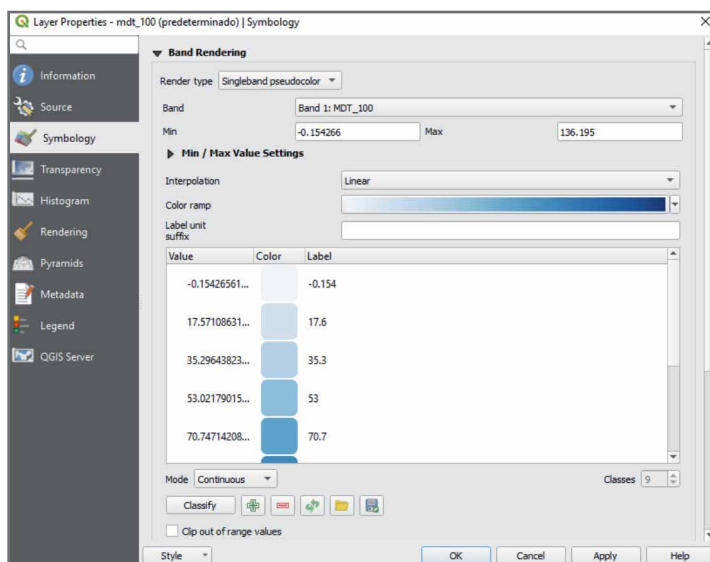
For the representation of the points by graduated size, we go to the properties of the layer, select symbology. We will use the layer of hydraulic elements as an example. In the symbology window, at the top, we choose the "Graduate" option in the dropdown menu.

In "Column" we choose the column or field of the Attributes Table that contains the information on which the classification is to be based (in this example the field is called "Punctuation"). In "Method" we select "Size". We determine that the size of the symbols is 1 to 5. We can choose the number of types and the classification mode (same Intervals, quantiles, natural fractures, etc.) and click on "Classify". We can turn off the categories that we don't want to represent in the cartography. You can also change the symbology of each of the types separately. And we click accept.



12. RASTER LAYERS' SYMBOLOGY

Once we have the raster layer introduced in the project (see Inserting raster layer) it will be displayed with a grayscale range assigned by default. It's advisable to modify the symbology of the layer for a suitable visualization.

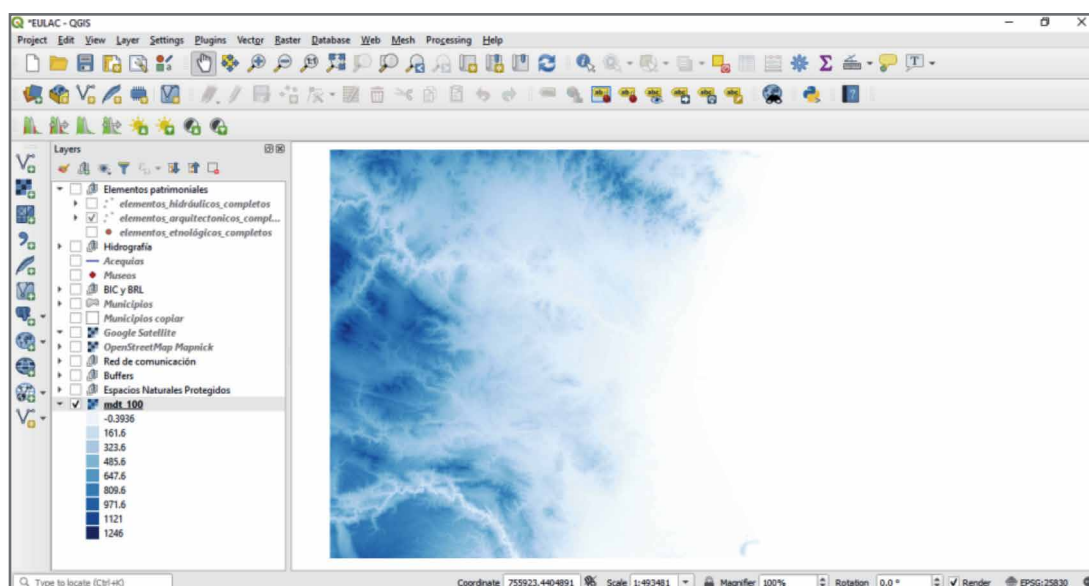


To access the symbology box, right-click on the layer and select “Properties”.

In the symbology window, in type of render, we change from “Gray Monoband” to “Monoband Pseudocolor”. We keep the interpolation method in “Linear”. In the colour ramp, in the drop-down, select one of the many branches offered by the program. In this example we opt for blue.

In the “Mode” tab we have three options: continuous, same intervals or quantile. In continuous mode a range of colours is applied continuously to all values from the minimum value of the raster layer to the

maximum (we will use this mode in the example). However, in the same intervals mode, you have to choose the number of types, in the “Types” dropdown menu, and the values of the raster layer are classified, with equal intervals, according to the number of types chosen. Each type is assigned a colour according to the chosen branch. The last mode is quantiles. It resembles the previous mode with the only difference that the classes are not the same, but the values of the classification are the quantiles of raster’s value.



Finally, we press the button “Classify” and accept.

As shown in the figure above, in the area corresponding to the municipalities of the study area the relief is distinguished, as a plain with low altitude values. For a better visualization of this part we activate the toolbar “Raster” (see QGIS Interface section, in point 2)

and press the button (a) to stretch the range of colours according to local values, i.e., to the values displayed in the screen. The button (b) is used to stretch again the range of colours according to the values of the raster data set.



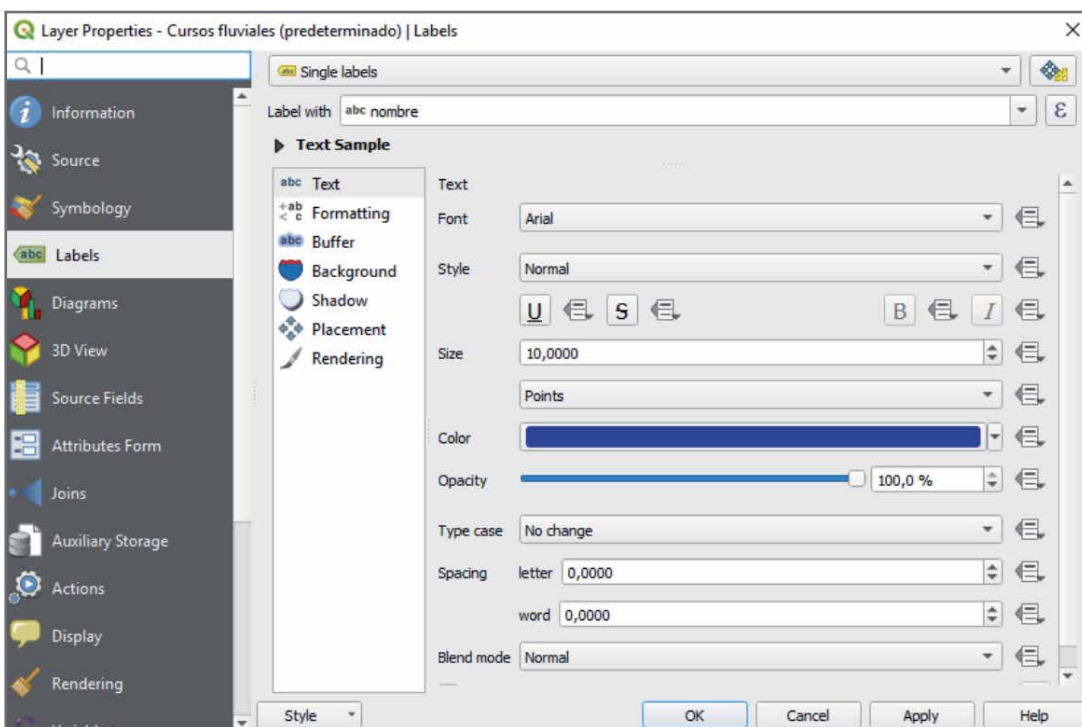
Before stretching the range of colors according to local values



After stretching the range of colors according to local values

13. LABELLING SYSTEM

QGIS offers us the possibility to add a label, automatically, to the different elements of one or more vector layers in a project.

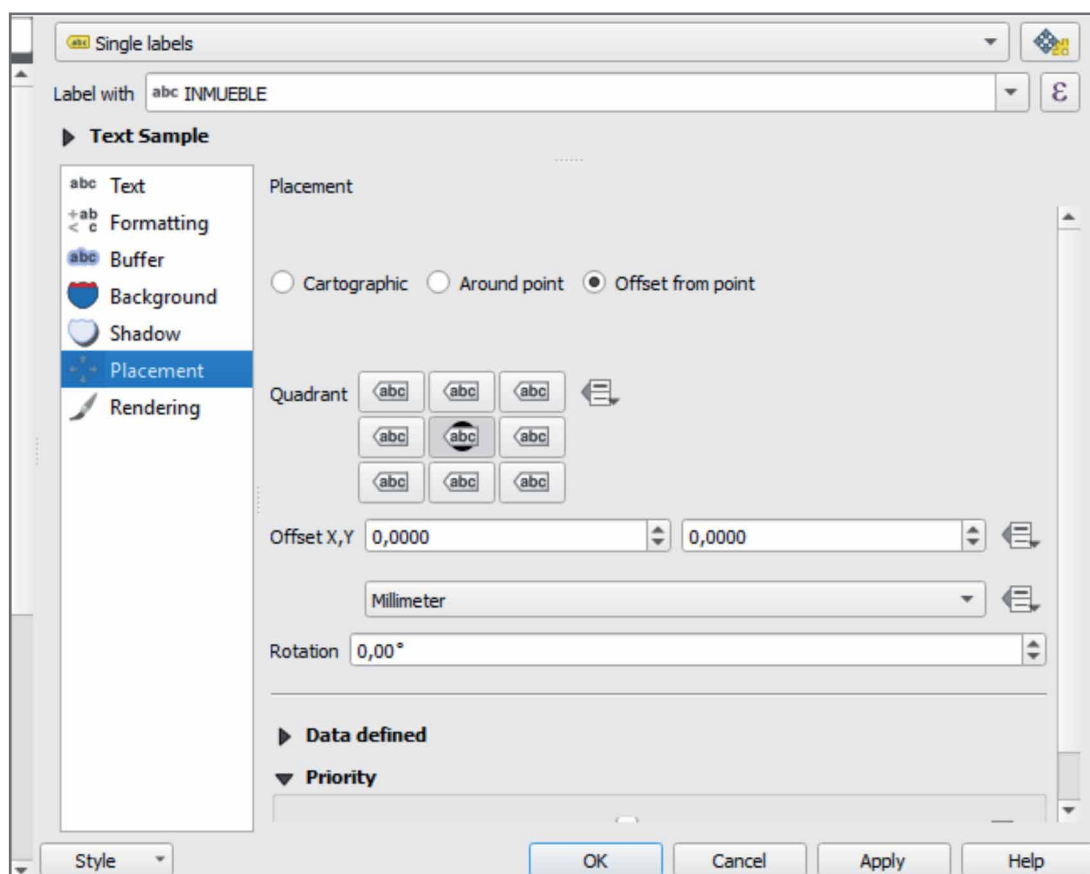


To access the labelling functions of a layer, right-click on the layer and select “Properties”. In the label window, at the top, in the drop-down menu we can choose the labelling method that we want to use. In this manual we work with the “simple Tags” method; we select it.

In the “Tag with” dropdown menu there are the fields of the Attributes Table of the layer that we want to label, and we must choose the field that has the text. In our example, we select the field “name” that has the denominations of the river channels. Clicking on “Text Sample” will open a window with an example of how the text would look with the settings we are making. What appears in the central window allows us to make text and format settings, apply a buffer to the text, define a background, add shadow to the text, choose the preferred location of the label regarding the labelled item and choose the labels’ visualization.

In the text we can choose type, style, size, colour and transparency, among other settings. In Buffer we can apply to the labels’ letters an edge to facilitate its reading in case the colours of the background hinder it. It’s also possible to add a shadow to all three.

In “Location” settings change depending on the type of layer geometry. In case of points it can be placed with the “Cartography” mode so that the tags can be placed at a distance set from the entity of the point itself or from the limits of the symbol used to represent the entity. By default, locations are prioritized in the following order: 1) top right; 2) top left; 3) bottom



right; 4) bottom left; 5) middle right; 6) middle left; 7) up, slightly to the right; 8) down, slightly to the left.

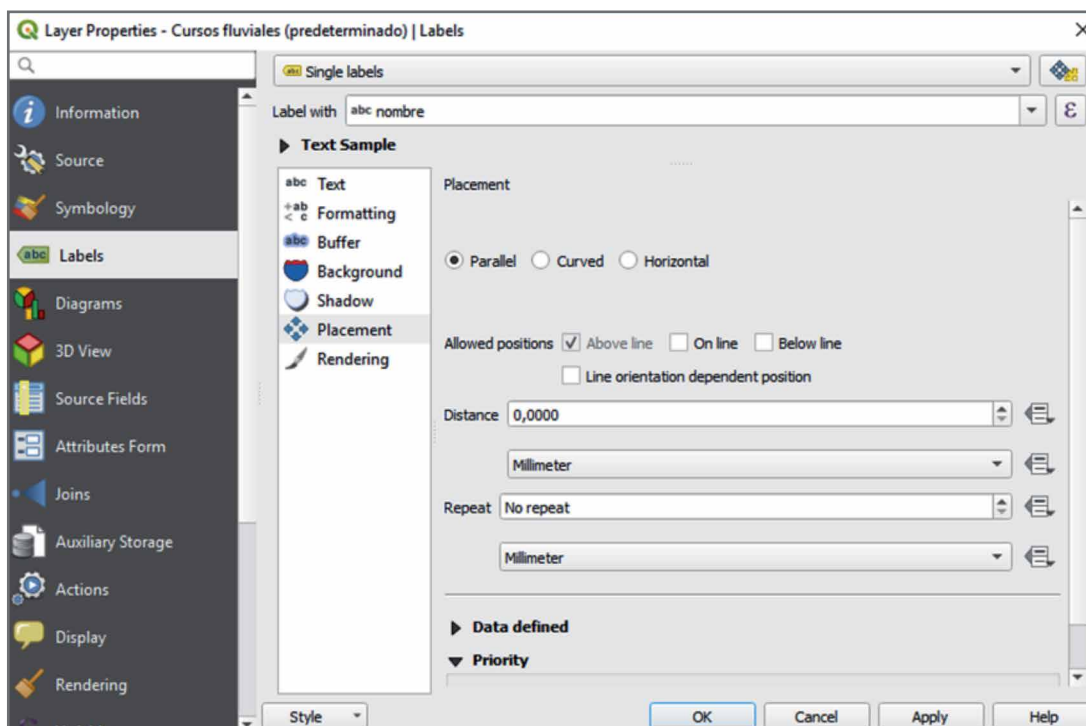
However, the priority of the location can be customized or configured for an individual function using a list of defined data from the prioritized positions. This also allows only certain locations to be used, for example, for coastal features to prevent labels from being placed on the ground.

In the “Around-the-point” mode the labels are placed at a fixed distance from the points, set in the same window. Label placement may even be restricted using the Quadrant option.

In the “Movement from the point” mode, the labels are placed at a fixed distance from the point. We can also select the location of the label regarding the point, so it offers the nine existing possibilities, as seen in the following figure.

We can also set the X Y distances, between the points and their tags and it can alter the placement angle of the label with the Rotation settings

Regarding the line labels, there are three ways to place the labels: parallel, curved and horizontal. In the first two modes we can determine the allowed positions (above the line, over the line and below the line) and we can choose more than one position, which lets QGIS choose the most convenient. We can also use the line orientation for the position of the label by checking the “line orientation-dependent Position” checkbox. Regarding distance, the separation between the line and the label is fixed (depending on the preferred unit). In “Re-



peat” we can choose not to repeat the label in the same element, or repeat it every certain distance fixed in units of the map or in millimetres. In the “Curved” mode, we can determine the maximum angle between characters and curves, both inside and outside.

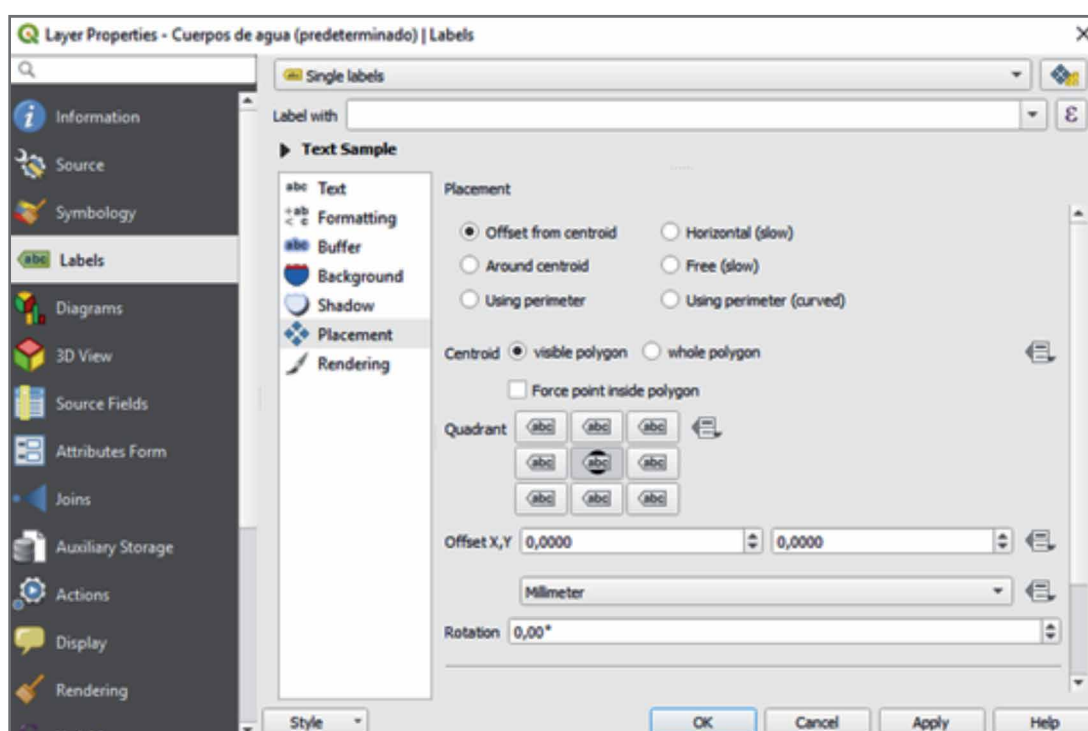
The third mode “Horizontal” allow us to choose only between not repeating the label in the same element, or repeat it every certain distance fixed in units of the map or millimetres.

In case of polygon labels, there are 6 options for placing Tags: 1) scrolling from centroid 2) around centroid 3) using perimeter 4) horizontal “slow” 5) free “Slow” 6) using “curved” perimeter.

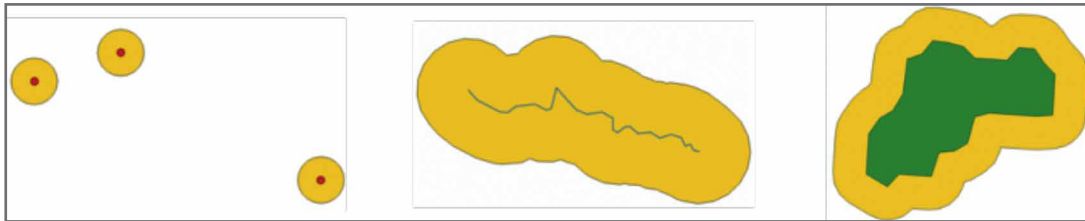
In “Scrolling from centroid” we can specify whether the centroid is the visible part of the polygon or the entire polygon. We can place our label within a specific quadrant and define displacement and rotation.

The mode “Around the centroid” places labels to a specific distance around the centroid. Like the former case it can be specified if the centroid is from the visible part of the polygon or the entire polygon. With the Options “Horizontal (slow)” or “Free (slow)”, QGIS places in the best position a horizontal or rotated label inside the polygon.

With the “Use perimeter” option, the label is placed at the edge of the polygon, and will behave as the parallel option for the lines. We can define the position and distance for the label so that we can specify the distance between the label and the contour of the polygon, as well as whether you want to repeat the label or not, and the repeat interval of the tag.



The “Use perimeter (curved)” option helps us draw the label along the border of the polygon, using a curved labelling. As in the “Curved” mode for the lines, we can determine the maximum angle between characters and curves, both inside and out.



Example of a buffer for points, lines, and polygons layers. The buffer is represented by the color yellow.
Source: https://docs.qgis.org/testing/en/_images/buffer2.png

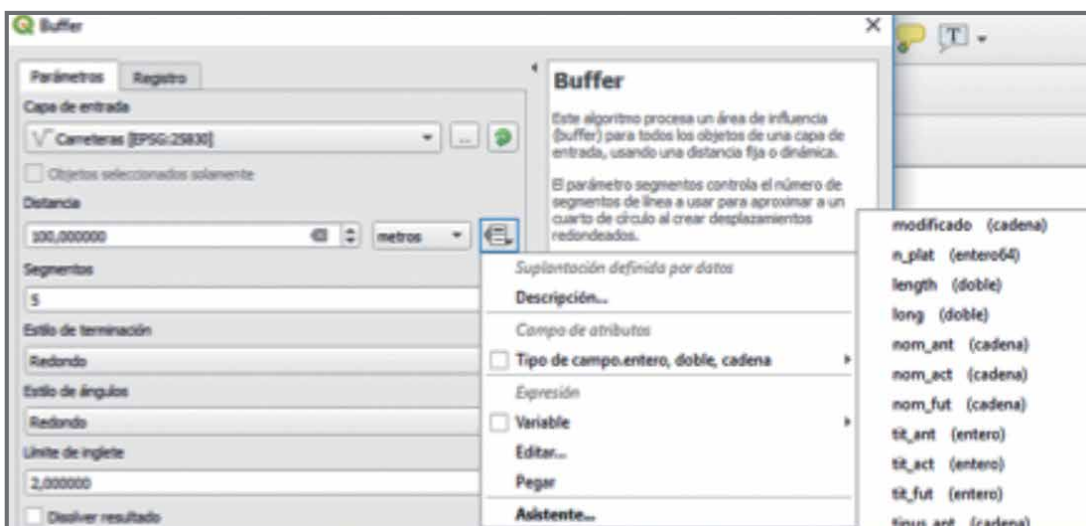
14. INFLUENCE AREA ANALYSIS (BUFFER)

Some analyses require the area of influence that the elements have in an area. To do this, there is a geo-processing tool in the QGIS called “buffer” or area of influence, which is a certain area around a vector element (point, line or polygon).

To determine the area of influence, we go to the menu “Vector--> geo-processing Tools--> Buffer”. The following dialogue box opens.

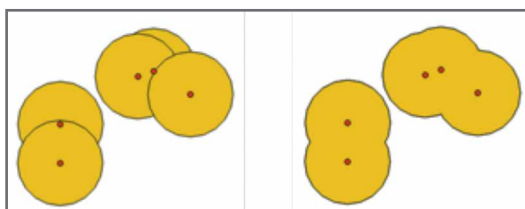
The “Input Layer” drop-down menu lists all the vector layers that the project has. We choose the layer whose area of influence we want to create. In case we want to use certain elements of the layer we must select them and mark the box “Selected Objects only”.

In “Distance” we introduce the distance of the buffer that interests us. It can be customize for each element of the layer by creating a field in the Attributes Table and entering the desired distance for each element. Then, instead of entering the fixed distance, we click on the but-



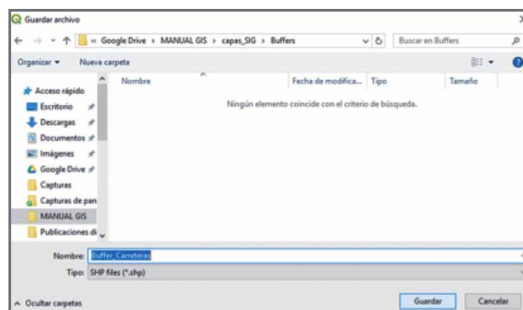
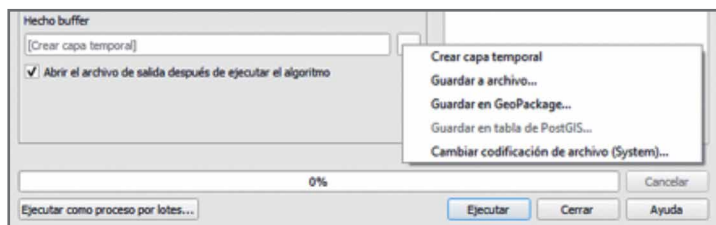
ton to the right of the unit's drop-down menu. Choose "Field Type": Double, String. We select the field that has custom distances.

We leave the segment parameters, termination style, union style and mitre limit with the values by default and mark the box "dissolve results". This last option is used to gather the areas of influence in one single area for all the elements. If not, an area of influence is created separately for each element of the layer.



An example of a buffer of a point layer, with and without the option to "dissolve results". Source: https://docs.qgis.org/testing/en/_images/buffer_dissolve1.png

In "Made Buffer" we have the option to create a temporary layer or save the result as a file. In the latter, we choose the folder where we want the new layer to be saved, we assign it a descriptive name and in the "Type" drop-down menu we choose SHP files (*.shp). Click Save, and run.

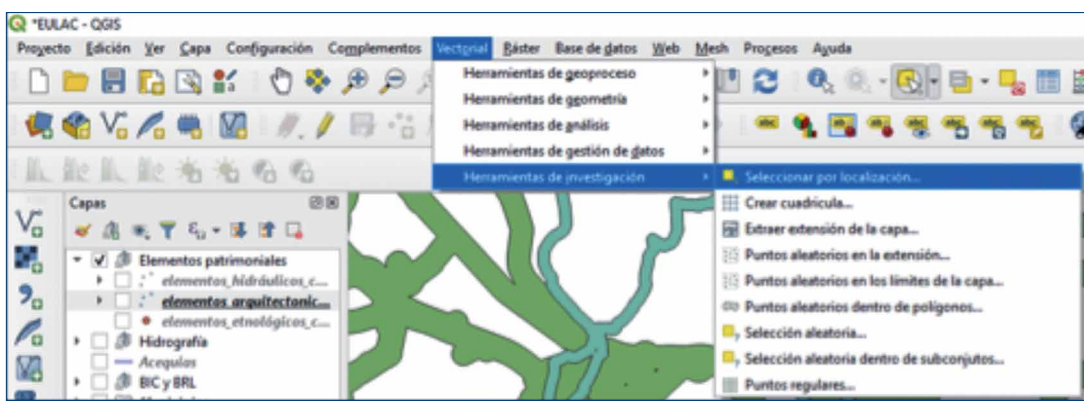


Realizamos el buffer para todas las capas que We make the buffer for all the layers that we intend to use in the Multi-criteria analysis. In our example, a layer of roads and ditches.

15. ITEMS SELECTION BY ATTRIBUTES OR LOCATION

The selection of elements by location is based on searching for items of a layer based on their location regarding the elements of another layer.

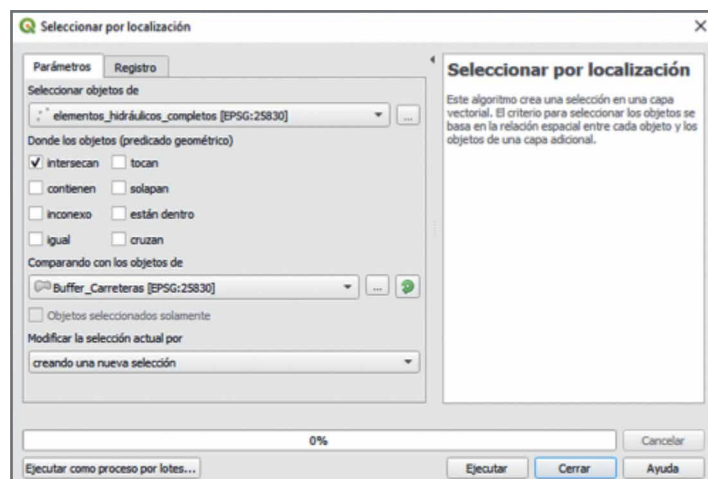
To make the selection by location, we go to the menu “Vector--> Research Tools--> Selection by location”. The following dialogue box opens.



We select, for example, all the elements of the hydraulic heritage layer that are located less than 100 meters from the roads, that is, we select the elements of the hydraulic heritage that intersect with the layer of “Buffer_carreteras” that we created in “Analysis of areas of influence”.

In the “Select objects” dropdown menu, the vector layers inserted in the project are listed. We choose the layer “Elementos_hidráulicos_completos”. In “Where objects (geometric predicate)” we leave it in “intersect”.

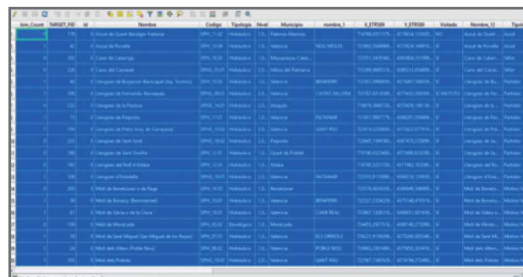
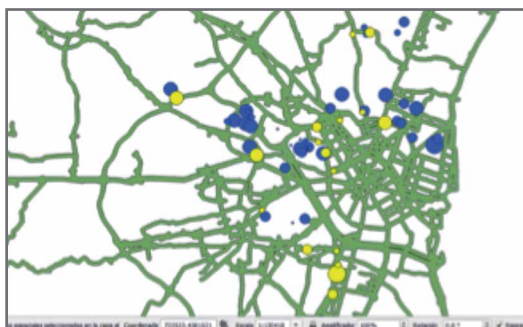
In “Compared with the objects of” we choose the layer of the area of influence of roads “Buffer_carreteras”. In case we want to enhance the process on certain elements of the layer, we must select those elements and mark the box “selected Objects only”.



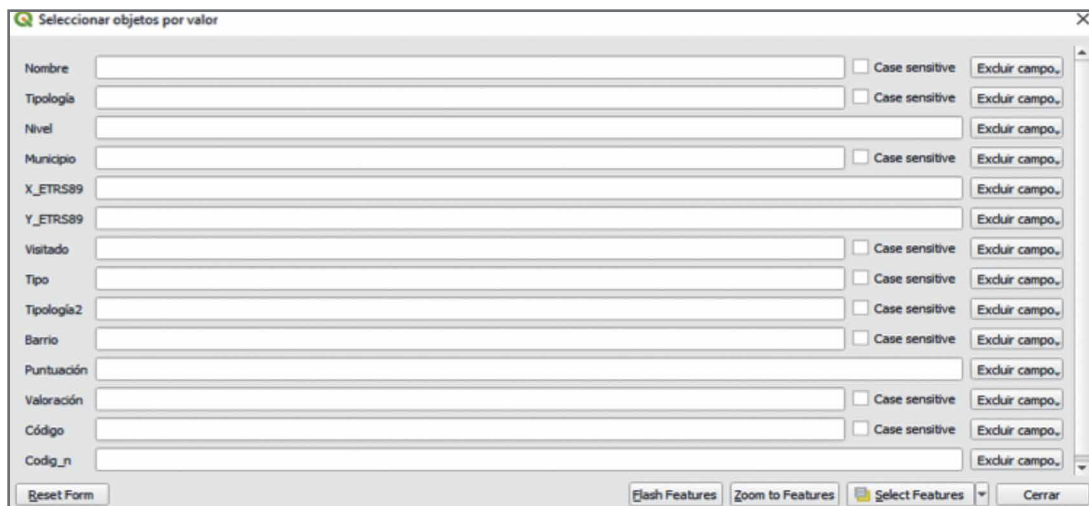
Finally, in the drop-down menu “Modify the current selection by” there are four possibilities:

- Creating a new selection
- Adding to current selection
- Selecting within current selection.
- Deleting from current selection.

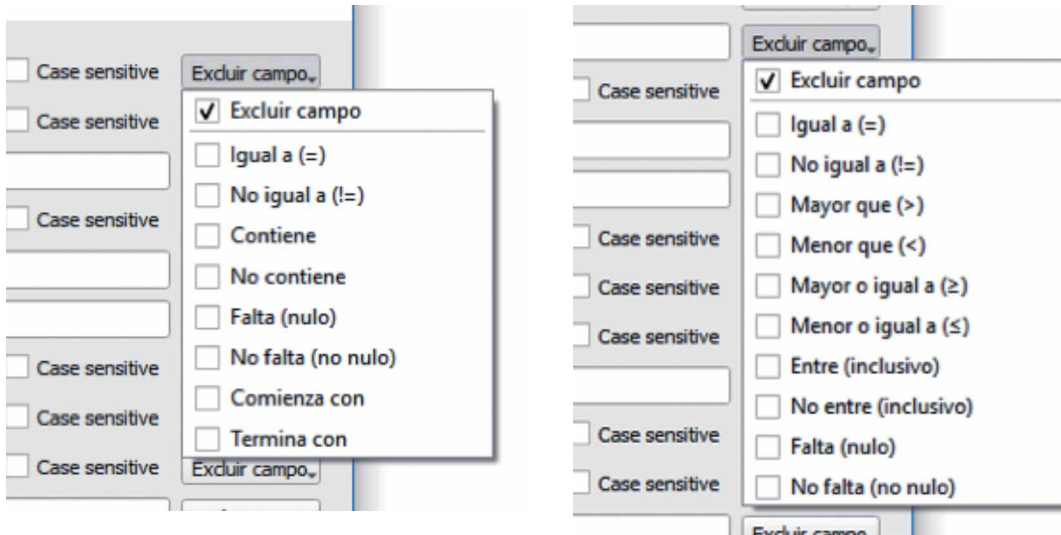
In this case we leave it as it is by default in “Creating a new selection”. We execute the tool, the selected items will be marked with the colour yellow on the map and with blue in the Attributes Table. In our example, 20 items of a total of 65 have been selected.



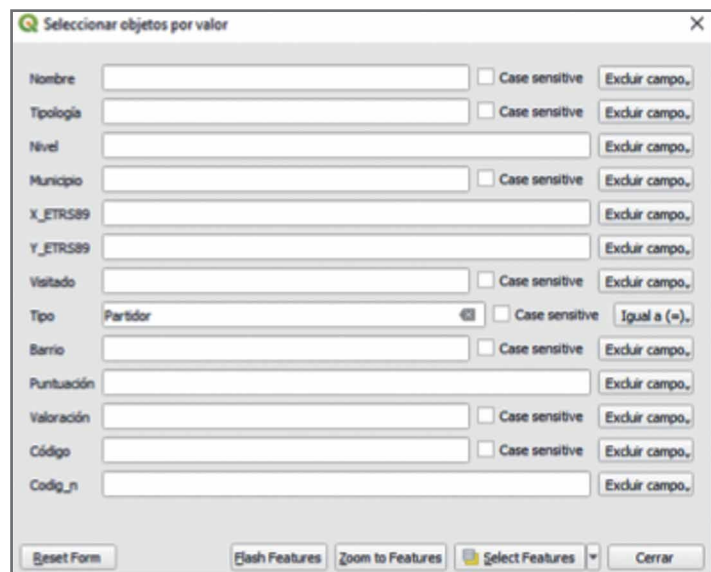
The elements selection by attribute is performed through the “select object by value” tool, located in the “edit--> Select--> Selection by value” menu. Before we have to have the layer where we want to make the selection marked in the Layers panel. The same tool can be accessed by clicking F3. The following window opens:



This window has all rows that the attribute table for the layer have. To the right of the text type fields there’s the box “Case sensitive” which, if marked, will cause the program to consider the uppercase and lowercase letters. Also, each row has a button with the options offered by the program to make the selection. These options vary depending on the type of field.

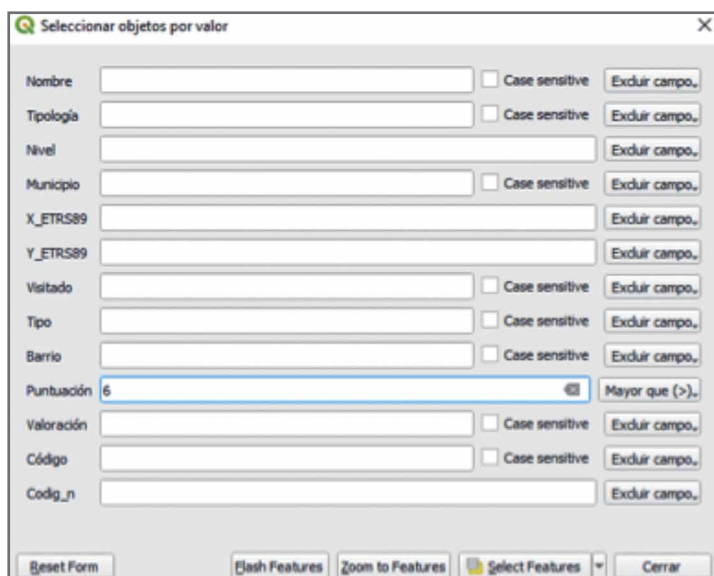
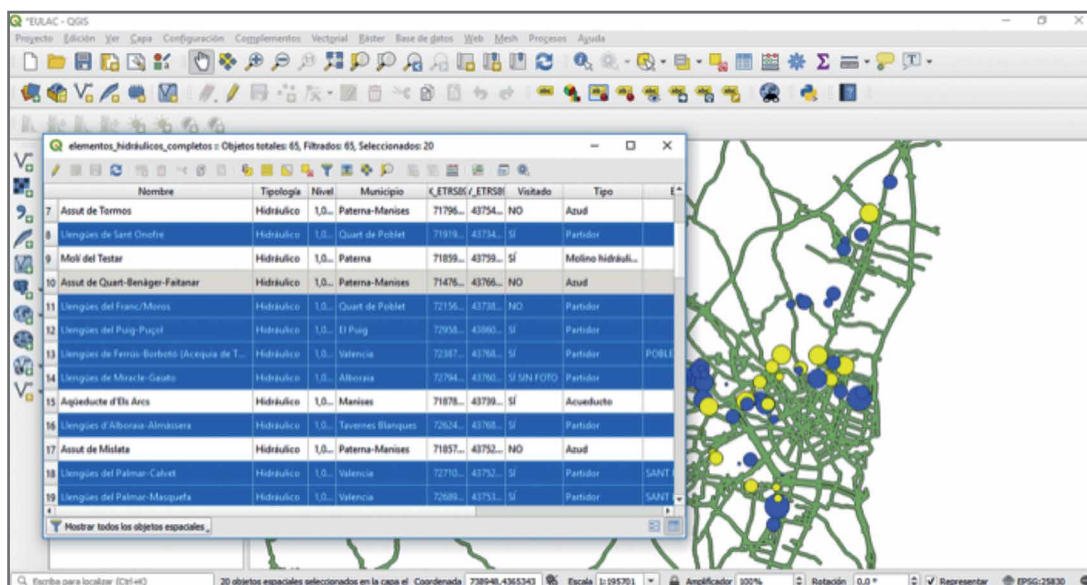


We make two selections. First we select all the hydraulic patrimonial elements “divider” kind. In order to this, we mark the layer of “Elementos_hidráulicos_completos” in the layer panel and go to the “edit--> Select--> Selection by value” menu.



In the row “Type” we write “divider” and in the drop-down menu of the selection options we choose “Equal to (=)” and click on the button “select Features”. The selection is already made and to see the results we open the table of attributes of the layer.

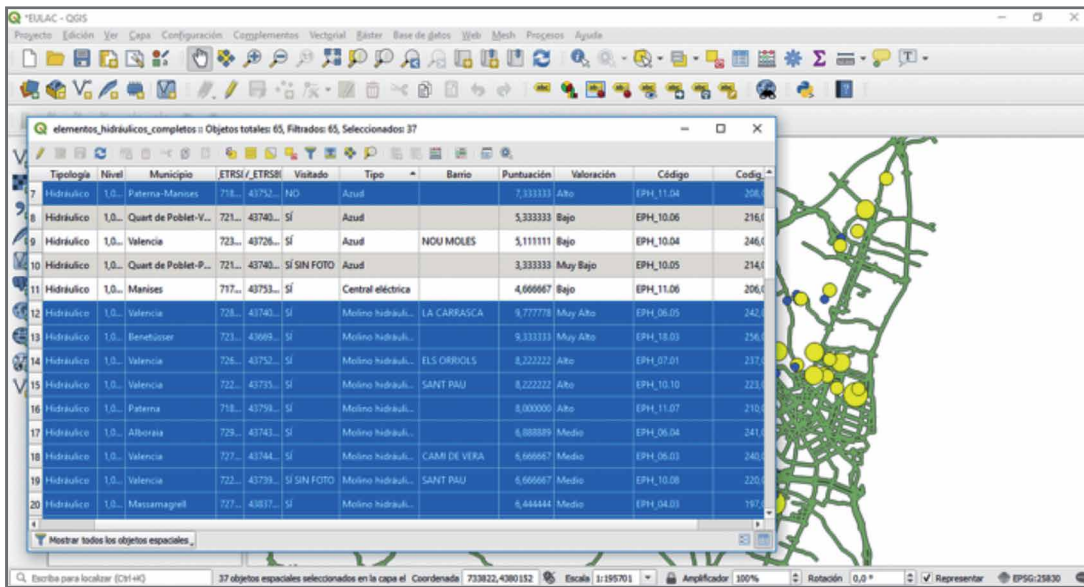
The selected items will be displayed on map in yellow, and in blue in the attributes table. The number of selected items is seen in both the attribute table header (20 items selected from a total of 65) and in the program status bar at the bottom of the screen.



Now we are going to select the hydraulic patrimonial elements that obtained a score of more than six when the methodology of evaluation of the cultural heritage was made. To do this we mark the layer “_ Complete Hydraulic Elements” in the layer panel and go to the “edit-> Select-> Selection by value” menu. In this case, the column containing the information is numeric-type.

In the row “Punctuation” we enter the value 6, and in the drop-down menu of selections we choose “Greater than (>)” and click on the button “select features”. The selection is already made and we open the table of attributes of the layer to see the results.

The selected items will be displayed on map in yellow, and in blue on the characteristics table. The number of selected items is seen in both the attribute table header (37 items selected from a total of 65) and in the program status bar at the bottom of the screen.



16. MULTI-CRITERIA ANALYSIS

In the multi-criteria analysis that we are going to develop we will apply the three last tools that we have seen in this manual, the areas of Influence (Buffer), the selection of elements by attributes and the selection of elements by location.

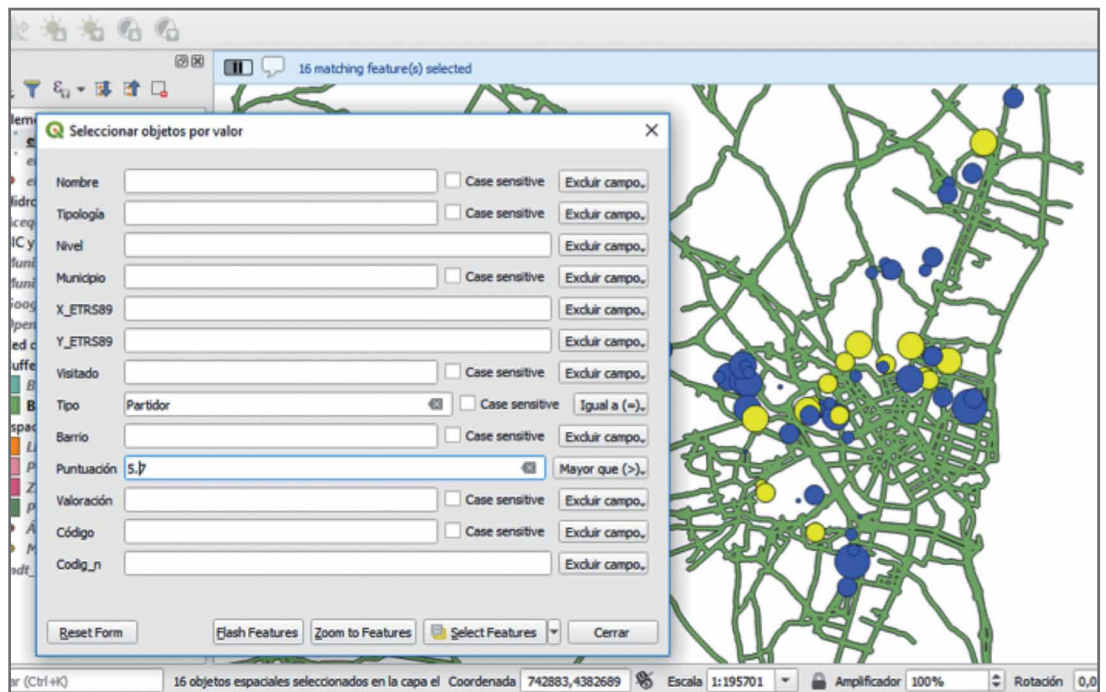
As an example, we will perform the following analysis: we want to find all the elements of the hydraulic heritage that meet the following criteria:

- "Divider" type
- Medium, high or very high rating, i.e. a score higher than 5.7
- Located near the road network (< 100 m)
- Close to an irrigation canal (< 50 m).

We prepare the two areas of influence that are a buffer for the layer of roads with a distance of 100 m and another buffer for the canals with a distance of 50 m (see Analysis of areas of influence "Buffer").

We start with the selection by attributes (see Items selection by attributes or location). The first two criteria will be applied using the attribute selection, since this information (type and punctuation) is found in the hydraulic element layer attribute table.

We can make the selection by applying the two criteria at the same time. To do this, in the "Type" row, we enter the word "divider" and in the selection options button we choose "Equal (=)". In the row "Punctuation" we enter the value 5.7, and in the dropdown menu of the selection options we choose "Greater than (>)" and we click on the button "select features".

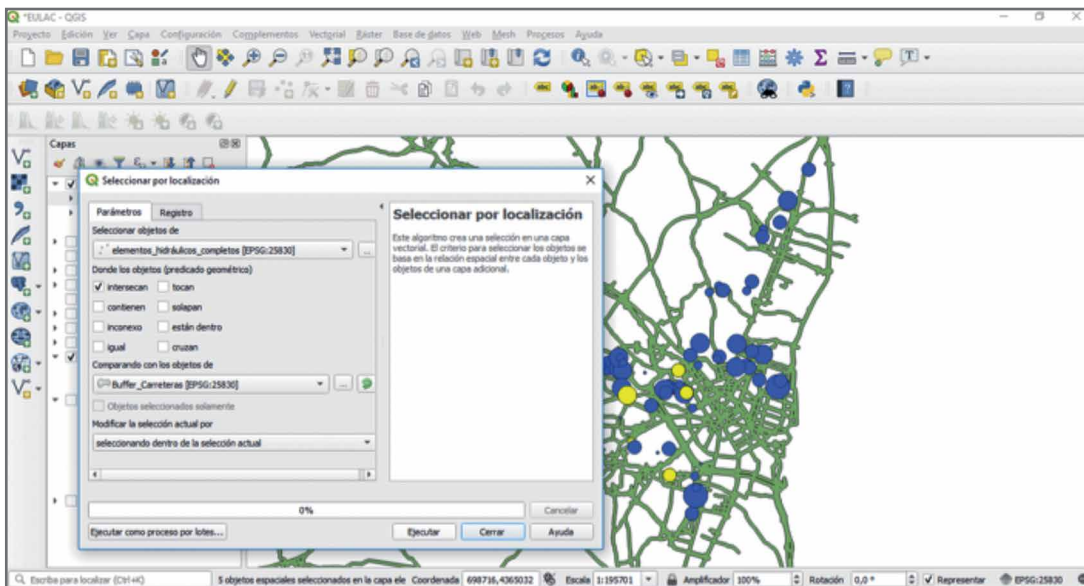


The elements that meet these two criteria at the same time will be marked in yellow colour, and will be highlighted in the attribute table in blue. There are 16 elements of a total of 65 containing the layer.

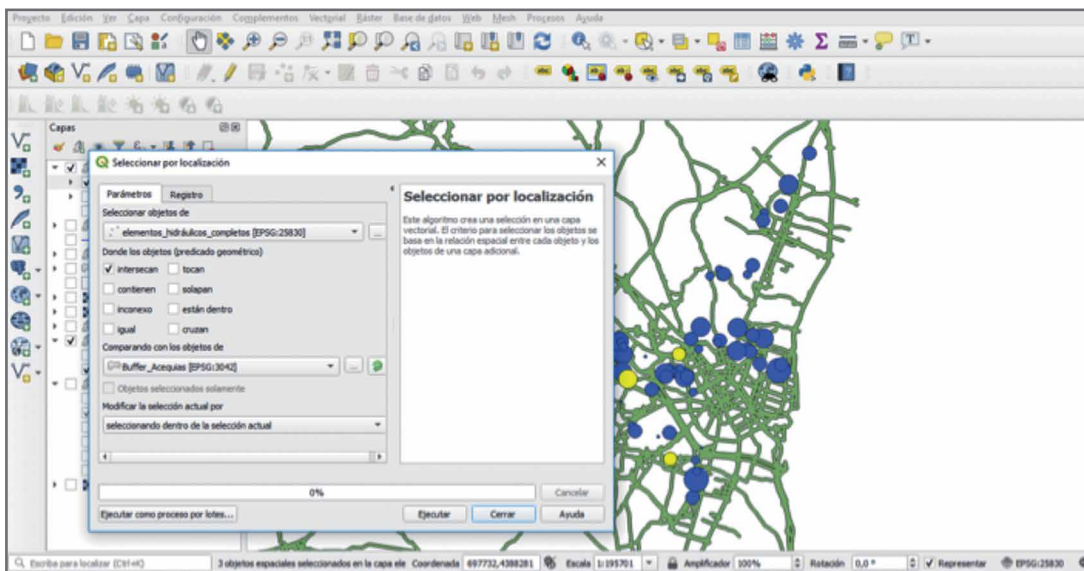
Once the selection by attributes for the first two criteria is made, we must make the selection by location for the other two criteria (see Items selection by attributes or location).

We go to the menu “Vector--> Research Tools--> Selection by location.” It opens dialogue box. In the “Select objects” drop-down menu, we choose “Elementos_hidráulicos_completos” layer. In “Where objects (geometric predicate)” we leave it in “intersect”. In “Compared with the objects of” we choose the layer of the area of influence of the roads “Buffer_carreteras”.

It’s very important to know that the selection we are making should be made within the elements that have already been selected in the previous step (those that met the first two criteria). To do this, in the drop-down menu “Modify the current selection by” we have to choose the option “Selecting within the current selection”. We click Run.



We repeat the previous step, but in the drop-down menu “compared to the objects of” we choose the layer of the area of influence of the roads “Buffer_acequias” and execute the tool.



We open the attributes table of the “Elementos_hidráulicos_completos” layer to see the final result of the Multi-criteria analysis. In the drop-down menu at the bottom left we choose “Show Selected space Objects”.

elementos_hidráulicos_completos :: Objetos totales: 65, Filtrados: 3, Seleccionados: 3

Nombre	Tipología	Nivel	Municipio	X_ETRS89	Y_ETRS89	Visitado	Tipo	Barrio	ntuaci	Valoración	Código	Codig_n
1 Llengües de Paiporta	Hidráulico	1,0...	Valencia	721937,99...	4368291,0...	Sí	Partidor	FAITANAR	6,88...	Medio	EPH_17.01	252,0000...
2 Llengües de Sant Onofre	Hidráulico	1,0...	Quart de Poblet	719190,43...	4373490,6...	Sí	Partidor		8,00...	Alto	EPH_12.01	244,0000...
3 Llengües de Burjassot-Benicapal (Aq. Torm...	Hidráulico	1,0...	Valencia	722501,09...	4375067,5...	Sí	Partidor	BENIFERRI	6,66...	Medio	EPH_10.02	225,0000...

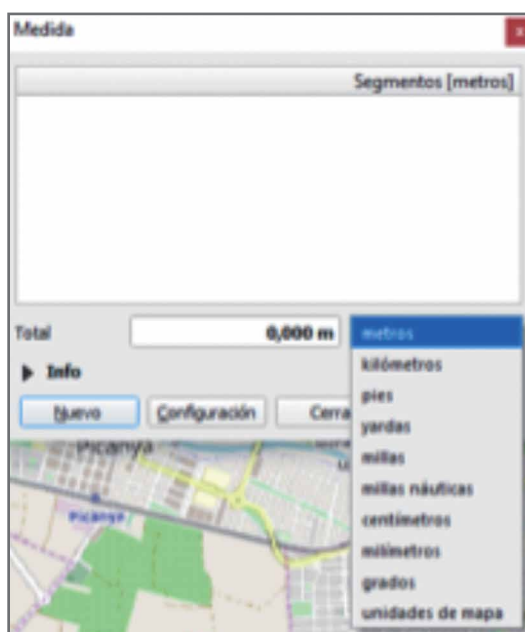
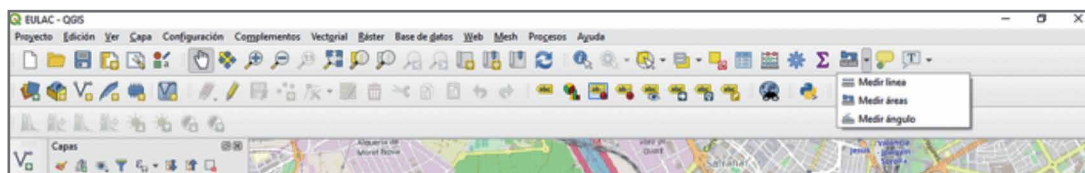
Mostrar objetos especiales seleccionados

In the results we see that there are three dividers that meet the requirements of the analysis, two of them are located in the municipality of Valencia and the third in the municipality of Quart de Poblet. The latter is the best valued with a score of 8 points.

17. MEASURING DISTANCES, SURFACES AND ANGLES

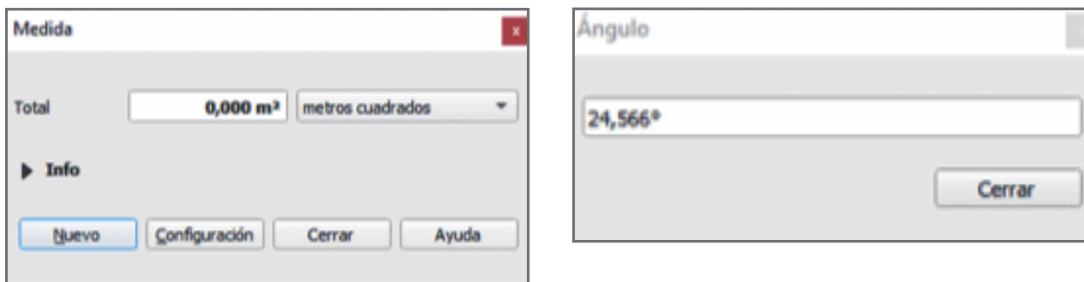
One of the most useful complementary tools when performing the different analyses is the one that measure distances, surfaces and angles.

In the Attributes toolbar we press the black arrow to the right of the rule. A drop-down menu opens with three options: measuring lines, measuring areas, and measuring angles.



In the first option, measure lines, we start by left-clicking on the map, with the second click the length of the limited segment with the first two points appears in the window. And each time we add a click it marks the length of the segment with which it limits. To finish the measurement, we right-click. The sum of the lengths of the segments will be shown in "Total". The drop-down menu to the right of the total allows us to choose the measuring unit that we want to use. The "new" button removes previous results in order to start a new measurement.

To measure surface we select the option “Measuring areas”. It works the same way as the line measuring option. With left click we delimit the area that we want to measure and with right click we close it. We can choose the surface unit in the unit drop-down menu. With the “new” button we delete the previous measurement in order to start a new one.



To measure angles we choose the option measuring angles. The window doesn't open until we mark the second click and move the mouse. Then we see in the window the angle that is formed between the first line and the one limited with the first two clicks and cursor of the mouse.

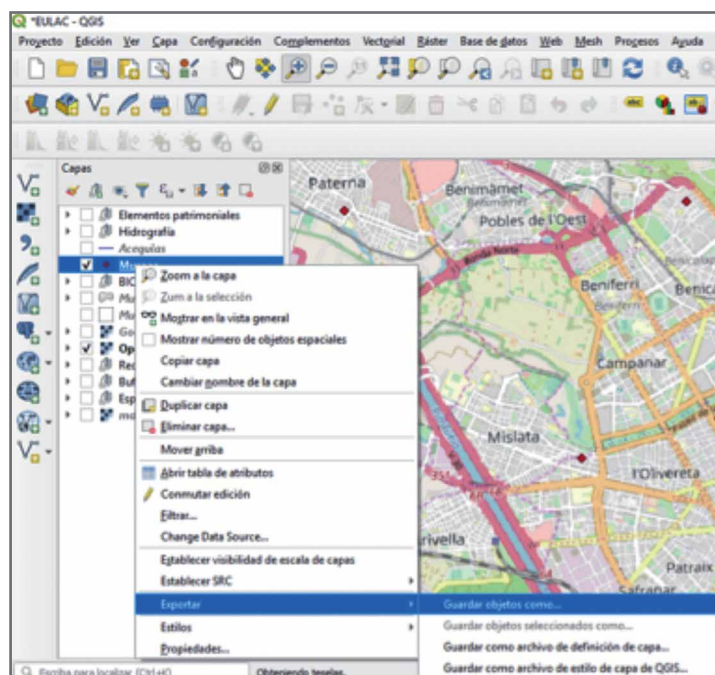
18. CONVERTING SHAPEFILE INTO KML

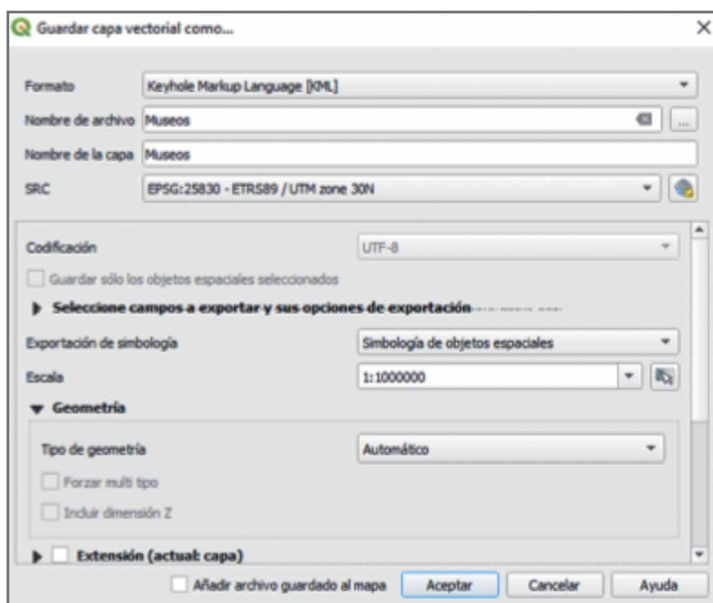
Kml is a single-transferable file format that contains all the elements of a layer or map, such as the geometry of the elements of a layer, symbology, attributes, etc. It can be opened with most free-access applications like Google Earth or Google Maps. Here's the importance, we don't need to install a GIS program to be able to view the data.

To convert a shape file to a Kml file, we must first add it to the QGIS.

In the layers panel we right click and select the option “Export” and then “Save objects as”. A new dialogue window opens.

In “Format” We must choose “Keyhole Markup Language (KML)”. We enter a name in “filename”. In “Export of symbology” we choose “Symbology of Spatial objects” in the dropdown menu. At the bottom of the win-



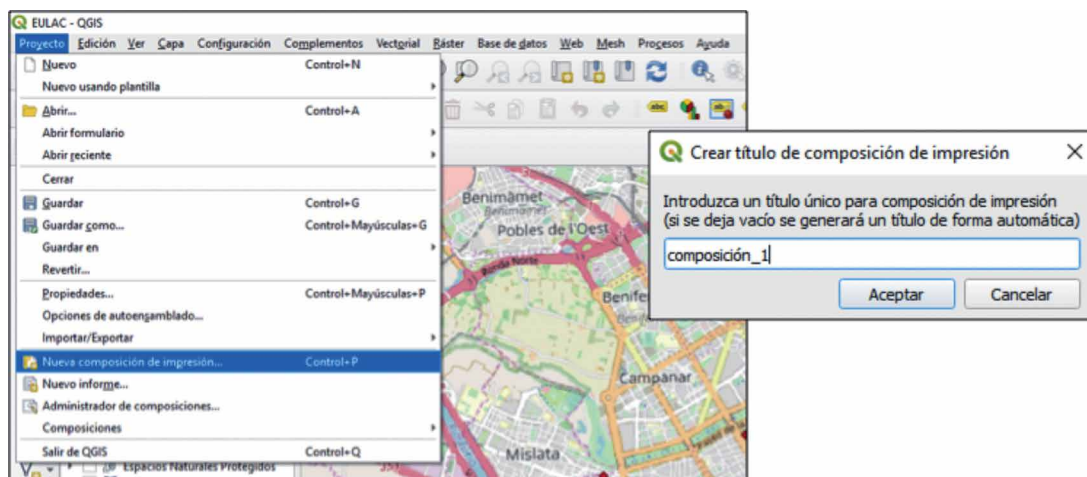


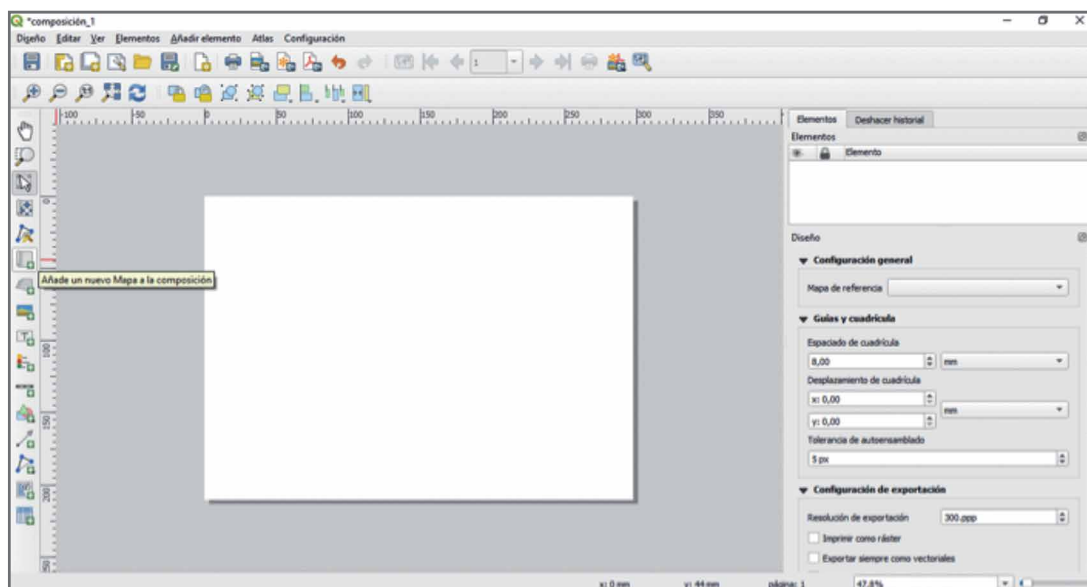
Now we deactivate the box “Add saved file to the map”. We accept. The result is a Kml file that contains all the museums, in this case, with the same symbology that the layer has in the QGIS project. Same way we can convert a KML format file to shape file format.


19. CARTOGRAPHIC OUTPUT

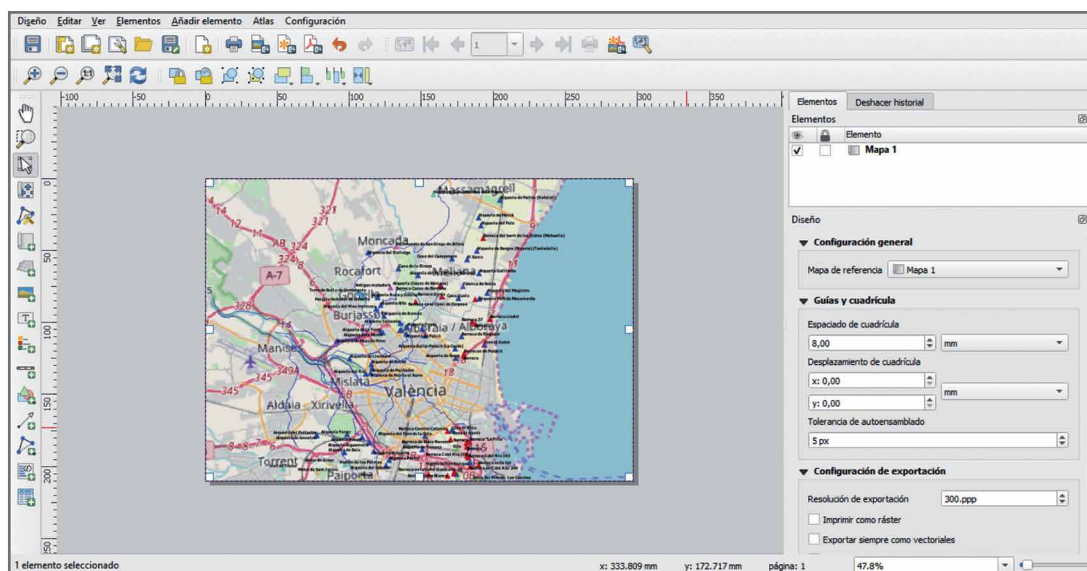
We want to make a map that collects the elements of the layer “elementos Arquitectónicos_completo” along with the layer of canals with a background of the base map “OpenStreetMap Mapnick”. We leave only those layers activated and disable the layer challenge.

To prepare the graphical output of a QGIS project, we must go to the “Project” menu and select “New print composition”. It opens a box that allows us to name the print composition. We introduce, for example, “Composición_1” and then click “Ok”. A new box will open.

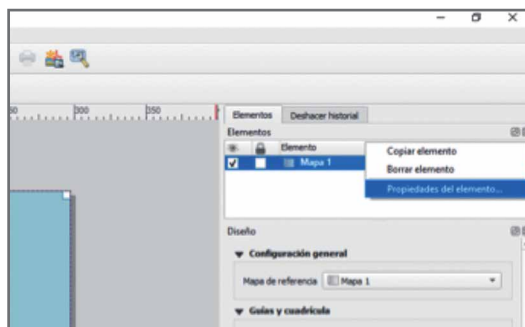




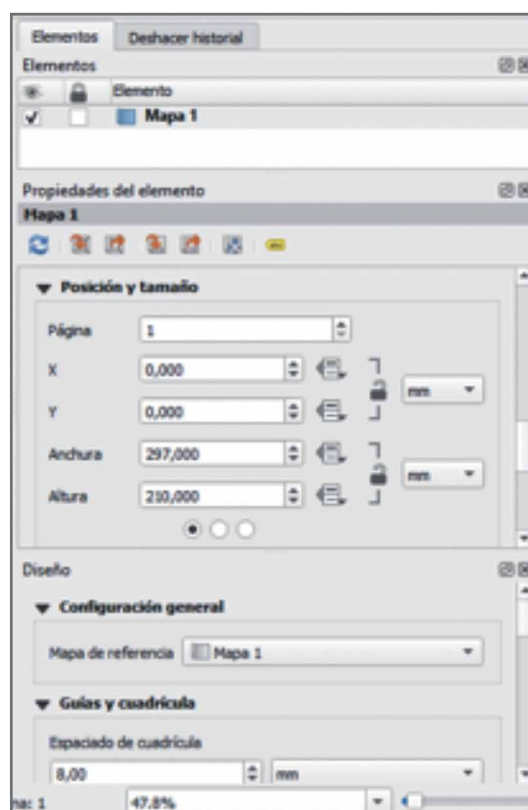
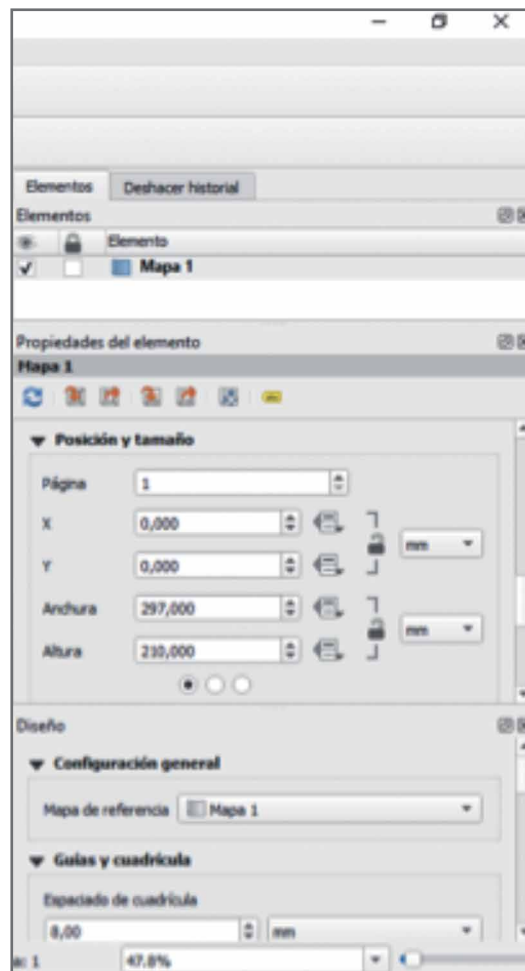
In the sidebar we click on the button “Add a new map to the composition”  , and with the cursor we mark the space where we want the map to be located.





The first decision we have to make is the size of the map that we want to produce, and also the orientation of the output. In our example, the size of the sheet will be “A4” with the “Horizontal” orientation.



A box opens and we go down to “Position and size”, where we can change the size of the outputting map. In our example we leave it with the original values.

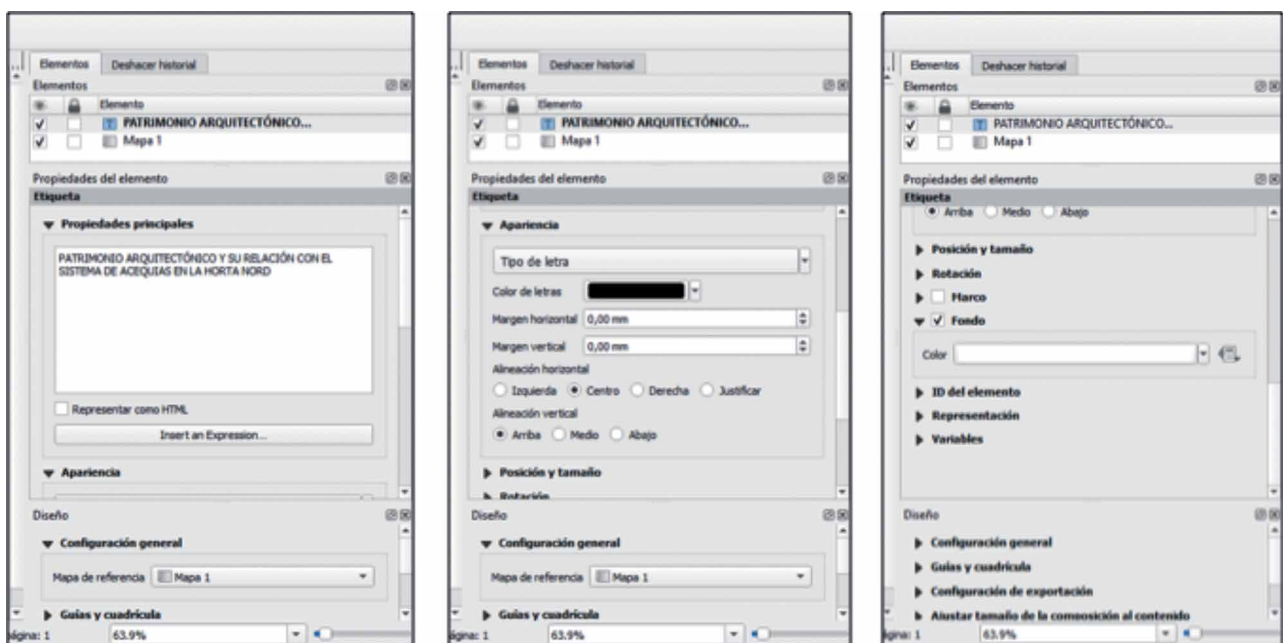



In the same box, at the beginning, in “main Properties”, we change the scale of the map to “50000”, and with the button of “interactivity Edit Map extent”  in the sidebar, we locate the extension in which we want to collect the map.


To add a title to the map we go to the sidebar of the box, we click the button “Add a new label to the composition” , and with the cursor we mark the space where we want it to be located on the map.

The title properties box opens (in case it doesn't, we will need to go to the list of elements and right-click on the Title box and select "Properties"). In "Main Properties" we enter the title we want. In "Appearance" we can choose the font, size, color, and vertical and horizontal alignment, among other settings.


If we want to add background and frame to the title box, we have to mark the "Background" and "Frame" boxes that are in the same properties box and then select the color.

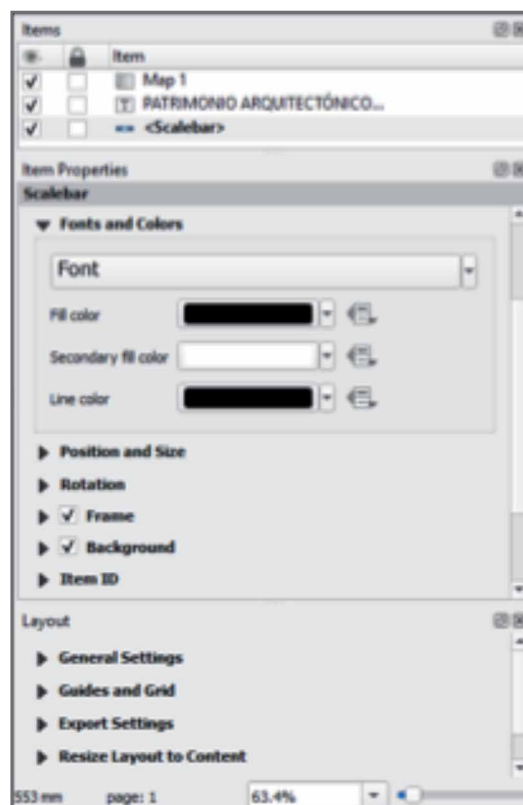
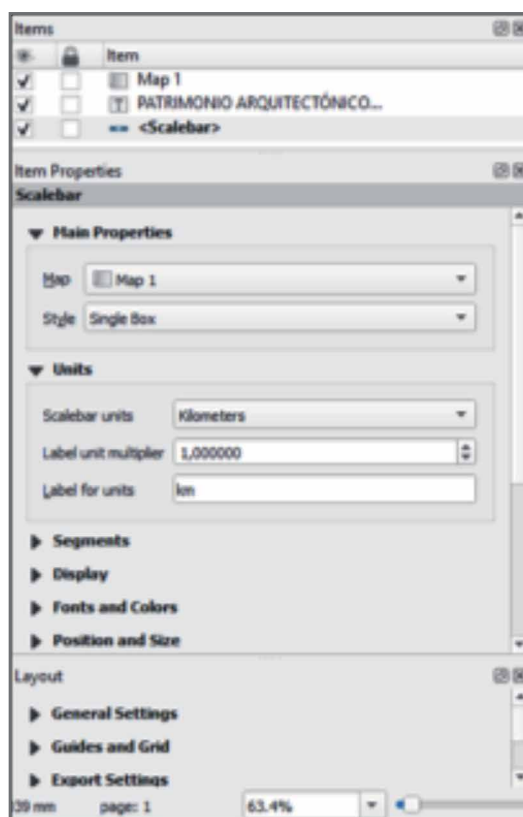



To change the size of the title box, we click the button "Select/Move Item"  that allows us to modify the dimensions of the box.

In order to insert a scale to the map we go to the sidebar of the box, we click the button "Add a new bar of scale to the composition" , and with the cursor we mark the space where we want the map to be located.

The Scale Bar Properties box opens (in case it doesn't, we will need to go to the list of elements and right-click on the scale bar and select "Properties"). In "Main Properties" we can choose the measuring unit of the scale and the label, among other options. In "Fonts and Colors" we choose the font and the color. If we want to add background and frame to the scale bar, we have to mark the "Background" and "Frame" boxes that are in the same Properties box and then select the color.



It's convenient to insert the North arrow. In order to do this we go to the sidebar of the box, we click the button "Add a new arrow to the composition" , and with the cursor we marked the line where the arrow must be located. A good place to put it is at the top center of the scale bar. We also add the "N" the same way that we have followed to insert the title




Finally, we add the legend of the elements depicted on the map. We go to the sidebar of the box, we click on the button “Add a new legend to the composition”  , and with the cursor we mark the place we want it to be located in the map.

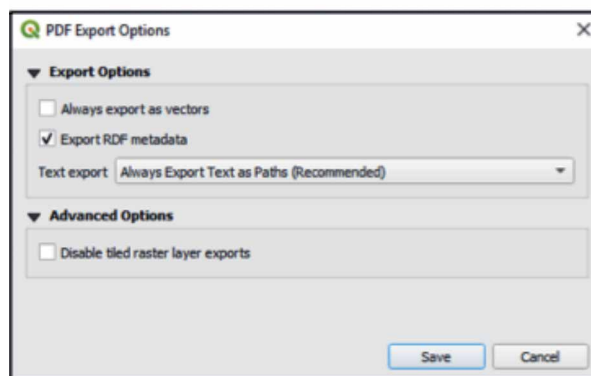
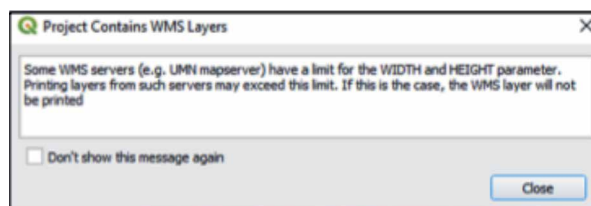
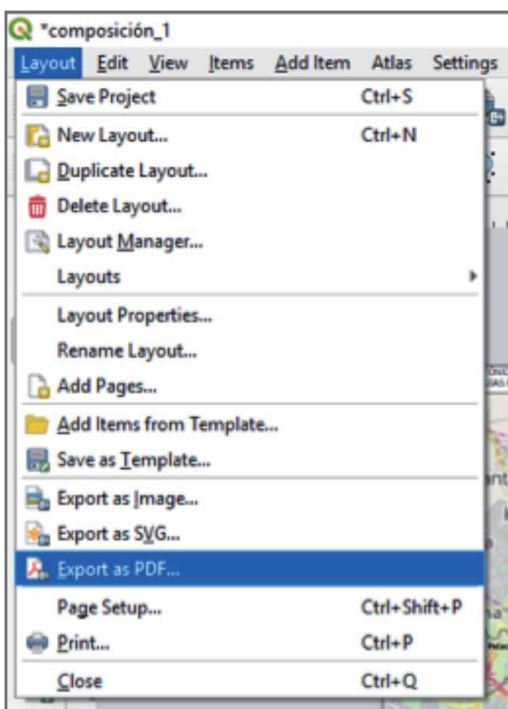
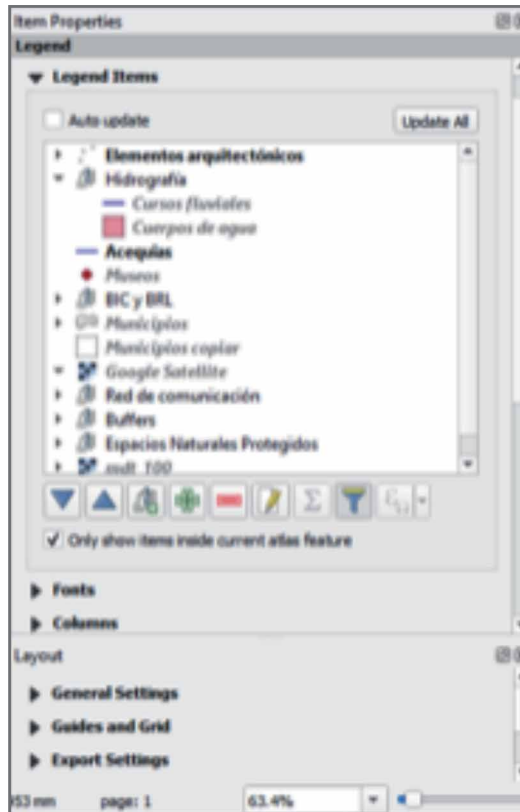
The Scale Bar Properties box opens (in case it doesn't, we will need to go to the list of elements and right-click on the scale bar and select “Properties”). In “Main Properties” we add the title “Legend” and align it to the center.



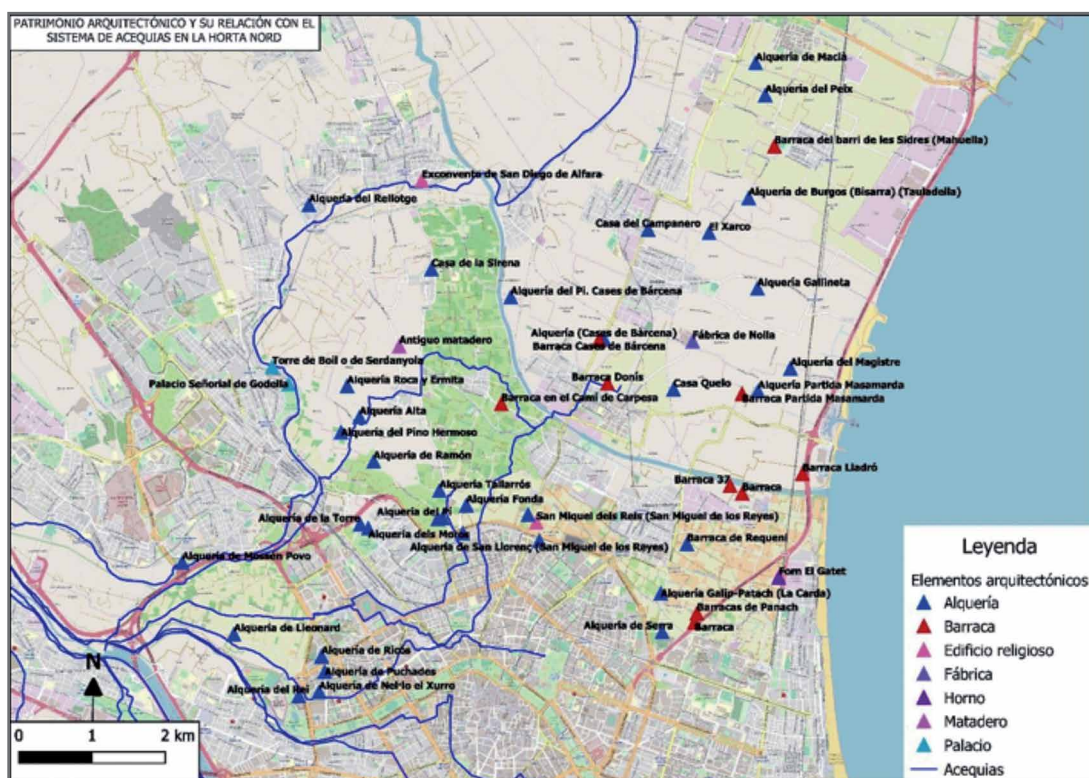
In “Elements of the legend” we uncheck the box “Auto Update”. We press the button “Filter reading by the content of the map” . In order to remove the base map of the legend we mark the layer “OpenStreetMap Mapnick” and press the button .

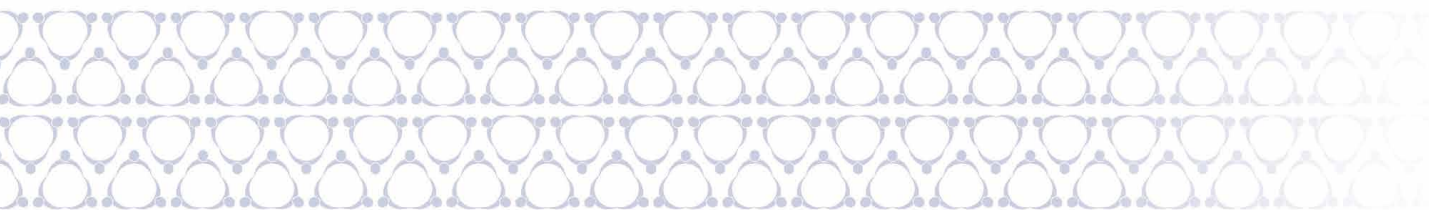
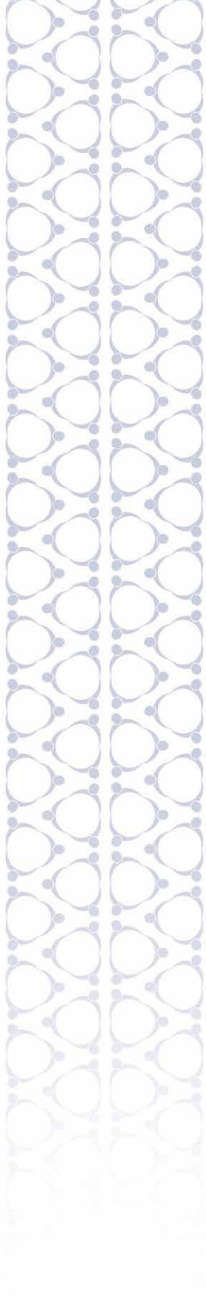
We can edit the name of any item in the legend from “elements of the Legend” by double-clicking the item and entering the new name.

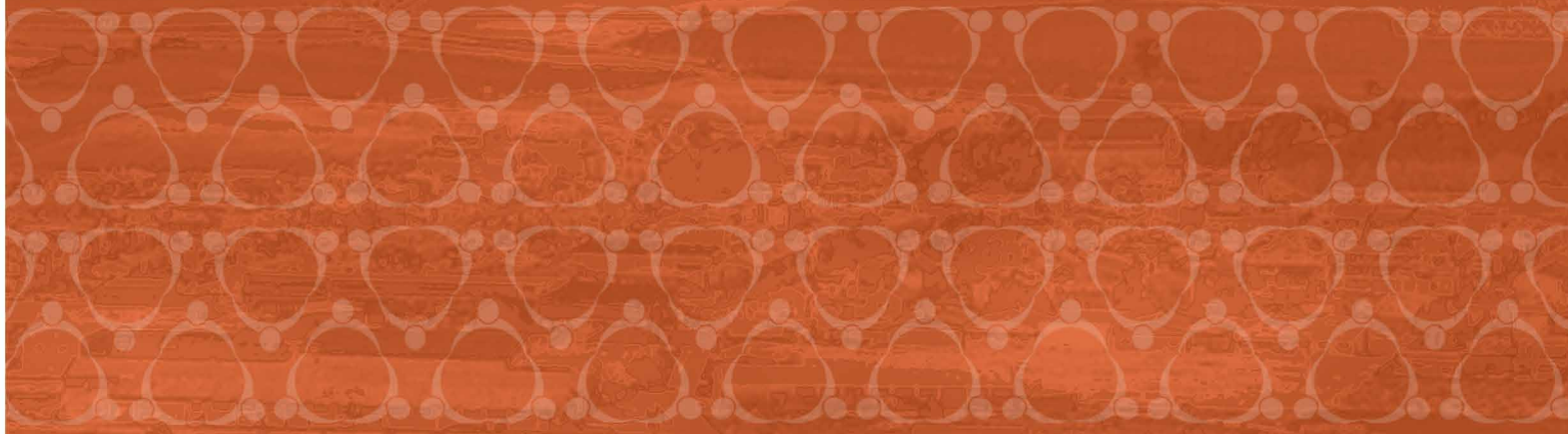
To change the size of the legend box, we click on the button “Select/Move Item”  that allows us to modify both the dimensions of the box and its location.

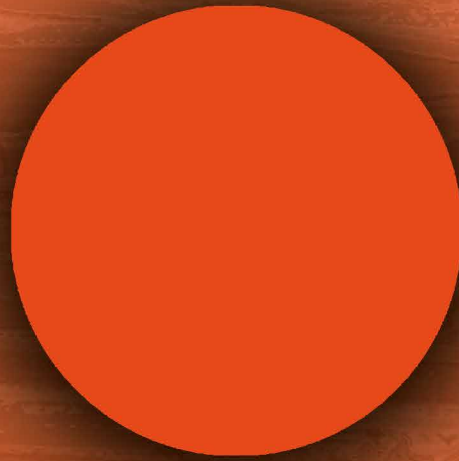


To export the map to PDF format or image format, go to the “Design” menu, where we choose, for example “Export as PDF...”. A dialogue box Will open to warn us that by using an online service (the base map) there will be an extension limit. We click “Close”. A window is opened to choose the name and location of the outputting map. We enter the name and choose the location, and click “Save”. One last window opens where we have to choose the export options of the PDF, we leave the ones by default and click “Save”.









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CHAPTER III

MASTER PLANS OF TERRITORY MUSEUMS

**La Huerta de València
and Huerta of Cortes de Pallás**





Master Plan Huerta de València

Authors:

*Jorge Hermosilla, Sandra Mayordomo
and Mónica Fernández*

01

Master Plan to the enhancement of La Huerta de València: the Territory Museum

The draft of a Master Plan for the creation of a Territory Museum at the huerta of Valencia involves a previous research work that provides the information needed to carry out our task. The specialised literature that addresses this type of initiative coincides with the need to **schedule, organise and evaluate** various actions. The first phase of strategic planning includes previous integrated diagnosis, the definition of the objectives that the various groups aim to achieve, and of course the design of the strategic lines and programs to be developed. These previous investigations altogether with the availability of territorial resources will allow us to configure the Territory Museum. Inter-administrative cooperation, especially with the local administration, as well as the participation of other territorial actors, will also be essential.

The models prepared under the EULAC-MUSEUMS project by the University of Valencia will be the basis of our Master Plan. They set out the stages of planning, the fundamen-

tals of comprehensive management and the assessment criteria for cultural heritage:

Museums and strategic planning
Cultural heritage management
Cultural heritage evaluation method

Finally, through the application of model *Design and application of a Geographic Information System*, a mapping will be carried out that will reflect the spatial structure of the Territory Museum and the distribution of the heritage resources that form it.

The main purpose of our Master Plan is the recognition of the huerta of Cortes de Pallás through a Territory Museum that:

1. Facilitates the citizens' **knowledge** and interpretation.
2. Preserves and **protects** heritage values.
3. Makes it more **attractive** to rural-cultural tourism.

A TERRITORY MUSEUM FOR A MEDITERRANEAN MILLENNIAL IRRIGATION LAND

Our project for the creation of a Territory Museum pursues the definition of the steps to take to create a museum space with a common and attractive story, capable of generating economic development for the area. It's about integrating heritage value projects into local development strategies. The Territory Museum should be a source of wealth generation, due to increased incomes and job creation.

The Territory Museum of l'Horta de València has its origin in a universal natural resource, water, and its traditional uses. We refer to human supply, energy production, and especially, irrigation. It is a universal approach to the Mediterranean character. The historical irrigation of l'Horta is an example of the traditional watering in the Mediterranean basin. It is a hydraulic heritage, characterized by its universality and its Mediterranean character.

In the Mediterranean basin, the cultural legacy related to the use of water is a common feature. The availability of water, scarce and even absent in summer, has conditioned its irrigation systems. In the Valencian geographical space, these systems are common

both to the coast and the interior. Undoubtedly it can be said that it is a territory characterized by a rooted and secular culture of water.

The identification and study of historical irrigation require a multidisciplinary approach that involves the participation of historians, archaeologists, geographers, anthropologists, agronomists, etc. The studies are addressed in various scales of work: the catalogue and inventory of the supplies for transportation and use of the water resources; the network of irrigation channels; the hydraulic system (arrangement and relationship between the elements); and the landscape units generated. In l'Horta one of the most significant examples of cultural landscape of the Mediterranean mountain through the architecture of water is found, it's its historical irrigation.

The historical irrigation land of l'Horta is a part of the Valencian rural heritage. In fact, it meets the conditions that define its patrimonial character: its configuration over centuries, its function of agricultural production and the close relationship with the local society. Historical legacy, functionality and social basis. This last circumstance favours the processes of participation of the society in the design and execution of the programs for the museum territory.

02

Analysis and diagnosis

I. LA HUERTA DE VALÈNCIA

The Huerta of Valencia is a **space** with a social, cultural, economic, landscape and heritage value of the first order.

It sits on the vast **alluvial plain** of the Gulf of Valencia. It receives the contributions of the Turia River and the ravines of Carraixet and Rambla del Poyo. This physiographic scenario, along with optimal climatic characteristics, has allowed the existence of intensive irrigation agriculture. These irrigation lands developed in the medieval Islamic period, although having a Roman origin. The irrigation system is configured by establishing 138 parts or proportional “rows” (PIQUERAS, 2017) fed by the eight irrigation channels that derive from the Turia River (Moncada, Tormos, Mestalla and Rascanya, on the left bank; Quart, Mislata, Favara and Rovella on the right bank). These ditches, with the exception of the Royal Ditch of Moncada (Real Acequia de Moncada), are managed by the Tribunal de las Aguas de la Vega de Valencia, a body that regulates its operation and judges conflicts about the use of the water. The irrigation land is the backbone of the Huerta of Valencia. Urban expansion and increased water use have caused the irrigation surface of some of these ditches to disappear almost completely (Mestalla, Mislata or Rovella).

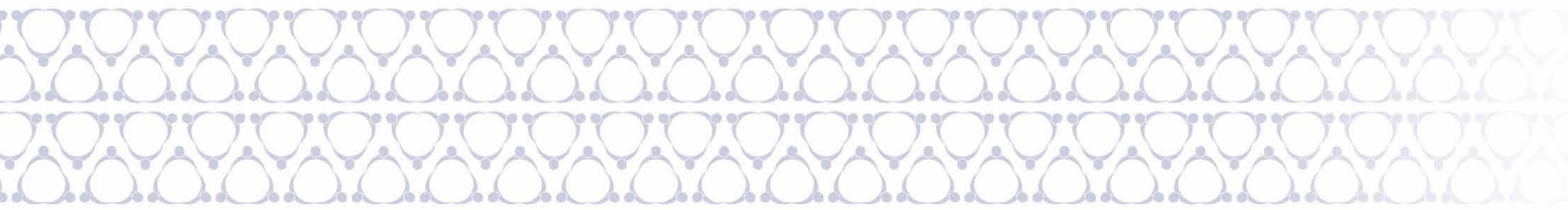
The use and management of irrigation water have been characterized by the adoption of a series of unwritten rules (intangible heritage) that materialized in the constitution of

the **Tribunal de las Aguas** de la Vega de Valencia, recognized as Intangible World Heritage by the UNESCO in 2009.

The historic region of Huerta of Valencia (or l’Horta in Valencian) is formed by 44 **municipalities**, which can be divided into two distinct sectors, depending on the margin of the Turia River on which they are located. L’Horta Nord (northern bank) has 23 municipalities and l’Horta Sud (southern bank) has 20, plus the city of Valencia, which has a strategic location in the so-called European Mediterranean arch. L’Horta has a population of more than 1.5 million inhabitants, of which 787,000 reside in the city of Valencia. Its **population density** is high, close to 2,500 inhab/km² and its surface is 620 km². It has two Natural Parks with a relevant environmental value: the Albufera and the Turia River Natural Park.

The space traditionally irrigated by hydraulic systems based on the traditional weir-ditch scheme has been conditioned over the last decades by demographic concentration and urban growth. If in 1950 there were about 12,000 ha, now it’s less than 8,000 ha. The population of Valencia and its metropolitan area has continued to grow to 1.5 million inhabitants.

The landscape of the Huerta is not only an agrarian landscape but is a space formed by a mosaic of uses, where the plots and the network of ditches coexist with urban and industrial areas, communication routes and infrastructures.



The Huerta of Valencia is a cultural, environmental and landscape heritage that is a hallmark of the city of Valencia and the metropolitan municipalities, as it is a construct –a transformed cultural landscape– that has been generating over the centuries (HERMOSILLA and IRANZO, 2017). It is one of the few metropolitan historical huertas that still survive in Spain.

Irrigation farming activity and rural communities determined the spatial structure of the *huerta* until the mid-19th century. From then on, new axes of communication allow the development of the city of Valencia, which comes to absorb nearby hamlets. In the second half of the twentieth century, the capital becomes an urban area, and the municipalities of the *huerta* experience a great population growth, which implies a double threat to the agricultural space.

This urban growth has led to the appearance of bordering strips between city and *huerta* with a stark contrast between the urban and the rural. The analysis of these urban **borders** provides three types of relationship: high permeability, those edges that favour the *huerta*-city cross-sectional relations, where green areas soften the transition; average permeability, whose transverse relationships and the pedestrian's access to the *huerta* is reduced; and zero permeability, with very defined limits and almost total absence of access to the *huerta* from the city.

The main characteristics of the Huerta of Valencia are the **small-scale farming**, due

to its historical development and the multiple hereditary partitions, and the rotation of crops, which allows to obtain two or three harvests in the same agricultural year. The traditional crops have been vegetables, but in recent years citrus trees that require less care are more present. The horticultural area extends only by 5,200 ha, which is one-third of what it was in the mid-20th century (PIQUERAS, 2017). One factor that negatively affects the Huerta is the high **urban and industrial pressure**, especially in l'Horta Sud, which results in the loss of agricultural surface and environmental and landscape degradation. As a result, the material and intangible heritage of l'Horta is at risk of abandonment and disappearance, so it is necessary to establish mechanisms to prevent the deterioration and the loss of this outstanding cultural heritage (HERMOSILLA, 2012).

La Huerta of Valencia is a landscape considered of historical, cultural, natural and agricultural heritage, faced with socioeconomic conditions that place it at risk of survival. The Law of the Huerta of Valencia, from 2018, therefore seeks the protection of this internationally recognized singular space, whose identity values claim its survival, both from the agricultural and cultural production and landscape points of view.

The continuous risk of disappearance due to changes in land uses has led to a strategic plan being carried out in the municipalities of L'Horta between 2007-2013. For the period 2015-2019 this territorial planning process

continues, and has taken institutional form through the Territorial Action Plan (in Spanish, PAT) led by the Valencian Government, approved in November 2018 by the office Conselleria d'Habitatge, Obres i Vertebració del Territori (2018). Its main purpose is "the dynamization of the agricultural activity of the Huerta of Valencia and its prevalence in relation to the other uses currently implemented in its metropolitan area". It will ensure both protection of agricultural land and maintenance of the heritage, and it will promote activities complementary to the agricultural ones as well as empowering of the public use and popular enjoyment of the Huerta.

In addition, the Law of the Huerta will create the Council of the Huerta of Valencia, the manager in charge of developing the Agricultural Development Plan of the Huerta de Valencia (in Spanish PDA) (office Conselleria d'Agricultura, Medi Ambient, Canvi Climàtic i Desenvolupament Rural, 2019), a strategic instrument whose purpose is to improve agricultural profitability and the survival of the *huerta*.

We can conclude, therefore, that through both plans, PAT and PDA, the territory of the *huerta* is in the focus of the public administration. It's necessary to "preserve the *huerta* as an integrated productive, environmental and cultural system, the basic element of which is the people who are engaged in agriculture".

II. HUERTA DE VALENCIA, A MANY-SIDED DEFINITION

The definition of this Valencian space is conditioned by its complexity since several acceptations can define it. Currently, L'Horta de València (the city's green belt) is an agricultural area for the most part, which has its productive basis in irrigation. The estimated area does not exceed 12.000 hectares, settled in a privileged geographic space, an alluvial coastal plain due to the contributions of the River Túria.

It is an agricultural space that has been modelled due to a long historical process for more than 1.000 years. It is a millenary green belt that has been transformed along with the different periods of occupation of this territory, together with efficient and sustainable water management.

L'Horta is a living space, dynamic, completely marked by humans, a social space conditioned by a collective perception as much as an individual, which is based on structures that reflect a certain **social organization**: the disseminated settlement (the farmhouse), the layout of the roads, the small-scale farming, and the network of irrigation channels.

L'Horta de València is a space irrigated by a **complex hydraulic architecture**, based on the recurrent system of weirs and main and secondary channels. Several systems that form a common landscape, a unit of reference of the Spanish and Mediterranean irrigation.

The perimeter of this landscape is defined by the routes of the main irrigation channels of the Tribunal de las Aguas (the Water Court, a legal institution for the water administration

and problem solving in the valley of Valencia), the northernmost section of the Real Acequia del Júcar, and the Real Acequia de Moncada (irrigation communities)

L'Horta de València is a **cultural landscape** with an undeniable wealth of heritage, valued from various perspectives: architectural, immaterial, ethnological, documentary, legal, toponymical, and of course landscaping.

Basic elements that define and characterize the Huerta of Valencia according to Article 6 of the Law of la Huerta:

- A. People engaged in agriculture in a professional manner.
- B. The Tribunal de las Aguas de la Vega de Valencia and its historical irrigation communities, the Real Acequia de Moncada and the rest of irrigation communities.
- C. High agrological capacity soil.
- D. Hydraulic heritage and water.
- E. Architectural, archaeological and ethnological heritage.
- F. Natural heritage (ecosystem).
- G. A network of historical paths and routes.
- H. The plot's structure.
- I. Agricultural activity.
- J. Any element of tangible and intangible character whose maintenance is necessary to promote the hallmarks and sense of belonging.

This set of territorial resources give it a unique agrarian landscape character, which makes it a space worthy of its value.

III. VALUES OF L'HORTA DE VALENCIA

The irrigated space of l'Horta responds to a territory that gathers several values that make it a privileged area from heritage and spatial point of view.

From a heritage point of view, its historical dimension stands out, since it is a living space created in the XIIIth century, and has been evolving for centuries; its social dimension, given the recognition it has on the local society; its landscape dimension, because it is an ancient cultural landscape, unique in the Mediterranean basin.

From the **spatial point of view**, l'Horta is an open suburban space, appreciated by the metropolitan area and its citizens. The production of food, basically vegetables, is accompanied by the environmental function, given its condition of green ring around the cities of the metropolitan area; and the social and recreational function, given the qualities of this space in terms of leisure and recreation.

IV. THE SOCIAL COMPLEXITY OF L'HORTA DE VALÈNCIA

One of the characteristics that allow us to identify and to define l'Horta de València is the net of social relationships that sustains and articulates it. A complex structure that is conditioned by the great number of agents that lead the future of this agricultural space. Among those protagonists the farmers stand out, the people who maintain the basic principles of the huerta; the owners, a large number that has led to a small-scale organization of the land; agrarian associations, owners guild, farmers or trade unions; the representatives of the public administration from different levels of government; the group of liberal professions related to professional activities; scholars, specialists in heritage and landscape analysis; and of course the society, as users and beneficiaries of l'Horta.

L'Horta de València is a complex geographic space, in which irrigated agriculture is the predominant economic activity. However, other sectors have been incorporated into this economic system, construction and services. In the same way, it can be conceived as a social construction, which has been built over the centuries and has acquired a cultural and patrimonial dimension, as well as an environmental and landscape dimension. However, it is a territory that needs an ordering of its uses and, consequently, a thoughtful management task.

V. HERITAGE RESOURCES OF L'HORTA DE VALÈNCIA

A. Protected natural spaces

The Huerta of Valencia has several protected natural areas of different typology. These figures are intended to protect or value landscape, environmental, cultural or heritage resources. The protected area of the region of l'Horta is up to 10,310.2 ha, representing 16.5% of its total extent and 2.3% of the province of Valencia. Nine protected natural areas have been identified in the categories of Natural Park (PN), Special Protection Area for Birds (ZEPA), Place of Community Interest (LIC), Special Conservation Area (ZEC), Ramsar Wetland (HR), Wetland (ZH), Municipal Natural Park (PNM) and Cave (Cv). The following describes the existing natural spaces and the typologies declared in each of them.

1. Turia Natural Park (PN)

This space was approved by Decree 43/2007 of April 13th. Its area is 4,692 ha distributed in nine municipalities of the regions of l'Horta, Camp de Túria and La Seranía. It's one of the few forest spaces of the Valencia Metropolitan Area and focuses mainly on the riverbed and banks of the Turia River, which runs through it. In the Natural Park, some of the most relevant environments of the Valencian territory are defined: the traditional Valencian huerta and the Mediterranean forest.

2. L'Albufera de Valencia (PN, HR, ZH, ZEPA, LIC)

L'Albufera was declared a Natural Park in 1986. It was added to the List of Wet Zones of International Importance of the Ramsar Conference in 1990, while its declaration as a ZEPA area was in 1994. It's one of the

most significant wetlands of the Valencian territory and the Mediterranean area and is considered among the three of the most important in Spain. It has several environments of considerable value, for instance, the sandbar, the lagoon and the rice fields. It has an extension of 21.120 ha and is located in the municipalities of Valencia, Alfafar, Sedaví, Massanassa, Catarroja, Albal, Beniparrell and Silla in L'Horta; and Sollana, Sueca, Cullera, Albalat de la Ribera and Algemesí in other Valencian regions.

3. Marjal dels Moros (ZEPA, ZEC, ZH, LIC)

It is located between the municipalities of Sagunt and Puçol. It forms a valuable wetland for the conservation of birds and has populations of several species, some threatened with extinction. The wetland area is about 300 ha. It's in direct contact with the Huerta.

4. Marjal de Rafalell y Vistabella (ZH)

It is the remains of the marshes located north of the Turia River in the municipalities of Valencia and Massamagrell. It has an extension of 102.92 ha.

5. Vallessa Reservoir (ZH)

This wetland area comprises 6.20 ha in the municipalities of Paterna and Riba-roja de Túria. It's an artificial reservoir built with the purpose of supplementing the water deficit of its area of influence. It has a significant landscape quality, with different species of flora.

6. La Costera (PNM)

It is a part of the mountain range Calderona, located in the municipality of Puçol and with an area of 49.22 ha. It has flora species of relevant value, with a wide sample of shrubs, bushes and pines. It was declared in 2005.5.

7. Serra Perenxisa (PNM)

This area has an area of 174.38 ha and was declared in 2006. It's a mountain alignment of outstanding landscape value located in the municipality of Torrent.

8. Cova del Gall (Cv)

A protected cavity located in the municipality of Godella.

9. Sima de l'Águila (Cv)

A cave that acts as a refuge for various species of bats. It is located in the municipality of Picassent and has an area of one hectare.

B. Cultural Heritage

Cultural heritage consists of material and intangible goods that are the product of a human community. They are instruments that allow the inhabitants to connect with their history. These cultural resources are of different nature and respond to a territorial logic, constituted from the territorial occupation by the different communities and cultures throughout history.

1. Cultural Interest Asset (BIC) and Locally Relevant Asset (BRL)

In the territory of the Huerta, the presence of numerous protected cultural assets has been found. According to the General Inventory of Valencian Cultural Heritage, there are 99 BIC located in the region. Its distribution by typologies is shown in Table 1. As noted, approximately half of the assets are of civilian archaeological typology, where palaces, sociocultural buildings and service buildings stand out. Below are religious elements such as churches, monasteries or convents with 27.3%, and the military with 18.2%, among which the defensive towers predominate. The remaining properties consist of two botanical gardens, two archaeo-

logy sites, as well as buildings combining two uses (military and civilian or civilian and religious).

Table 1. BIC in the region of L'Horta according to its typology in 2019

Tipology	Nº
Civilian architecture	47
Civilian and religious architecture	1
Military architecture	18
Civilian and military architecture	2
Religious architecture	27
Botanical garden	2
Archaeology site	2
Total L'Horta	99

Source: Own elaboration from the General Inventory of Valencian Cultural Heritage (Conselleria d'Educació, Cultura i Esport, 2019)

The BRL existing in the study territory are 737. They are distributed in all municipalities. Its classification in typologies is shown in Table 2. The most numerous elements belong to civilian architecture, with more than 45% of the goods. In this category, industrial buildings predominate, mainly chimneys and mills, as well as agricultural and hydraulic buildings. Then there are the ceramic panels, with a quarter of the buildings, and the religious buildings, with a fifth, most constituted by churches and hermitages.

2. Catalogue of Protections of the Territorial Action Plan of the Huerta de Valencia

The Territorial Action Plan of the Huerta de Valencia has a Catalogue of Protections of super municipal scale. This document has the assets that reflect the richness of the agrarian culture of the Huerta of Valencia and define the complexity of this territory. In its elaboration, typological and unitary crite-

Table 2. BRL in the region of L'Horta according to its typology in 2019

Tipology	Nº
Civilian architecture	333
Civilian architecture civil and historical garden	1
Civilian architecture and ceramic panels	4
Civilian and religious architecture	3
Civilian and religious architecture and ceramic panel	1
Military architecture	21
Religious architecture	153
Religious architecture and ceramic panels	2
Historical garden	7
Garden	1
Ceramic panels	196
Archaeology site	15
Total L'Horta	737

Source: Own elaboration from the General Inventory of Valencian Cultural Heritage (Conselleria d'Educació, Cultura i Esport, 2019)

ria have been considered. The Catalogue is an essential instrument for the restoration of the heritage of the Huerta and the integration of new elements.

The Catalogue has 573 elements in its 2016 proposal. This document groups the assets into two levels: first degree, those fundamental ones for the cultural identity of the Huerta and which, by its nature, entail its incorporation into an area of protection; and second grade, which has the rest of properties integrated into the landscape they characterize. In addition to these levels, the PAT Catalogue classifies assets according to their architectural, ethnological, hydraulic

Table 3. PAT Catalogue Goods in its 2016 proposal

LEVEL	Hydraulic	Architecture	Ethnology	Patrimony routes	Ditches	Ravines	TOTAL
First Grade	51	105	49	5	8	2	220
Second Grade	14	333	3	3	-	-	353
TOTAL	65	438	52	8	8	2	573

Source: Own elaboration from Conselleria d'Habitatge, Obres Públiques i Vertebració del Territori (2016)

or archaeological nature, as well as heritage itineraries, ditches and ravines. The distribution of the 573 elements according to their level and typology is shown in Table 3¹.

3. Hydraulic heritage

The historical Huerta of Valencia strictly comprises the territory delimited by the maximum perimeters of the medieval ditches from the Turia River, that is, the seven systems that form the Tribunal de las Aguas and the Real Acequia de Montcada. This space is often referred to as Vega de Valencia. However, this traditional irrigated area is extended if other criteria are considered. First, it's necessary to include the traditional irrigation systems later incorporated and currently more than a century old. Secondly, water management has changed and expanded over time, with the incorporation of new communities of landholders since the 19th century. Finally, the landscape is changing, and the crops and structure of the plots define their physiognomy.

As listed in Hermosilla (2007), historical irrigation lands that have significant value are structured according to the origin of the water and the resulting zoning:

- Irrigations from the main riverbeds: rivers Turia and Júcar.
- Traditional elevation irrigation, originating in the late nineteenth and early twentieth centuries. Irrigation of engines, wells and wheels.

- The irrigation spaces adjacent to ravines, as well as other traditional areas.

Hydraulic systems generate a cultural heritage comprising ingrained architecture, significant landscapes, the transmission of traditional knowledge, and regulation on water management. Water regulation represents an intangible heritage of relevant value, which includes patterns of uses, ancestral knowledge, and irrigation techniques and institutions based on regulations and ordinances (Butler, Antequera, Hermosilla, 2018). Irrigation systems consist of various hydraulic elements that aim to adequately exploit and use water resources. Its functions are to capture, transport, distribute, accumulate and use. The ESTEPA group carried out an inventory of 396 hydraulic goods from l'Horta.

4. Intangible heritage

In the Huerta of Valencia, there are numerous and significant intangible manifestations. Water management in irrigation lands is a rich intangible legacy that includes patterns of use (shifts, batches, etc.), ancestral knowledge passed down from generation to generation, as well as irrigation techniques and institutions (the communities of holders and the Tribunal de las Aguas) that have a

¹You can consult the complete list of assets in the Catalog of Protections of the PAT in the following link: <http://www.habitatge.gva.es/documents/20551069/163286955/05.1.-+Cat%C3%A1logo+de+Protecciones.+Parte+1/15073484-6e82-4033-9e2c-55826506379a>

Table 4. Festivities declared in l'Horta

Event	Municipality	Official recognition
Fallas de Valencia	Valencia	Intangible World Cultural Heritage, UNESCO*
Processó Cívica Nou d'Octubre	Valencia	BIC
Corpus Christi (INM)	Valencia	BIC
Miracles de Sant Vicent Ferrer	Valencia	BIC
La Cordà de Paterna	Paterna	Touristic Festivity of National Interest **
Semana Santa Marinera	Valencia	Touristic Festivity of National Interest
Cabalgata de la Ceràmica y Festa de la Ceràmica	Manises	Touristic Festivity of Regional Interest
Semana Santa	Torrent	Touristic Festivity of Regional Interest
Fallas	Torrent	Touristic Festivity of Regional Interest
Cant de la Carxofa	Alaquàs	Touristic Festivity of Provincial Interest
Cordà en honor al Sant Crist de la Bona Mort	Alaquàs	Touristic Festivity of Provincial Interest
Setmana Santa	Alboraia	Touristic Festivity of Provincial Interest
Semana Santa	Benetússer	Touristic Festivity of Provincial Interest
La Passejà de Sant Onofre	Quart de Poblet	Touristic Festivity of Provincial Interest
Romería del Santíssimo Cristo de la Salud de El Palmar por el Real Lago de la Albufera de Valencia	Valencia	Touristic Festivity of Provincial Interest
Mostra de Pallassos de Xirivella	Xirivella	Touristic Festivity of Provincial Interest
Baixà del Cristo de los Necesitados	Aldaia	Touristic Festivity of Local Interest
Fiesta de la Pujà i la Roda de Sant Roc	Burjassot	Touristic Festivity of Local Interest
Sant Roc i el Gos	Paiporta	Touristic Festivity of Local Interest
Festa en honor al Santíssim Crist	Silla	Touristic Festivity of Local Interest
Festes de Sant Bult	Valencia	Touristic Festivity of Local Interest
Misterio de la Pasión	Moncada	Touristic Festivity of Interest

* Also BIC and International Tourist Interest Party

** Also a Touristic Festivity of Regional Interest

Source: Own elaboration from Conselleria d'Educació, Cultura i Esport (2019)

regulatory and legal framework based on ordinances and regulations. In the Huerta of Valencia, the ancient legal institution of the Tribunal de las Aguas, registered in 2009 in the Representative List of Intangible World Cultural Heritage of UNESCO, stands out.

The region of l'Horta also has a huge range of festivities of different types distributed throughout the territory. Table 4 shows the list of parties that have some kind of declaration in the territory of study. The following describes some of these festivals, which were evaluated by the museums collaborating with the EULAC-MUSEUMS project through the application of the intangible heritage assessment method.

The Fallas are a relevant tourist attraction and registered as Intangible World Cultural Heritage in 2016. They are held between March 15th and 19th, where stone cardboard monuments are planted and then burned on the last day of the festivities. The monuments known as *fallas* can reach twenty meters high and are built by the so-called *artistas falleros*. In the atmosphere of the celebration, there's music, gunpowder, fire, and religious acts such as the offering of flowers to the Virgen de los Desamparados. La Fiesta del Corpus in Valencia is one of the most spectacular and ancient festivals in the city since the first procession was in 1355.

Some of the most relevant acts are Traslado de las Rocas, representations of the *misteris*, Procesi3n de la ma1ana or Cabalgata del Convite and Procesi3n del Corpus.

La Cord3 de Paterna is a nightly pyrotechnic show that lasts 25 minutes. Fireworks are released and explode from a rope on which they are knotted. About 2,000 fireworks explode per minute, with a total of 50,000.

The Fiesta de Sant Roc i El Gos in Paiporta was shaped in the past by two festivals: the religious one of Sant Roc and the pagan of El Gos. Since 1950 they have been celebrated together. In the first one is the main event is a procession, while the second one has a more festive and satyr character. On the last day of the festivities is carried out the process of the Gos, in which an entourage accompanies a figure of cardboard-stone of the dog of Sant Roc, which concludes with its burning and fireworks.

The Cord3 en honor al Sant Crist de la Bona Mort in Alaqu3s is a night pyrotechnic show. It has a long history since it was established in the middle of the nineteenth century.

The Cabalgata de la Cer3mica and Festa de la Cer3mica in Manises is a parade of floats that present pieces of local craftwork to the public.



Acequia de Mestalla diversion dam. Casa Partidor

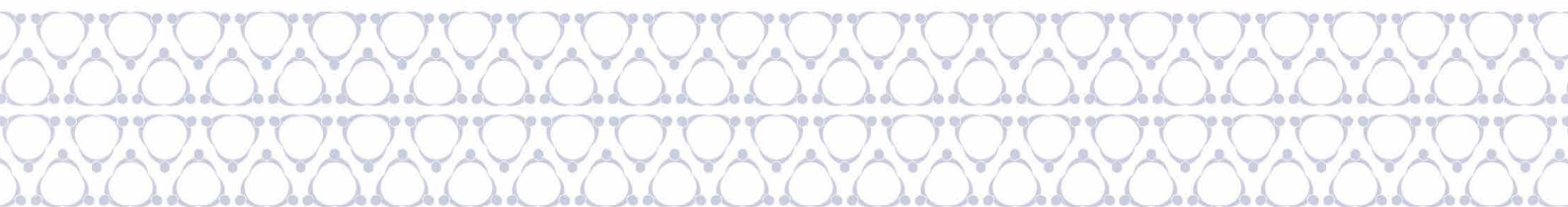
In relation to the BIC, nine assets have been posted to l'Horta. Table 5 shows the collection and typological classification. Highlights include “Representations, stagings, games and traditional sports” with a third of the assets, as well as “Beliefs, festive rituals and other ceremonial practices”, with another third.



Table 5. Intangible Cultural Interest Assets (BIBs) in the region of L'Horta according to its type in 2019

Name	Municipality	Tipology
La fiesta de las Fallas de Torrent	Torrent	Beliefs, festive rituals and other ceremonial practices
Actividades tradicionales de la Albufera de Valencia	València	Traditional knowledge about productive activities, processes and techniques
El Toc Manual de Campanes en la Santa Església Catedral Basílica Metropolitana de Santa María de Valencia	València	Representations, stagings, games and traditional sports
La Fiesta de las Fallas de Valencia	València	Beliefs, festive rituals and other ceremonial practices
La Representació dels Miracles o Milacres de Sant Vicent Ferrer	València	Representations, stagings, games and traditional sports
La Tradición Musical Popular Valenciana materializada por las Sociedades Musicales de la Comunitat Valenciana	València	Musical representations
Procesión cívica del Nou d'Octubre en Valencia	València	Representations, stagings, games and traditional sports
Solemnitat del Corpus Christi en València	València	Beliefs, festive rituals and other ceremonial practices
Tribunal de las Aguas de la Vega de Valencia	València	Traditional knowledge about productive activities, processes and techniques

Source: Own elaboration from the General Inventory of Valencian Cultural Heritage (Conselleria d'Educació, Cultura i Esport, 2019)



03

SWOT Analysis

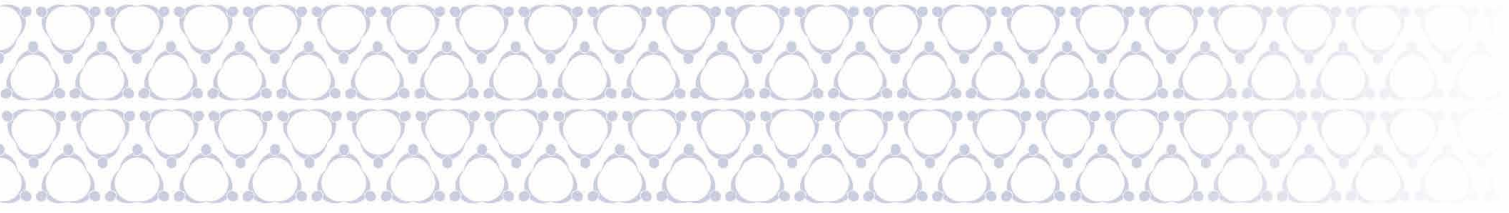
We present now the main aspects of the current situation of the Huerta of Valencia acquired in the diagnosis and participation processes, in order to identify the objectives and strategic lines that make up the Action Plan.

WEAKNESSES

- Pressure and urban speculation: buying and selling for economic purposes, difficulty to buy land to dedicate to cultivation, etc.
- Plot fragmentation.
- Damaged or abandoned property assets.
- Unawareness on the part of the inhabitants.
- Destruction of traditional irrigation systems.
- Hard-to-reach areas: private roads, non-conditioned roads, etc.
- Dangerous accesses and roads.
- Insufficient signalling.
- Agricultural contamination of soil and water.
- Poorly integrated infrastructures and urban edges.
- Numerous landfills.

THREATS

- Too many infrastructures and roads that segment the agricultural space.
- Lack of coordination of territorial policies.
- Poor commitment from public administrations.
- Reduction of agricultural land in the metropolitan area.
- Land abandonment.
- Depopulation of farms.
- Lack of generational changeover, ageing.
- Decrease in the number of holdings.
- Loss of agricultural-environmental diversity.
- Low profitability of agricultural activity.
- Low level of professionalization.
- Obsolescence and loss of infrastructure functionality.
- Loss of traditional markets.
- Decline of the image of agriculture.



STRENGTHS

- Landscape, environmental, historical and cultural values.
- Identity and sentimental value.
- Environmental function
- Recreational and social function.
- Presence of significant cultural resources. Heritage and landscape assets.
- Natural areas of interest.
- Geographical proximity to the city of Valencia.
- Central place in the history and socioeconomic dynamics of the region.
- Network of museums involved.
- Social support on the need for protection.
- Areas that maintain good production.
- Citizenship awareness of its values.
- Knowledge of the huerta as a cultural agricultural landscape.
- Gastronomic wealth (products, recipes, culinary techniques).

OPPORTUNITIES

- Recovery of horticultural crops.
- Possibility of creating a new generation of professionals dedicated to agriculture adapted to the new demands.
- Possibility to revalue the land through a Territory Museum.
- Creating direct and indirect employment.
- Appearance or adaptation of complementary services linked to the huerta (restaurant businesses, trade).
- Obtaining quality productions.
- Touristic activities.
- Promoting associative tissue.
- Creation of educational projects that promote the assessment of agricultural space.

04

Integrated diagnosis of La Huerta de València



The Huerta of Rascanya, from San Miguel de los Reyes

The actions aimed to improve the current scenario of l'Horta de València identify the processes that condition it. We refer to the urbanistic pressure, the crisis suffered by suburban agriculture, problems in the hydraulic heritage generated by the modernization of irrigation systems, the distance between l'Horta and the society, and the lack of a consensual territorial policy form the public administration.

1. Urbanistic pressure on L'Horta de València: from the “agricultural plot” to the “building plot”

The location in the suburban belt of València and its metropolitan area leads to a permanent process of urban expansion to the detriment of the rustic ground.

The most quantified process is the reduction of agricultural land over the last six decades. Between 1950 and 2010 the reduction of the watered area has been very significant. For

all irrigation systems of the Water Court, the reduction goes up to 60%. The 3.100 hectares represent 40% of the area irrigated in the middle of the 20th century. Considering all the cultivated hectares of l'Horta Nord, including the system of the Real Acequia de Moncada, the irrigated area exceeds 8.200 hectares, representing 53% of those existing in 1950.

As a result of the urbanistic pressure, a series of processes that hinder agricultural practices have been established, such as the increase of land prices (speculation is habitual), social fallow practice (plots that are no longer cultivated in order to give the ground a different use), and the fragmentation of l'Horta, all of them prevent an improvement in the efficiency of water resources.

In the following table we reflect the reduction of area watered by the ditches of the Huerta of Valencia during the years 1950-2010:

Table 6. Area irrigated by the ditches of the Huerta of Valencia, 1950-2010

Ditches	Hectares 1950-2010	Reduction
Séquia Reial de Montcada	7.500-5.100	-30%
Séquia de Tormos	1.000-600	-35%
Séquia de Rascanya	1.300-800	-35%
Séquia de Mestalla	1.000-100	-90%
Séquia de Rovella	550-80	-80%
Séquia de Favara	1.580-600	-60%
Séquies Manises, Quart, Faitanar, Benácher	1.500-800	-50%
Séquia de Mislata	850-150	-80%
Sistemas del Tribunal de las Aguas	7.780-3.130	-60%
Total (Tribunal de las Aguas y S.R. Moncada)	15.280-8.230	-47%

Source: own elaboration from Hermosilla (2007) and analysis of aerial photography

2. Most farms are in crisis due to their efficiency reduction

Added to the agricultural sector current conditions, which lead to descent in agricultural efficiency, there are two processes that have a negative effect. On one hand, the absolute predominance of small property, small scale farming, where more than 75% of the farms do not exceed the hectare. On the other hand, it is notorious the ageing of the farmers, related to the generational shift.

3. Agriculture shows signs of instability as an economic sector

Its status as "suburban agriculture" favours the expansion of part-time agriculture, which means that the incorporation of innovative processes is slowed down. In the same way, differences have been established between the owners of the land and those who cultivate it. Urbanization expectations have fa-

voured the purchase and sale of the land by entrepreneurs and liberal professionals outside the agricultural sector. There are more and more tenants. Speculation and business opportunities through sales multiply. Finally, there is a certain regionalization of the agricultural territory in l'Horta. While in the northern sector high levels of production are maintained, in the south there is a process of deterioration and semi-abandonment. Urbanistic pressure is more powerful there.

4. The irrigation systems are modernized, an action that has repercussions on the hydraulic heritage

The process of replacing the traditional irrigation system, known as *riego a manta* or *por gravedad* (the field is flooded), by the localized irrigation system, as well as the opening of wells and the construction of supporting ponds, makes it difficult to preserve



*Moncada Mill.
Traditional Hydraulic
Architecture*

the irrigation traditional elements. However, the cultural heritage related to irrigation is still considerable, since the basic elements (weirs, channels, and dividers) are mostly functional.

5. The landscape of L'Horta de València experiences a process of continuous degradation

In the absence of a plan for the protection of l'Horta, the cultural landscape represented by this territory experiences degradation of its scenery, because open spaces are lessened. These are located far from the urban nucleus, and in some areas, the social fallow has spread, that is, the abandonment of the agricultural practice. Finally the monoculture of the orange tree in some spaces of l'Horta has been extended.

6. There is not always a cultural link between the citizens and l'Horta

The territoriality, the relationship between the local society and its territory, València and its surroundings, is in an adverse condition. The changes in the property distribution, with a lot of absenteeism, ground sale

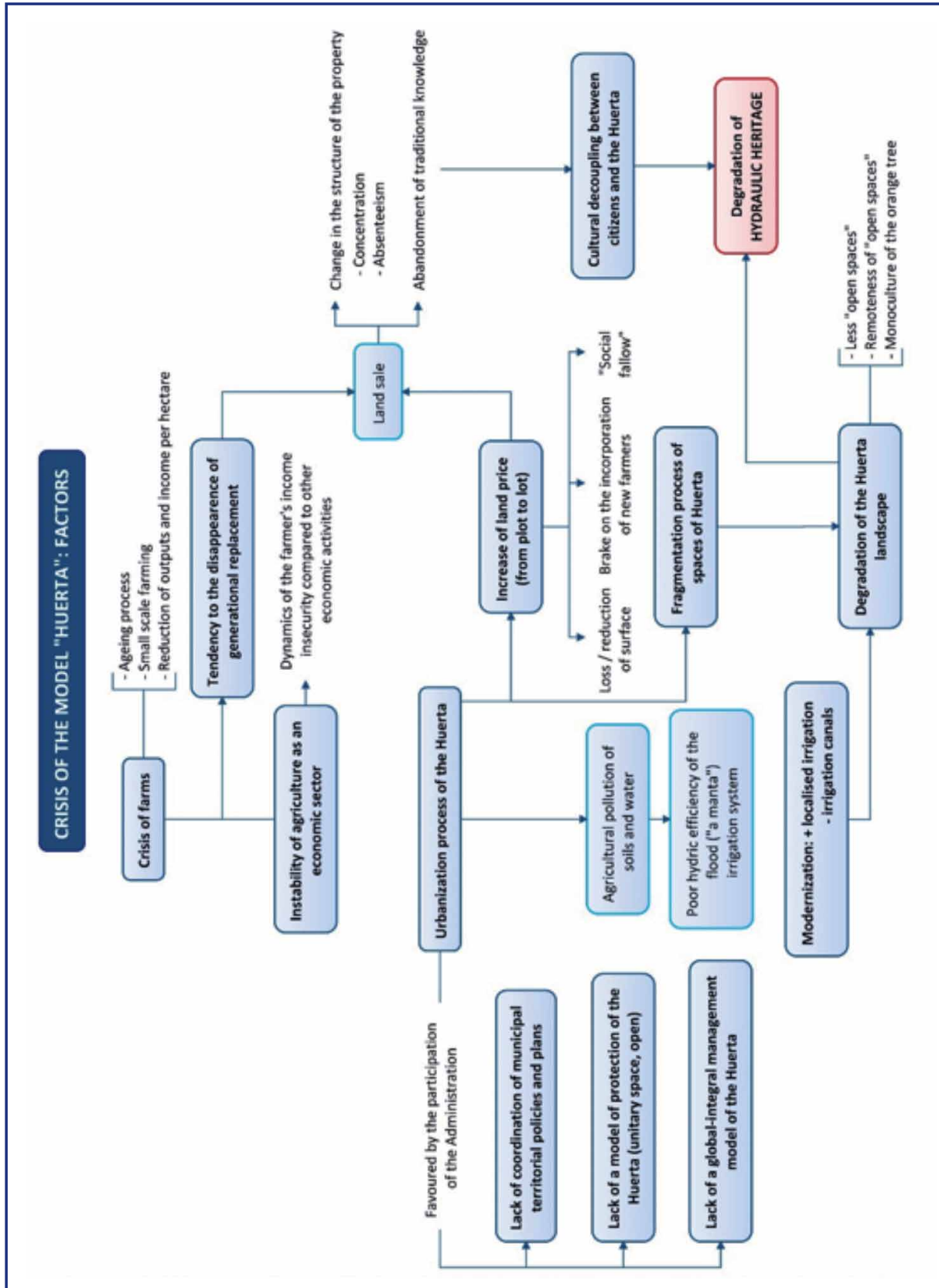
processes and lack of generational shift, as well as the abandonment of traditional knowledge, have made it difficult to appreciate the cultural value of this landscape.

7. The public administration confusing role

L'Horta de València has suffered for decades a lack of coordination of territorial policies in order to define its management. While there are municipalities with a protectionist position, whose objective is conservation, others base their territorial policy on the development and the advance of urbanism instead.

The Plan de Acció Territorial de L'Horta de València (territorial strategy plan) draft, promoted by the Valencian Government, opens a new stage in the territorial policy of this geographical area. The objective, a comprehensive and common management model of L'Horta territory, is a guarantee of these new times.

Here there is an outline of the main processes that characterize the adverse situation suffered by the Huerta:



Source: Hermosilla (2007).

05

Action Plan

Strategic guideline 1. Organisational Design. Territory Museum Governance

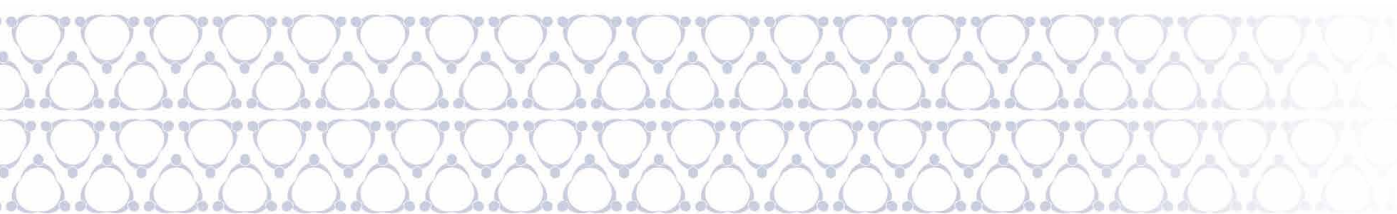
Strategic objective 1.1. Creation of the management team	2020	2021	2022
• Choice of the components of the management team, with three types of representation: public sector, private sector and associative sector	X		
• Appointment of tasks and responsibilities for each of the components of the management team	X	X	X
Strategic objective 1.2. Collaboration with public administrations and local representatives	2020	2021	2022
• Establishing agreements with public entities related to the huerta	X	X	
• Establishing agreements with local agents (local associations, neighbours, owners)	X		
• Seeking economic, human and academic support from cultural institutions	X	X	
Strategic objective 1.3. Financing and regulation	2020	2021	2022
• Search for grants and aids for the creation and development of the Territory Museum	X		
• Identification, analysis and assessment of regulations affecting the huerta	X	X	
Strategic objective 1.4. Evaluation and control of the Master Plan	2020	2021	2022
• Constant updates	X	X	X
• Follow-up indicators	X	X	X

Obj. 1.2.

- INDICATOR: number of meetings with local entities and agents
- INDICATOR: number of agreements established with public entities
- INDICATOR: number of agreements established with cultural institutions

Obj. 1.3.

- INDICATOR: number of grants granted
- INDICATOR: the amount of the grants granted



Strategic guideline 2. The configuration of the Territory Museum. Creating cultural products

Strategic objective 2.1. Interpretation Plan	2020	2021	2022
• Milestone selection: identifying and inventorying the main resources	X		
• Story: the tale of an attractive and unique story that attracts visitors and investments	X		
• Design and structure: the design of a spatial structure (doors, interpretation centres, windows, elements, milestones, itineraries, etc.)	X		
Strategic objective 2.2. Creation of a complimentary offer	2020	2021	2022
• Implementation of recipes based on local products in restaurants	X	X	X
• Promotion of activities related to agriculture, such as agro-education, agrotourism, etc.	X	X	X
• Promotion of local trade with local products	X	X	X
• Creating and promoting tourist events	X	X	X
• Development of a network called Punts de Gust, managed by the Consell de l'Horta. Adequacy and transformation of heritage elements in restaurants or rural hotels that diversify the offer of accommodation and traditional gastronomy	X	X	X
Strategic objective 2.3. Improvement and recovery of the functionality and landscape of the huerta	2020	2021	2022
• An improved network of ditches and hydraulic elements	X	X	X
• Improvement and restoration of heritage elements of different types: architectural (houses, farms, <i>barracas</i> , constructions of agricultural activities –dryers, public washing places, onion warehouses-, ethnological, etc.	X	X	X
• Aid and financing to holders of cultural property for the restoration or maintenance and their control (e.g. hamlets)	X	X	X
• Identification of owners of farms and mills in order to recover them or propose new uses	X	X	X
• Recovery of traditional farming techniques and local crop varieties with no commercial interest	X		X
• Recovery of heritage elements for new uses compatible with the sustainable development of the territory (e.g. conditioning of farmhouses for nurseries, visits, rental plots)	X	X	X
• Environmental improvement of river channels and their consolidation as green corridors (e.g. ravines of Carraixet or Torrent) by integrating their margins, signalling them, improving the state of plant communities, etc.	X	X	
• Recovery of abandoned agricultural plots (e.g. rental of plots). Promoting the land bank	X	X	X
• Integration of urban-huertas that enhance the quality of the landscape (vegetation implementation, signalling)	X	X	X
• Implementation of the “Horts d’Oci” network managed by the Consell de l’Horta, with a bank of plots and users	X	X	X

Strategic objective 2.4. Improve the visibility of the huerta	2020	2021	2022
• Quality production by promoting organic and integrated agriculture	X	X	X
• Promotion of agricultural products from the huerta in the local market (municipal markets, Mercado Central de Valencia)	X		
• Recognition of the value of the huerta as a historic agricultural space	X		
• Dignification of the farmer's image (recognition and incentive of his work)	X		
Strategic objective 2.5. Improving public accessibility and connection between spaces	2020	2021	2022
• Conditioning of the road network to improve the accessibility of agricultural machinery	X	X	X
• Adequacy and improvement of roads and non-motorized transport conditions (pedestrian roads, trails, cycling routes, equestrian routes) connecting different urban centres or spaces of significant value (Valencia-l'Albufera, l'Horta Nord-sea, Via Xurra)	X	X	X
• Boosting public and non-motorised transport use	X	X	
• Conditioning of roads and paths for people with reduced mobility	X	X	
• Development of intermodal nodes connecting motorized transport with pedestrian or cyclist (e.g. metro stations)	X	X	
• Implementation of meeting and information points for visitors	X	X	
• Integration of historical roads with the hydraulic, architectural or ethnological heritage elements of the territory	X	X	X

Obj. 2.2.

- INDICATOR: number of restaurants that use local products / total restaurants
- INDICATOR: companies engaged in agricultural activities (agro-education, agrotourism) / total companies
- INDICATOR: stores based on local products / total stores
- INDICATOR: number of tourist events / total events

Obj. 2.3.

- INDICATOR: number of hydraulic elements restored
- INDICATOR: number of assets restored
- INDICATOR: length of ditches restored
- INDICATOR: financing granted to owners for the restoration of their property/total owners
- INDICATOR: sanctioning inspections of owners financed to restore their goods/total inspections
- INDICATOR: number of promotion activities for the recovery of local crop techniques and varieties
- INDICATOR: number of actions by competent authorities aimed at improving the environment of river channels
- INDICATOR: area of recovered agricultural parcels
- INDICATOR: integrated surface of the urban-huerta border
- INDICATOR: area dedicated to leisure

Obj. 2.4.

- INDICATOR: cultivation area for organic farming / total cultivation area
- INDICATOR: promotion activities to promote local products (campaigns, trade fairs)
- INDICATOR: image promotion campaigns of the farmer and his activity

Obj. 2.5.

- INDICATOR: length of roads conditioned for agricultural machinery
- INDICATOR: conditioned length of roads for pedestrian and cycling routes
- INDICATOR: average daily intensity of vehicles on the roads
- INDICATOR: number of buses and metro line users with origin or destination stations in the huerta area
- INDICATOR: spaces created as meeting points for visitors

Strategic guideline 3. Promotion and commercialization of the Territory Museum (TM)

Strategic objective 3.1. Creation and use of the Territory Museum brand	2020	2021	2022
• Design of a brand that visually reflects the attributes of the TM	X		
• Selection of a name that is capable of communicating TM attributes	X		
• Definition of brand use criteria	X		
Strategic objective 3.2. Disclosure and communication	2020	2021	2022
• Integrated signalling typical of the territory of the huerta (visual relationship, knowledge of the territory, etc.)	X		
• Signalling. Implementation of panels and viewpoints	X		
• Creation of a website of the Territory Museum or incorporation into other existing pages. Social network	X		
• Organization of events, informative conferences, meetings with groups of interest (schools, museums, youth centres, etc.), exhibitions, etc.	X	X	
• Creation of activities adapted to blind people (e.g. route of aromatic plants)	X	X	
• Development and dissemination of promotional material (leaflets, maps, guides, etc.) at local fairs, meetings and seminars.	X		
• Development of the Red d'Alqueries Escola managed by the Consell de l'Horta, with farmhouses transformed into educational places visited by schools.	X	X	X
• Development of the network de Museus de l'Horta managed by the Consell de l'Horta, for dissemination through different museums	X		
• Creation of a public database of the patrimony	X		
• Teaching workshops aimed at school audiences	X		
• Start-up of educational workshops aimed at school audiences (environmental education and huerta values)	X		
• Awareness for the local population through actions to communicate the benefits of TM	X		
• Empowering museums as fundamental axes of culture and patrimony	X		

Obj. 3.2.

- INDICATOR: number of signs of the territory of the huerta (an arrow, a sign, a painting)
- INDICATOR: number of milestones marked (panels, QR)
- INDICATOR: number of itineraries marked
- INDICATOR: number of followers on social networks
- INDICATOR: number of informative events held (campaigns, fairs, conferences)
- INDICATOR: number of participants in events for stakeholders
- INDICATOR: number of users (visitors to tourist info, participant's meetings, attendees) that collect some type of promotional material
- INDICATOR: number of visitors to the museums of the region
- INDICATOR: number of visits to the public database on the patrimony, when it's created
- INDICATOR: number of users of the teaching workshops
- INDICATOR: number of schools in the region attending the teaching workshops in relation to the total number of centres in the region
- INDICATOR: number of educational programmes developed in educational centres related to environmental education and the values of the Huerta
- INDICATOR: number of schools in the region that develop some educational program related to environmental education and the values of the Huerta in relation to the total number of schools in the region
- INDICATOR: number of communicative actions carried out in relation to the benefits of the TM

Strategic guideline 4. Territorial Development and Innovation Program

Strategic objective 4.1. Promotion of entrepreneurship and development of sustainable economic activities	2020	2021	2022
• Information, technical and financial support to entrepreneurs of agricultural and other complementary activities (local stores, cultural activities, agrotourism)	X	X	
• Pre-study of the capacity to host complimentary activities to avoid uses that create conflicts with professional agricultural activity	X		
• Identification of active farmers (City Hall)	X		
• Technical support and advice to agricultural and other sustainable economic activities	X	X	X
• Promotion of agricultural activities for information purposes carried out by local farmers (e.g. <i>chufa</i> harvest)	X	X	
• Actions aimed at the creation of agricultural cooperatives	X	X	
• Promoting cooperation between companies	X	X	
Strategic objective 4.2. Training	2020	2021	2022
• Study of the local training needs of professionals in agriculture and the tourism sector related to the Huerta of Cortes and its heritage	X	X	X
• Agreements with training institutions (LABORA)	X	X	X
• Specialization courses for agricultural professionals (crops, marketing, safety techniques, regulations)	X	X	X
Strategic objective 4.3. Improving quality in environmental management	2020	2021	2022
• Application of new technologies into irrigation systems (use of applications for irrigation shifts, monitoring and control of ditches)	X	X	X
• Creation of agrostations (common use points for fuel loading, agricultural waste)	X	X	X
• Use of agricultural waste and pruning remains (transformation into compost and distribution among farmers)	X	X	X

Obj. 4.1.

- INDICATOR: number of entrepreneurs (and professionals) of agricultural and other complementary activities attended and advised
- INDICATOR: number of entrepreneurs (and professionals) of agricultural and other complementary activities that have received some kind of subsidy
- INDICATOR: number of grants awarded to entrepreneurs (and professionals) of agricultural and other sustainable complementary activities
- INDICATOR: the number of subsidies granted to entrepreneurs (and professionals) of agricultural and other sustainable complementary activities
- INDICATOR: number of agricultural cooperatives incorporated

Obj. 4.3.

- INDICATOR: the amount of agricultural waste reused or used in relation to total agricultural waste produced
- INDICATOR: relationship between the irrigation area with the application of new technologies in relation to the total irrigation area
- INDICATOR: number of agrostations established in the period under consideration
- INDICATOR: number of companies with quality certification in environmental management in relation to the total number of companies

Obj. 4.2.

- INDICATOR: number of agreements with training institutions (LABORA)
- INDICATOR: number of proposed courses and trained users
- INDICATOR: number of professionals in agriculture and other TM-related sectors who have trained in the period considered in relation to the total number of professionals

Strategic guideline 5. Process' management

Strategic objective 5.1. Assignment of managers and schedule	2020	2021	2022
• Assignment of work teams to different strategies and actions according to the deadlines set	x	x	x
• Regular monitoring of established indicators	x	x	x

Obj. 5.1.

- INDICATOR: Relationship between the number of indicators calculated (and improving) in the TM in relation to the total indicators established

06

The revaluation of the Huerta of Valencia: the Territory Museum

THE SPATIAL STRUCTURE OF THE TERRITORY MUSEUM OF THE HUERTA OF VALENCIA: THE TERRITORY MUSEUM

The Territory Museum of the Huerta of Valencia is an area that is cohesive by historical, geographical links, with heritage resources and elements that give it its own identity. The realization of an interpretive project applied to all and specific sectors allows us to creatively manage the space from a territorial perspective.

Water, a central element of the story of the Territory Museum, will be our key to interpretation, as it vertebrates this space of great symbolic value, and gives us the fundamental elements that constitute the structure of the Huerta of Valencia, historical components that singularize our museum:

- A. The historical irrigation structure, with ditches, roads and farms.
- B. The management of irrigation water by the Tribunal de las Aguas, the Real Acequia de Moncada and the river Turia.
- C. Changing agricultural activity and crops.

Also, since the concept of cultural heritage includes elements and expressions of different typologies, we must consider traditions and ways of life as part of our territory museum. We deal with a dynamic concept of

the museum, constantly changing and evolving. Therefore, all testimonies of the past are an expression of the community and must be interpreted as such.

After the delimitation of the sector that will constitute the Territory Museum arises the need to establish an Interpretation Plan that values the cultural and landscape heritage that configures it, which involves the following actions:

- Define contents of the heritage offer
- Determining themes and arguments for interpretation
- Explanation of a coherent narrative
- Define positioning and identity reference

Once the research, selection and hierarchy of resources that will give meaning to the content of the Territory Museum have been carried out, a clear structuring of the space, easily recognizable by the visitor, will be necessary.

The methodology used for the elaboration of this project allows us to group the heritage resources of the huerta de Cortes de Pallás, according to its economic, social, cultural or tourist potential. We will be able to concentrate efforts and take advantage of synergies, making efficient work.

Below we describe the configuration of the Territory Museum of the Huerta of Cortes de Pallás.

1. The territory: the delimitation of the Territory Museum

The location of homogeneous characteristics that constitute a thematic unit, based on certain landscape references (colours, textures, construction modalities, vegetation, land uses, etc.) allows establishing a visual unit of the Territory Museum. In our case, agricultural activity is decisive in the configuration of the visual landscape at hand. There is also the possibility of distinguishing differentiated subareas in a context of homogeneity.

It is also desirable to differentiate visual -and sometimes administrative- borders of the Territory Museum, through the use of vegetation or other perceptible elements.

In reference to the area that comprises our Territory Museum, we must analyze the Law 5/2018 of the Huerta de Valencia, where the perimeter of this landscape is delimited. This space is determined by the layouts of the main ditches of the Tribunal de las Aguas de la Vega de Valencia; the Turia Canal; the Real Acequia of Moncada; ravines, and the huertas of great heritage value of the towns of Picanya, Paiporta, Torrent and Catarroja; and the northernmost stretch of the Real Acequia of The Júcar (Annex Law 5/2018 of the Huerta de Valencia).

With an area of approximately 22,900 ha, the Huerta constitutes a territory whose protection is under the scope of the Territorial Action Plan mentioned above.

2. What do we show? Identifying heritage resources and milestones

The Huerta of Valencia has a wide variety of elements and heritage manifestations that show the richness of the agrarian culture and shows us the activities developed by the community in this territory. As has been noted in the diagnosis made by the General Inventory of the Valencian Cultural Heritage, in the region of l'Horta there are 99 BIC, 9 Asset of Intangible Cultural Interest and 737 BRL. In addition, the inventory carried out by the ESTEPA group on the elements of water heritage in this area includes 396 more. These hydraulic assets are part of the Catalogue "Etnolite" of Cultural Heritage of the General Directorate of Heritage of the Generalitat Valenciana (Conselleria d'Educació, Cultura i Esport, 2019). Finally, it is necessary to consider the Catalogue of Protections included in the Territorial Action Plan of the Huerta de Valencia. In its 2016 proposal, this Catalogue includes 573 goods that express a particular interest and define the complexity of this cultural landscape. The assets in this document are grouped into two degrees or levels and are classified according to their architectural, ethnological, hydraulic or archaeological nature, as well as heritage itineraries, ditches and ravines.

From the inventory and the cataloguing of the goods and resources of the Huerta, the elements of the greatest value of assets are identified. These cultural assets of significant interest constitute the milestones of the Territory Museum, that is, elements whose content and interpretation are the basis of

the story. For its development, several actions have been carried out on the basis of the identified resources:

1. Implementation of the evaluation method in the PAT Catalogue

The method of assessing the material cultural heritage has been implemented in a practical manner. Its application has been carried out on 257 selected goods from the 573 that identifies the PAT Catalogue. The properties chosen for evaluation comprise all the first-degree elements of the PAT Catalogue – not including itineraries or ravines – and a selection of 37 second-degree² goods, due to their large volume. At this level, some architectural typologies associated with habitability have been excluded, such as houses, barracas or farmhouses, although not huertas. They are distributed in 124 architectural elements, 73 hydraulics – including ditches – and 60 ethnological, and are located in 33 municipalities of l'Horta. Of all the selected elements¹⁸ are located in more than one term – the 8 ditches, a his-

torical stretch of the Mislata-Quart ditch, 7 weirs, a partidor and a few milestones. The locality that brings together the largest number of properties in Valencia, with 112, representing 43% of the selected goods. More than half of the elements of this municipality are located in Faitanar (17), La Punta (17), Sant Pau (13) and Poble Nou (11). The next term is Alboraiia, with 17 properties, followed by Picanya, with 14, and Catarroja and Paterna, with 11 elements each³.

All of the 257 evaluated have obtained an overall technical score of 6.5 points on a scale of 0 to 10 points. Table 7 shows the number of items grouped according to the proposed 6 valuation levels. They have been rated with very high and high valuations 79 properties. The largest segment consists of goods with average scores (40.1%), while low, very low or uninterested grades comprise more than 29% of inventory.

In the architectural heritage, the best scores of this modality are found in religious

Table 7. Distribution of cultural assets according to their heritage typology and valuation levels according to the technical assessment

VALORISATION	Architecture		Ethnology		Hydraulic		TOTAL	
	Nº	%	Nº	%	Nº	%	Nº	%
Muy Alta (8,6-10)	8	6,5	16	26,7	2	2,7	26	10,1
Alta (7,2-8,5)	21	16,9	13	21,7	19	26	53	20,6
Media (5,8-7,1)	61	49,2	14	23,3	28	38,4	103	40,1
Baja (4,4-5,7)	22	17,7	12	20	20	27,4	54	21,0
Muy Baja (3-4,3)	9	7,3	5	8,3	4	5,5	18	7,0
Sin Interés (<3)	3	2,4	0	0	0	0	3	1,2
TOTAL	124	100	60	100	73	100	257	100

Source: own elaboration

²Some of the elements of the first degree included in the PAT are constituted by several assets: the cornice over the Huerta of the Montcada ditch in Godella and the Chimneys in Aldaia. In the selection made these sets have been broken down into 4 and 5 elements respectively.

³In counting the number of assets available to each municipality, the 8 selected ditches have not been accounted for, because they are linear elements that cover numerous municipalities.

buildings, such as the Cartuja Ara Christi in El Puig, as well as in various orange fields located in several municipalities of l'Horta Sud. These elements proliferated at the end of the nineteenth century, and are constituted by an agricultural farm, usually surrounded by a fence, and a building. In relation to ethnological heritage, a quarter of the properties of this type have very high valuations. They correspond to hermitages of l'Horta Nord that have relevant aesthetic and symbolic values, and that receive in-

vestments intended for their preservation. Finally, in the hydraulic heritage, the best scores are assigned to hydraulic mills conditioned for new uses.

In short, several milestones of the Territory Museum are made up of the 26 goods that have obtained very high ratings (8.6 points or higher) from the application of the evaluation method in the PAT Protection Catalogue. The relationship of these properties can be found in Table 8.

Table 8. List of cultural assets with the highest heritage scores according to the technical evaluation and that are determined as milestones in the Museum Territory

Cultural element	Tipology	Municipality	Patrimonial value
Molí de Vera (La Carrasca)	Hydraulic	Valencia	9,8
Real monasterio de Santa María	Architectonic	El Puig	9,6
Convento de Santa María Magdalena	Ethnologic	Massamagrell	9,6
Ermita Santa Bárbara y calvario de Montcada	Ethnologic	Montcada	9,6
Ermita dels Peixets	Ethnologic	Alboraia	9,6
Ermita de Vera (La Carrasca)	Ethnologic	Valencia	9,6
Ermita Santa Anna de Albal	Ethnologic	Albal	9,6
Alquería del Magistre	Architectonic	Alboraia	9,3
San Miquel dels Reis (Els Orriols)	Architectonic	Valencia	9,3
Hort de Trenor	Architectonic	Torrent	9,3
Molí de Benetússer o de Raga	Hydraulic	Benetússer	9,3
Ermita Sant Jordi	Ethnologic	El Puig	9,1
Ermita de Sant Roc	Ethnologic	Museros	9,1
Ermita de Sant Onofre	Ethnologic	Quart de Poblet	9,1
Ermita del Fiscal (La Punta)	Ethnologic	Valencia	9,1
Cartuja Ara Christi	Architectonic	El Puig	8,9
Convento de las Salesas	Ethnologic	Godella	8,9
Ermita de la Virgen de los Desamparados	Ethnologic	Tav. Blanques	8,9
Fábrica de Nolla	Architectonic	Meliana	8,7
Hort de Montesinos (Fontán-Villa Rosita)	Architectonic	Picanya	8,7
Hort de la Noguera	Architectonic	Picanya	8,7
Ermita de El Salvador y calvario de Godella	Ethnologic	Godella	8,7
Silos de Burjassot y ermita Virgen de la Cabeza	Ethnologic	Burjassot	8,7
Ermita y calvario de Carpesa	Ethnologic	Valencia	8,7
Ermita de la Virgen del Pilar (Cases Bàrcena)	Ethnologic	Valencia	8,7
Ermita de Santa Bárbara	Ethnologic	Alboraia	8,7

Source: own elaboration

2. Selection of milestones from ESTEPA's hydraulic inventory

41 elements have been selected as milestones from the 396 hydraulic goods inventoried by the ESTEPA group in the EULAC-MUSEUMS project. Criteria:

- Traditional weirs located on the Turia riverbed have been considered. They constitute the fundamental element of capture in the system that forms the different irrigation channels and ditches of l'Horta. Its function is to extract the water of the Turia River to derive them to a dense network of ditches and irrigation channels.
- Included are the main distribution elements, called partidores or fillers. They are responsible for partitioning the flow so that they are distributed by the main irrigation armbands.
- The current water functioning of the element is valued. It is considered positive that the element continues to be used for the purpose for which it was originally designed.
- Good preservation of the element is a fundamental component of its appeal and can facilitate its inclusion in value-setting policies.
- The location of the elements in the main layout of the irrigation networks is assessed. This assumes that most items are located in first-order ditches.

- Old flour mills. These include those with good maintenance, rehabilitated and/or with some vestige of the activity they once did.

In short, 41 hydraulic elements have been considered as landmarks of the Territory Museum from the developed inventory. The list of each good of the water heritage with its typology and the municipality in which it is located is shown in Table 9⁴.

3. Milestones selected from participation processes

The territorial agents involved in the design of the Territory Museum have also considered the incorporation of the following cultural assets.

- Castell Palau de la Baronía (Alcàsser)
- Castell d'Alaquàs
- Acequias del Turia y canal del Júcar
- Cisternas de Aldaia y Quart de Poblet
- Puertos de Catarroja y Silla
- Villa Amparo
- Creu de terme
- Llungües de Paiporta
- Museo de Paterna
- Museo de Cerámica de Manises
- Museo del Palmito de Aldaia
- Museo Comarcal de l'Horta Sud
- Molí de Benetússer
- MARS de Silla
- Palauet de Nolla

⁴The Mill of Vera (Valencia) and the Mill of Benetússer are also selected as milestones from the evaluation process applied in the PAT Catalog.

Table 9. List of hydraulic goods selected from the inventory carried out by the ESTEPA group that are determined as milestones in the Territory Museum

Name	Tipology	Municipality
Molí d'Albalat	Mill	Albalat dels Sorells
Quadrat de la séquia de La Huitena y partidor de la séquia de La Fila d'Albalat	Stop	Albalat dels Sorells
Molí de l'Ascensión, Calistro o Barraca	Mill	Alboraia
Molí de Nuestra Sra. de los Desamparados o de la Gamba	Mill	Alboraia
Cano del Carraixet	Partidor	Alfara del Pat.-Vinalesa
Molí de Benetüsser o de Raga	Mill	Benetüsser
Molí de la Sal o del Salt	Mill	Burjassot
Motor del Tancat de Naia	Motor	Catarroja
Llengües de Puçol i El Puig	Partidor	El Puig
Molí del Roll de Foios, de Pallús o del Cementeri	Mill	Foios
Assut de Séquia Tapada	Weir	Manises
Assut de Manises o Quart, Benacher i Faitanar	Weir	Manises-Paterna
Assut de Mislata	Weir	Manises-Paterna
Molí de Blay o de la Magdalena	Mill	Massamagrell
Molí de Moncada	Mill	Moncada
Quadrat de Moncada	Stop	Moncada
Assut de Mestalla	Weir	Paterna
Assut de Tormos	Weir	Paterna
Assut de la Reial Séquia de Moncada i almenara reial	Weir	Paterna
Molí de Donderis o del Tío Calcuta	Mill	Paterna
Molí de l'Escaleta o de José Llopis	Mill	Paterna
Molí del Testar	Mill	Paterna
Llengua del Braç dels Moros i Braç de Franç	Partidor	Quart de Poblet
Llengües de S. Onofre	Partidor	Quart de Poblet
Motor de Carota	Motor	Silla
Motor del Dulero	Motor	Silla
Motor del Pasiego	Motor	Silla
Motor del Port-Progreso	Motor	Silla
Llengües d'Alboraia - Almàssera	Partidor	Tavernes Blanques
Assut antic de la séquia de Rovella	Weir	Valencia
Caseta d'aigües de l'assut de l'Or	Partidor	Valencia
Llengües de Masquefa – Palmar	Partidor	Valencia
Llengües de Palmar – Calvet	Partidor	Valencia
Molí de Sant Miquel o de Montañana	Mill	Valencia
Molí de Vera	Mill	Valencia
Molí del Sol	Mill	Valencia
Molí del Tell	Mill	Valencia
Molí dels Frares o de Blat	Mill	Valencia
Motor de la Pipa (Tancat)	Motor	Valencia
Motor dels Peixcadors	Motor	Valencia
Quadrat de la séquia dels Alcavons	Stop	Vinalesa

Source: own elaboration

3. The Interpretation Centre: the “door” of the Territory Museum

It's a space intended to show what is to be found, the structure and services available, so it requires concentrating the interpretive message and organizing the visitor's experience. Here we collect a first global view of cultural heritage that fulfils the objective of motivating visitors to know the richness of the Huerta through articulated itineraries. It's the first place of contact between the visitor and the territory and is an information point where the general panorama of the Territory Museum is explained. It is a space that can result in an interpretation centre.

The first of the possible doors of our Territory Museum would be **the Casa Vestuario (future Museum of the Tribunal de las Aguas de la Vega de Valencia)**, located in the Plaza de la Virgen de Valencia. Here we explain the importance of the irrigated lands that make up the agricultural space of the Huerta, whose landscape, products and cultural value is worthy of being appreciated and valued by the whole society. The complex system of ditches that starts from the Turia River constitutes a hydraulic heritage of great importance, which together with the importance of water management for irrigation, provide the Tribunal de las Aguas with an essential historical and legal role for the proper functioning of the irrigation of the Huerta. Its role as water manager as well as its status as an institution of justice gives it consideration and attractiveness suitable as a reference to the Territory Museum.

A second option as a door is the **Museu d'Almàssera**. Located in the heart of the Huerta of Valencia, the city of Almàssera, this museum offers us a sample of heritage elements that represent the customs and ways of life and work of the local agricultural

community of decades past, reflecting the customs and values of the society of the municipality and the region. Its lands dedicated to different crops and plants typical of the area are used to carry out didactic workshops, in order to transmit traditional forms of farming and promote organic agriculture. Due to its location, next to *chufa* fields (tiger nut), it becomes an entrance to the world of gastronomy.

Another possible door is the **Museu Comarcal de l'Horta Sud Josep Ferrís March, in Torrent**, south of Valencia, which allows us to know the traditional lifestyle of a traditional family. Located in an old farmhouse, its ethnological heritage shows us the customs of pre-industrial society, in which agricultural resources determined their subsistence.

We also considered the **Agromuseo de Vera**, a former mill of Vera, which was owned by the Marqueses of Malferit, and after suffering the consequences of the flood of 1957, it was restored by the Ministry of Agriculture in 2006. The building is configured by a mill and a hermitage. It's a foundation for the research and conservation of resources and improvement of indigenous horticultural species. In addition, it has a library with more than 12,000 volumes and a Museum of Agriculture of the Huerta, which has thousands of pieces donated by neighbours and farmers.

We contemplate below the option of placing a door in the **Alquería dels Moros**. Listed as a BIC since 2004, this construction of municipal property is in the process of reform and rehabilitation, and aims to become a centre of interpretation of the *huerta* of Valencia. Located in the district of Benicalap, in l'Horta Nord, this Gothic farmhouse from the fifteenth century consists of several buildings that housed both the residence of

its owners and different cabins intended for various activities, in which they have been found items such as a wine press, a bread oven or silkworm hatcheries. A garden area is part of the building, irrigated by waters coming from the Tormos ditch.

Finally, we highlight the **Comuna House of the Real Acequia of Moncada** as the door of our Territory Museum. This beautiful building is the headquarters of the community of holders, where agreements are taken, matters are resolved and judgments are handed out, among other tasks. Originating in the weir of Paterna, this canal provides water to 15,000 farmers who grow their land along the 33 km covered by the ditch, always on the left bank of the Turia, river from which its waters come. Last year 2018, the Real Acequia of Moncada celebrated its 750th anniversary.

4. The most interesting places: the thematic windows of the Territory Museum

The windows are places where the contents that make up the basis of the story and its interpretation are focused, through an attractive discourse that can facilitate information on specific topics. These are spaces that group and organize the tourist-cultural offer. Their ability to attract gives them an identity meaning and a unique appeal. In the case of the Huerta of Valencia, these may be traditional areas of cultivation, for example, of *chufa*; in this way, the local gastronomy acquires relevance, while completing the experience with the tasting of the product in a specialized establishment. From the actual hydraulic point of view, we can refer to a window arising from the concentration of historical hydraulic mills, the location of weirs and their respective ditches, etc.

1. Window of Arco de Moncada

The window of the Arco de Moncada concentrates several hydraulic mills of significant heritage value, in addition to other heritage assets related to water. Among the grinding artefacts are the mills Molí d'Albalat, Molí del Roll de Foios and Molí de Moncada. Other properties that stand out in this space are the *quadrat de la séquia* de la Huitena, el *quadrat de la séquia* dels Alcaçons, el cano del Carraixet, el *quadrat* de Moncada y el *paretó* dels Moros

2. Window of the Turia's weirs

This window includes the concentration of 6 weirs (*assut*) located on the Turia river in its route between the municipalities of Paterna and Manises: Assut de Séquia Tapada; Assut de la Reial Séquia de Montcada i Almenara Reial; Assut de Manises or de Quart, Benager i Faitanar; Assut de Tormos; Assut de Mislata; and Assut of Mestalla. These elements of medieval times are currently operating and constitute the origin of various hydraulic systems that characterize the Huerta of Valencia. The ditches that derive, with the exception of the Real Acequia de Moncada, are managed by the Tribunal de las Aguas de la Vega de Valencia. Also, in this window, there are other hydraulic elements of significant heritage interest, such as the mills *chimenea* del *molí* del Roll de Faitanar, el *molí* del Testar, el *molí* Martinet, el *molí* de la Tandra y el *molí* Daroqui.

3. Window of the Arco de Meliana-Almàssera-Alboraia

This window focuses on the agricultural landscape of the municipalities of Alboraia, Almàssera and Meliana. The historic Huerta of this space is structured by the Rascanya system, with a marked East-West directionality. The predominant crops are herbaceous crops, as they occupy about 97% of the irrigation area. The cultivation of *chufa* is

of great importance, with 188 ha, a quarter of the total irrigated area. Its tubers can be consumed raw or used for the production of *horchata*, a traditional beverage. In this sense, the presence of specialized establishments dedicated to the tasting of this drink is relevant. Other notable crops are onions and potatoes, as a result of the increase in their commercial demand in recent years. Also, in this environment, the rural dispersed habitat has a high density, with scattered farms and other properties of different types. The Acequia de Vera, the hermitage and mill of the same name, the latter conditioned as Agromuseu, are worth noting. In short, the *huerta* of Rascanya is configured as an authentic landscape of water, built by the work of the human being throughout history and with outstanding symbolic, heritage and cultural values.

4. Window of Campanar

The *huerta* of Campanar and the *huerta* of Petra form a visual unit that contains the aspects that make up the Huerta of Valencia. This window houses numerous assets of visual interest: weirs, hydraulic mills, *partidores* or wells. In addition, the Acequia of Petra has a unique hydraulic structure and plot.

5. Window of orange trees

In several municipalities of l'Horta Sud, where Picanya and Catarroja stand out, there is a high concentration of orange trees' *huertas*. These have generally obtained significant qualifications in the application of the asset assessment method. They are constituted by an agricultural farm, usually surrounded by a fence and presided over by a building, which was used both as a place of recreation for its owners, as well as a residence for the inhabitants who worked the crops (Besó, 1999). These heritage ensembles proliferated at the end of the 19th century in l'Horta Sud, as well as in other Valencian counties.

Its maximum extension was produced by the introduction of the steam pump, by which new orange plantations were developed on the ancient drylands and historic *huertas*. These crops have been a source of wealth for the families of these municipalities and their development led to a transformation of the landscape. Currently, these buildings or stately homes, surrounded by plots of orange trees. They extend over this area and represent a heritage legacy of significant value. Picanya City Council organizes the Festival dels Horts, an event, attended by many neighbours, that combines chamber music with the environment.

5. The thematic paths of the Territory Museum

Various thematic itineraries that allow us to see and interpret outdoors the variety of opportunities that our Territory Museum provides. They must not be permanent, but they can adapt to the changes that are made of the various tales that are drawn up. In its design, both the linkage between resources and elements and the formal criteria, that is, the distinction with the environment, the continuity of the paths, the understanding of the movement, the linearity and the clear identification of the route, take precedence. Therefore, it's vital the coordination with the contents generated by the research, as well as the thematic connection between the spaces that make up each itinerary. The different routes created will link milestones and windows explained above in the design of our Territory Museum. In the particular case of itineraries designed in the *huerta* environment, the water resource will constitute the main common thread.

Possible itineraries:

- Cycle walkthrough l'Horta Sud (Xarxa d'Entitats pel Patrimoni de l'Horta): a

three-day bike route visiting cultural landscapes and the heritage wealth of the region

- Vertebrate itinerary of the region (Adria Besó) (sections 1, 2 and 3)
- Route of Ceberes (City of Xirivella)
- Carraixet Mancomunitat's routes
- Routes of the City of Alboraià
- Anell Verd -green ring-
- Gastronomic route, from the Central Market to the huerta

ESTEPA

- 2 itineraries in the Window of Meliana-Almàssera-Alboraià
- 1 itinerary in the Window of Arco de Moncada
- Routes related to irrigation

6. The events of the Territory Museum

Continuous programming of events related to the territory and the landscape. Various activities related to gastronomy, training, education and research, craftwork fairs, music festivals, etc.

There is a list of events representative of the Huerta:

- Festival dels Horts in Picanya
- Fair of the Chufa (Museum of Almàssera)
- Music Cycle at the Museu de l'Horta (Museo de Almàssera)
- Museum Days in the Museum of Almàssera: open doors' days; theatre -representations of ethnological scenes-; gastronomy workshops; Miradas de L'Horta -testimonies about life in the last century-

- Palmito's Craft Night or Palmiteros Fair (Aldaia)
- Gastronomic and musical days of Aldaia "Para l'Orelleta". Local musicians from Aldaia. Traditional food: *orelletes, sopà and pimentó amb tonyina*
- Meeting of the Tribunal de la Séquia del Comuner d'Aldaia (every August 4th).
- JULIA Environmental Education Centre. A social initiative of the Col·lectiu de Joves de la Coma in the huerta of Paterna. Fiesta de la siembra.
- Soterranya Col·lectiu in Torrent. Bicinit Cyclewalks

7. Territory Museum Services

The consideration of these cultural landscapes as a claim through their image and their quality badge can be used by all the local companies and institutions rooted in the territory. Initiatives related to accommodation, catering, transport, trade-in promotional products or complementary service companies (guides, monitors).

Typical establishments in the area:

- Restaurant Sequer lo Blanch (Alboraià).
- Restaurant La Lluna (Valencia): specialised in *chufa* liqueur.
- Horchateria Subies (Almàssera): different products of *chufa* (*tofolet, chufa* cream...).
- Horchateria Vida (Alboraià): with typical products, like *chufa* coke, and sale of agricultural products. It has a park and animals.

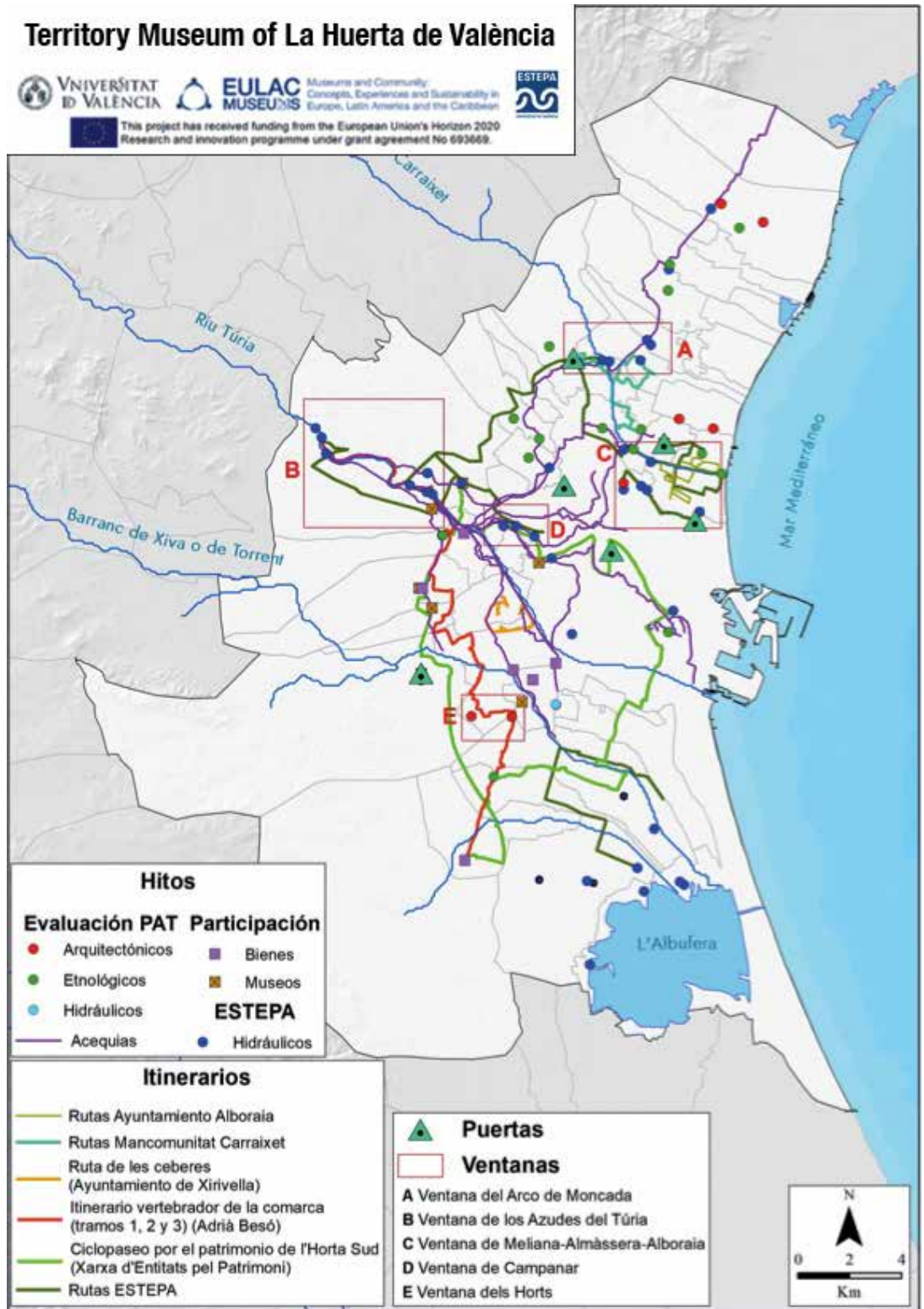
Territory Museum of La Huerta de València



Museums and Community:
Concepts, Experiences and Sustainability in
Europe, Latin America and the Caribbean

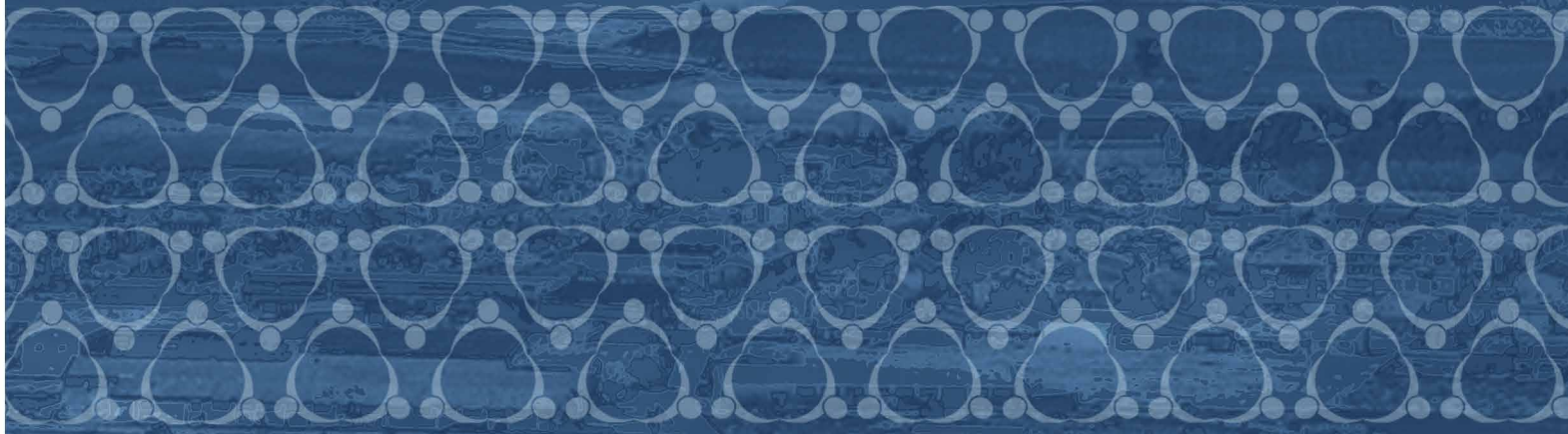


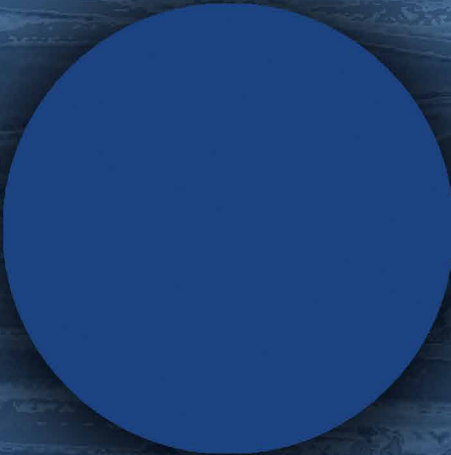
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Relation of public and private entities that carry out activities in the Huerta de Valencia:

Agent	Tipology	Activities
City Council of Alboraya	Local public administration	Itineraries
City Council of Burjassot	Local public administration	Itineraries
City Council of Paiporta	Local public administration	School trips
City Council of Xirivella	Local public administration	Itineraries
Diputació de Valencia	Provincial public administration	Bicycle route in development: 'Per l'Horta Nord en bici'
Mancomunitat del Carraixet	Mancomunidad (4 municipalities)	Routes (Camins del Carraixet)
Horta Viva	Private business	Itineraries for pedestrians, bicycles, etc., visits, didactic activities
Fundació Assut	Foundation	Itineraries for pedestrians, bicycles, etc., buses, visits, didactic activities
Horta Neta	22 municipalities	Itineraries for pedestrians, bicycles, etc., buses, visits, didactic activities
Mercat de la Terra de Roca de Meliana	A market with local products	Itineraries
Observatori Ciutadà de l'Horta	Citizen Participation Instance	School trips, field trips
Per l'Horta	Non-profit association	School trips
Turismo Botánico	Private business	Itineraries
Turismo Horta Nord (Consorcio Pactem Nord)	Job Creation Consortium	Itineraries
Xarxa d'escoles per l'Horta	Schools network	Itineraries
Xarxa d'Entitats pel Patrimoni de l'Horta (XEP)	Network of institutions and entities	Itineraries
Museu Comarcal de l'Horta Sud	Museum	Visits, workshops
Museu de l'Horta de Almàssera	Museum	Visits, workshops
Museo Ethnologic de Valencia	Museum	Visits, displays
Concejalía de Agricultura, Huerta y Pueblos de València	Local public administration	Patrimony recovery, campaigns, training
Cooperativa agroecològica Gira-sòls Xirivella	Cooperative	Agriculture workshops (gastronomy, ecological techniques, etc.)
Horta Viva	Private business	Workshops, tasting, courses, advice
Fundació Assut	Foundation	Audiovisual and documentary projects, congresses, multimedia platforms, tasting
Horta Neta	22 municipalities	Workshops, environmental volunteering activities
Horta Turia	Festival. A meeting point between farmers and collectives	Audiovisuals, gastronomic proposals, workshops
Observatori Ciutadà de l'Horta	Citizen Participation Instance	Preparation of studies and analysis, monitoring and updating of data
Per l'Horta	Non-profit association	Talks, workshops, debates
Equip 351	Private business	Cultural projects in the territory





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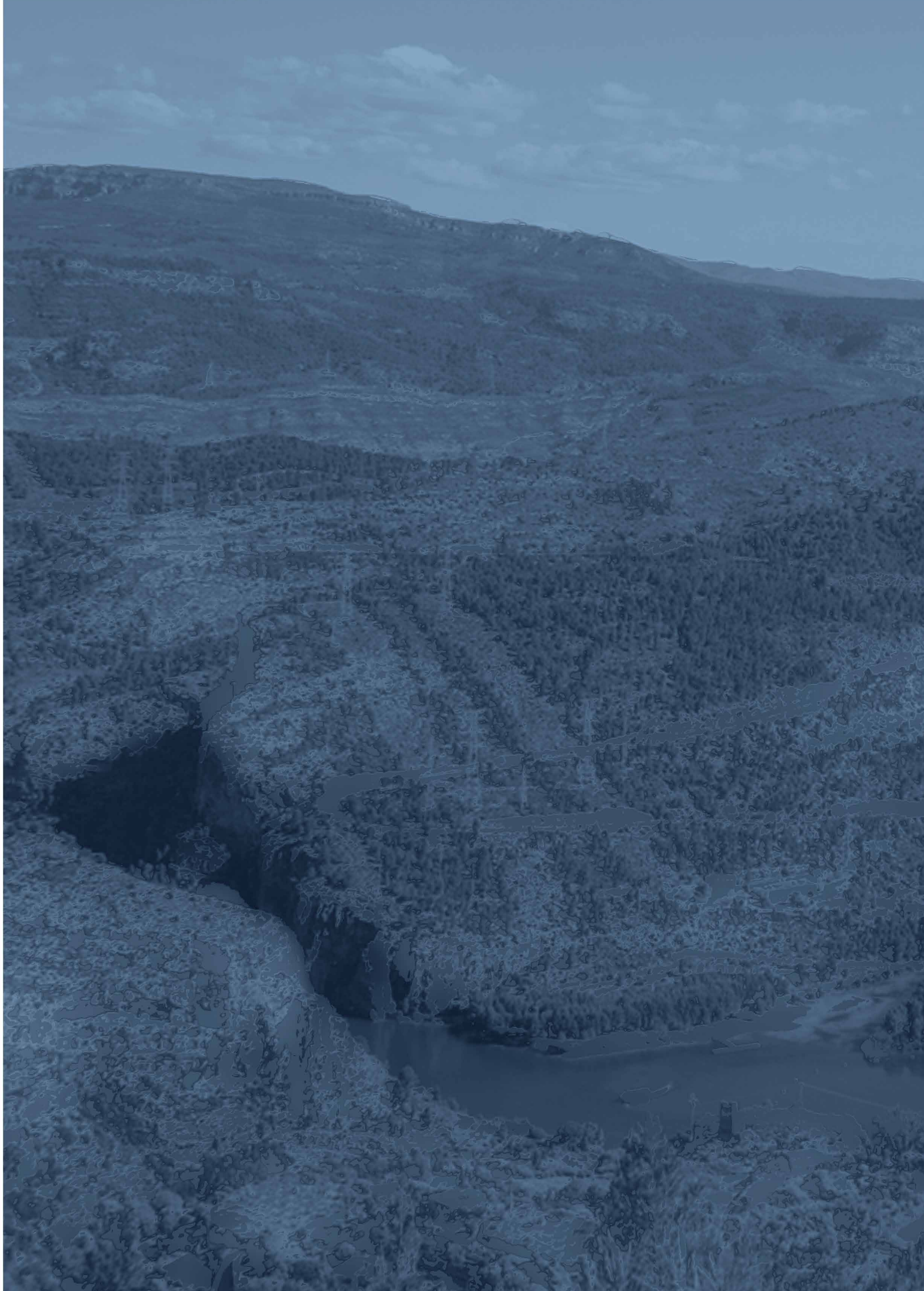
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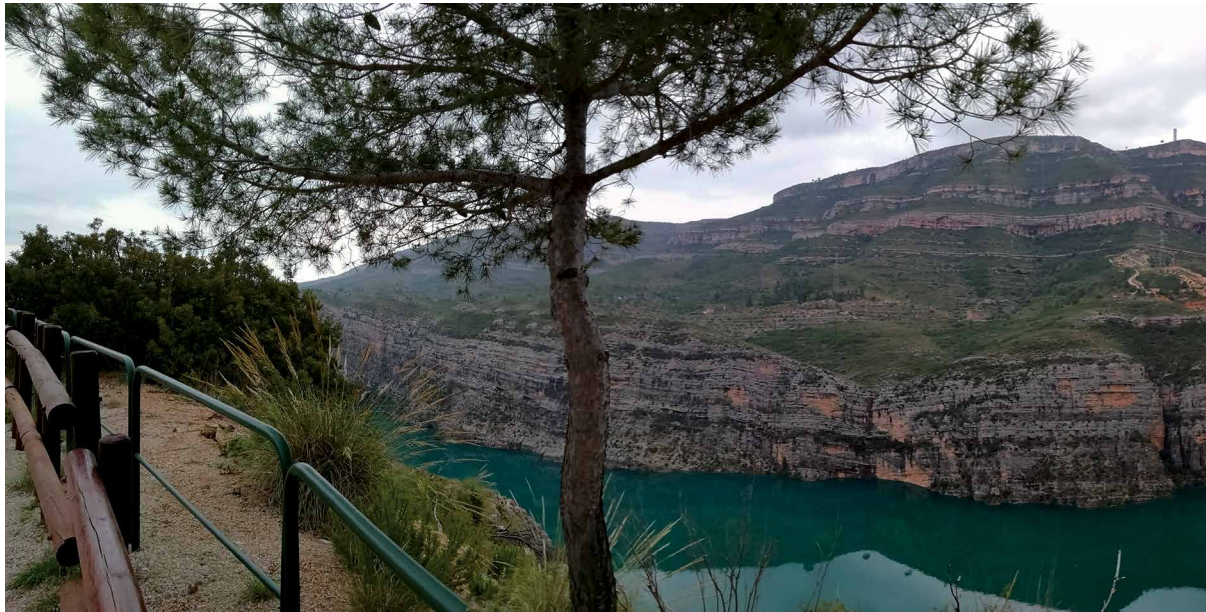
Master Plan Cortes de Pallás

Authors:

*Jorge Hermosilla, Mónica Fernández,
Sandra Mayordomo and Miguel Antequera*

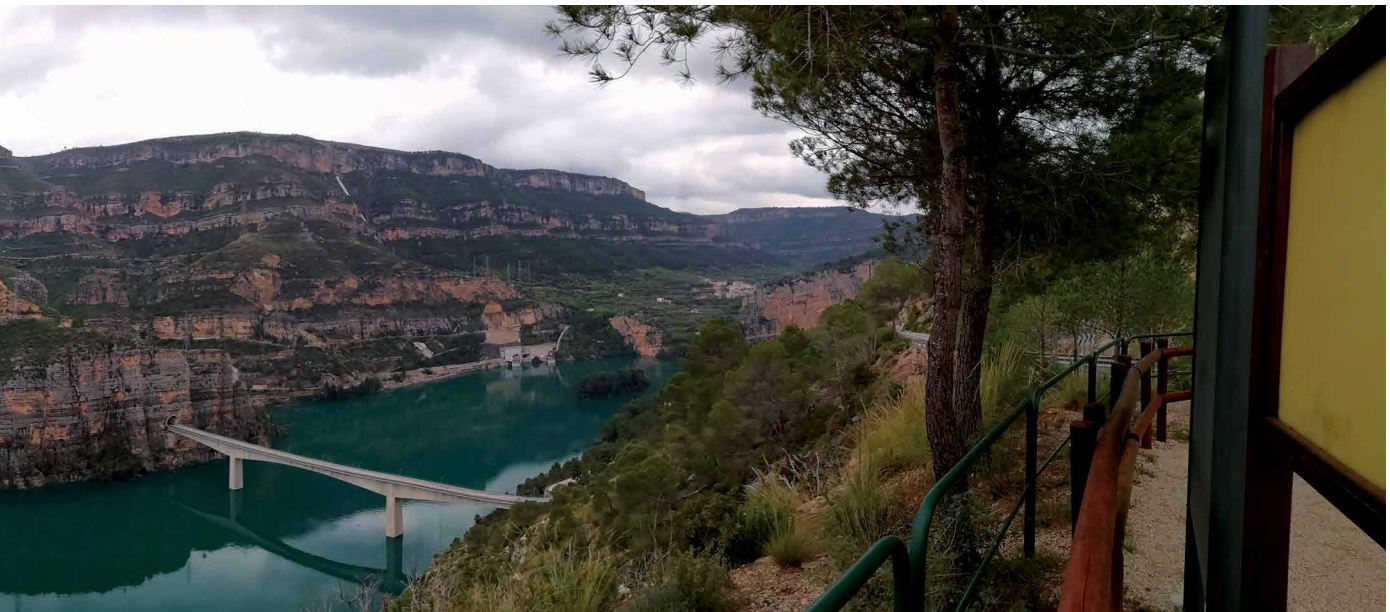
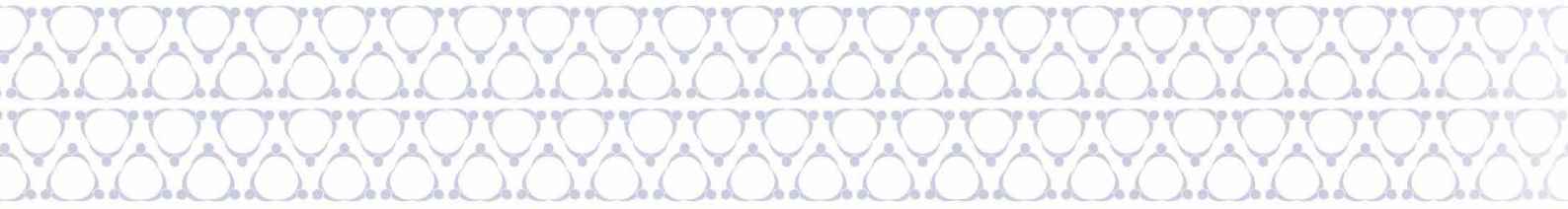
01

Master Plan to the enhancement of the Huerta of Cortes de Pallás: the Territory Museum



Cortes de Pallás reservoir

The draft of a Master Plan for the creation of a Territory Museum at the huerta of Cortes de Pallás involves a previous research work that provides the information needed to carry out our task. The specialised literature that addresses this type of initiative coincides with the need to **schedule, organise and evaluate** various actions. The first phase of strategic planning includes previous integrated diagnosis, the definition of the objectives that the various groups aim to achieve, and of course the design of the strategic lines and programs to be developed. These previous investigations altogether with the availability of territorial resources will allow us to configure the territory



museum. Inter-administrative cooperation, especially with the local administration, as well as the participation of other territorial actors, will also be essential.

The models prepared under the EULAC-MUSEUMS project by the Universitat de València will be the basis of our master plan. They set out the stages of planning, the fundamentals of comprehensive management and the assessment criteria for cultural heritage:

Museums and strategic planning
Cultural heritage management
Cultural heritage evaluation method

Finally, through the application of model *Design and application of a Geographic Information System*, a mapping will be carried out that will reflect the spatial structure of the Territory Museum and the distribution of the heritage resources that form it.

The main purpose of our Master Plan is the recognition of the huerta of Cortes de Pallás through a Territory Museum that:

1. Facilitates the citizens' knowledge and interpretation..
2. Preserves and protects heritage values.
3. Makes it more attractive to rural-cultural tourism.

02

Analysis and diagnosis

I. THE HUERTA OF CORTES DE PALLÁS

A puzzle in the valley of La Barbullá-San Vicente

The huerta of Cortes de Pallás has its origin in a universal natural resource, water, and its traditional uses. We refer to human supply, energy production, and especially, irrigation. It is a universal approach to the Mediterranean character. The historical irrigation of Cortes de Pallás is an example of the traditional watering in the Mediterranean basin.

In this area, the cultural legacy related to the use of water is a common feature. The availability of water, scarce and even absent in summer, has conditioned the irrigation systems. In Valencia, these systems are the same both on the coast and inland. Undoubtedly it can be said that it's a territory characterized by a rooted and secular culture of water (Hermosilla, 2002).

The identification and study of historical irrigation require a multidisciplinary approach

that involves the participation of historians, archaeologists, geographers, anthropologists, agronomists, etc. The studies are addressed in various scales of work: catalogue and inventory of the supplies for transportation and use of the water resources; the network of irrigation channels; the hydraulic system (arrangement and relationship between the elements); and the landscape units generated. In Cortes de Pallás one of the most significant examples of the cultural landscape of the Mediterranean mountain through the architecture of water is found its historical irrigation.

The historical irrigation of Cortes de Pallás is a part of the Valencian rural heritage. In fact, it meets the conditions that define its patrimonial character: its configuration over centuries, its function of agricultural production and the close relationship with the local society. Historical legacy, functionality and social basis (Hermosilla, Antequera, Iranzo, 2019).

II. SINGULARITIES OF THE HISTORICAL HUERTA OF CORTES DE PALLÁS

1. Cortes de Pallás as a model of the irrigation system in the Valencian inland areas

The studies carried out during the last twenty years allow us to affirm that the hydraulic heritage in the Valencian inland territories is characterized by its value. In all municipalities, we find traditional irrigation systems, in which numerous elements are integrated with the gathering, transport and use of water: weirs, aqueducts, flow dividers, ponds, irrigation channels and ditches, branches, spillways, arches, water staircases, siphons, public washing areas, etc. They all give this patrimony a singular meaning. In Cortes de Pallás the irrigation system gathers these elements in a functional way.

2. The huerta in Cortés de Pallás has an Islamic origin, dated in the eleventh century

It obeys the model of an Al-Andalus huerta, later Moorish, adapted to the singular features of the Valencian mountains, whose interpretation is favoured by the arrangement of the crops, the ingenuity necessary for the exploitation of its springs, the design of the network of irrigation channels, and the terraced landscape resulting from the application of Al-Andalus mediaeval techniques. In addition, its irrigation system is customary, based on a network of channels irrigated

by springs and adapted to the topography. Broadly speaking the system and its elements remain unchanged despite the passage of time.

3. A geographic scenario with an appreciated landscape

The *Huerta* of Cortes is located in a unique environment, which comprises several landscape units:

- It's located at the foot of the mountain known as Muela de Cortes, in the north-western sector of this tabular relief, a National Game Reserve.
- It's part of the Júcar river basin, specifically in a sector of the ravine of San Vicente. It is in a river canyon known as Gargantas del Júcar.
- It's located in the LIC –place of communitarian interest- of Muela de Cortes, and next to the LIC of Sierra de Martés.
- It's integrated into Cortes de Pallás. The *huerta* merges with the town, even some channels run underground the city itself, and it has grown where the irrigated space could not be extended.

4. The great conservation of the Islamic huerta.

The *Huerta* of Cortes de Pallás is one of the best examples of landscape and environmental heritage in the Mediterranean basin. In fact, the foundations of the morphology of the irrigated agricultural landscape remain intact. Elements such as springs, channels,

ponds, etc.; and to the terraced landscape that maintains its original structure, with long plots, adapted to the geomorphology (sinuosity of both margins) and topography (pronounced slopes, drawn by the contour lines).

This terraced landscape of staggering plots is propped against rows of hackberries. The hackberry is a singular tree cultivated in some places of the Valencian territory whose wood has been the raw material of the artisanal activity of the Region of the Valley of Ayora.

III. HERITAGE RESOURCES OF THE HUERTA OF CORTES DE PALLÁS

The term Cortes de Pallás is one of the most extensive in the province of Valencia, with approximately 234 km². It extends over the northern sector of the Caroig massif and is located between the mountains of Martés and Ave to the north, the Muela de Cortes in the east and south, and the pit of Sácaras in the western area. This municipality is a reference of the heritage and rural area of Valencia for its unique resources and peculiarities. The Moorish huerta has significant heritage assets, mainly related to the heritage of water and its associated landscapes (ponds, fountains, ditches, public laundry places, mills, traditional *huertas*, etc.), but also other types such as religious buildings (church of Nuestra Señora de Los Ángeles), civilians (the historic town centre and the house of the Baron), defensive (castles of La Pileta and Ruaya) or related to hydroelectric production (hydroelectric power plants and reservoirs). It has a valuable network of routes, including a stretch of the E-path 4, as well as local trails and themed itineraries. Its attractive places and protected spaces give it extraordinary natural values. Finally, intangible heritage is relevant, with numerous popular local festivals (Los Mayos, el Pan Bendito, Las Hogueras de San Antón, Las Copletras, etc.), dry stone technique used in numerous elements, musical associations, and a consolidated gastronomy (*gazpacho*, *ajo arriero*, *tortas de chorizo y sardinas*, *la olla*, *el mojete de agua*, etc.).

A. Natural spaces

The municipality of Cortes de Pallás maintains extraordinary natural values due to

the extension of its territory, its traditional isolation and the roughness of its places. It has great natural habitat wealth and wildlife (Hermosilla, Irazo, 2003). The entire term is part of the Special Protection Area for Birds (ZEPA) Sierra de Martés-Muela de Cortes, and belongs to two Places of Community Interest (LIC) (also declared Special Conservation Zones, ZEC): the LIC Sierra de Martés and the Ave, north of the River Júcar, and the Muela de Cortes and El Caroig, south of the river. This last LIC and the aforementioned ZEPA are located in the Moorish huerta of Cortes de Pallás. Both protection figures are described below.

Sierra de Martés-Muela de Cortes (ZEPA)

This space comprises an area of 153,191 ha distributed in 29 municipalities. The area is significant for the conservation of birds of prey, such as eagles, falcons and owls. It's home to nesting populations of 18 bird species referred to in Annex I of the Directive 79/409/EEC.

Muela de Cortes and El Caroig (LIC, ZEPA)

It was declared a LIC in 2001 and a ZEPA in 2017. Its surface area is 61,519 ha. It's located in a mountainous area, with the presence of numerous streams of the Júcar river. We must highlight various characteristic habitats of aquatic ecosystems that host fauna of interest of the Valencian territory.

It is worth noting the National Game Reserve of Cortes de Pallás, which extends mainly through the southern sector of the municipality. In addition to this city, the Reserve stretches along Bicorp, Cofrentes, Jalance, Jarafuel, Millares and Teresa de Cofrentes. It has an extension of 36,000 ha and was approved in 1973 with the objectives of ensuring the survival of the Iberian ibex (*Capra pyrenaica hispanica*) and regulating the kinetic activity in this space (Martínez

Salas, 1978). The most relevant species, in addition to the Iberian ibex, are the mouflon (*Ovis musimon*) and the wild boar (*Sus scrofa*). However, farmers in the Moorish huerta perceive negatively the impact of these national reserve species on their crops.

The limestone nature of the terrain leads to the formation of sinks, caves and other underground forms created by the action of water, which leads to the presence of abundant fountains and upwelling. In fact, the traditional irrigation around Cortes de Pallás originates from several springs that are formed from the highest one, the spring of San Vicente or De la Barbullá. These are deep aquifers' springs from the Muela de Cortes that emerge from the deep incision of the Cortes stream. The spring of San Vicente uses some loamy intercalation of the base of the dolomites of the Middle Cenomanian that crowns the Muela. The lower ones (Jesus, Solana, Chano, Corbinet, Escalericas, Chapole, etc.), originate from the frequent merging of impermeable materials in the calcareous and detritus materials of the Lower Cenomanian and the Albian. Consequently, the irrigation systems of Cortes are based on a series of springs that with the help of the diversion dams and channels provide a constant flow of water to the ditches. These come from the stream of Cortes or the fountains nearby. Some cascades or falls constitute a significant attraction, such as the Corbinet, located in the ravine of the Barbullá, near the city of Cortes.

B. Heritage analysis of the Huerta of Cortes de Pallás. Water, landscape and sustainability

1. Description of the huerta of Cortes de Pallás. The exploitation of water

It is an irrigation system extended by both

margins of the brook of Cortes de Pallás, also named ravine of the Barbulla-San Vicente. It has several sources and springs, and main irrigation channels (acequias madre). It is worth mentioning the existence of several regulation ponds and a network of connected channels so that the leftovers are discharged to other running streams. It is a system based on the principle of sustainability.

A. The channels on the left bank are Acequia de San Vicente or de la Barbulla, Acequia de la Solana, Acequia del Pueblo.

B. The channels of the right bank are Acequia de Jesus, Acequia Alta, Acequia del Trance, Acequia del Agua de Medio, Acequia de los Huertos.

The channels on the left bank. The Acequia of San Vicente or de la Barbulla diverts in two others: a spillway and a branch, that spill in the Acequia de la Solana. The Acequia de la Solana is also born in a spring in the bed of the ravine, runs parallel to that of San Vicente, and has several ponds. It pours into the ravine in the form of a waterfall. The Acequia del Pueblo collects the water from the pond of Chapole, located in the same ravine and nourished by the spring of the Escalericas. This channel runs underground through the same village, supplies water to the pond of La Garroferica and then spills it into the ravine.

The channels on the right bank. The Acequia de Jesus, born from a spring on the same ravine. It has a pond and its water goes to the Acequia Alta. This one is originated in another source, called Chano, and allows the watering of a great part of the lands on the right margin of the Barranco de la Barbulla. Next to the spring is the pond of Chano, which is the largest. In El Partidor it spills a branch to the left known as Acequia del Trance, whose leftover spills in the Acequia del Agua de En Medio. In the course of

the Acequia Alta is the Pond Nueva, triangular-shaped, which allows it to regulate its flow, for irrigation of the following fields, until it is spilt at the castle of La Pileta.

The Acequia del Agua de En Medio has its origin in the spring of the Escalericas, in the ravine. At this point, the water has formed calcareous limestones that take the form of “stairs”, hence its name. Its waters are regulated by the Pond de Ferrer. The Acequia de los Huertos includes the contributions of the ones from Chapole, the waters that go down the ravine of the Acequia de la Solana and the spring of the Escalericas, and the surplus of the Acequia del Pueblo. In the route of the acequia are the washing place and its pond, and the Pond de la Montañaica, which allows the irrigation of the most remote fields, next to the cliff of the river Júcar.

2. Water management and state of agriculture

Unlike other municipalities with similar characteristics, in Cortes de Pallás there is no Comunidad de Regantes (water rights holders' organisation). Irrigation is managed through the participation of the city council, due to the few people who currently cultivate plots.

The cultivation of the *huerta* of Cortés de Pallás has been progressively reduced in the last decades, because of the abandonment of agriculture. Currently is related to leisure, especially with retired people, and part time work for self-consumption.

In times past it was common to turn to the *método de la caña*, when there were periods of drought and scarcity of resources. A cane (*caña*) that would change hands periodically was the element that gave the right to irrigate one's fields.

3. The elements of hydraulic heritage related to irrigation

The irrigation system of Cortes de Pallás is a system of reduced dimensions and micro-irrigation, compared with meadows or littoral lands. The ESTEPA group has inventoried 299 elements in the *Huerta* of Cortes de Pallás, as shown in model IMM of the EU-LAC project. All of them are hydraulic assets except for the castle of La Pileta and the castle of Ruaya, declared BIC (cultural heritage asset), as well as the church of Nuestra Señora de los Ángeles, declared BRL (locally relevant asset). These three buildings would be analysed later on.

In addition, the Sectoral Inventory of Ethnology of the General Management of Valencian Heritage includes 15 hydraulic elements located in the Moorish *huerta* of Cortes, which have been collected in the aforementioned inventory of the ESTEPA group, with the exception of two mills: pool of Chano, pool of Chapole, pool of Ferrer, pool of Jesus, pool of the Barbullá, pool of the Garroferica, pool of the Montañica, pool de la Solana, pool of Lavadero, pool Nueva, pool of the Camino de la Muela, pool of the Senda de la Cortada, mill of Tío Carranca, mill of Tío Castaño and weir of la Solana.

ESTEPA's heritage assessment system applied to hydraulic heritage gives interesting results. The implementation of multiple objective criteria shows the presence of traditional irrigation systems and elements of remarkable value.

4. A cultural landscape of sustainable *Huerta*.

The *Huerta* of Cortes de Pallás constitutes a landscape unit that is clearly delineated by means of "rigidity lines", the highest main channels, whose layout is conditioned by the location of the springs and the steep slopes.

Visually the resultant landscape is a predominance of staggered plots. They reduce the negative effects of the slopes: the action of erosion causes the loss of soil. Among the staggering terraces are rows of hackberries.

The *huerta* is part of a river landscape that has been modelled by anthropic actions. The presence of men is seen in the historical settlement of a defensive structure of medieval origin (the castles of La Pileta and Ruaya) and in the urban core itself; also in the low forest areas (remnants of reforestation), that delimit the perimeter of the irrigation space.

Finally, the *huerta* is preserved functionally, which is a guarantee for its conservation. We refer to the irrigation system in most of its structure, main and secondary channels.

C. BIC -Cultural Heritage Assets- and BRL -Locally Relevance Assets-

The *huerta* of Cortes de Pallás has two BIC and a BRL, as reflected in the General Inventory of the Valencian Cultural Heritage (Conselleria de Educación, Cultura y Deporte, 2019). The BIC are the castles of la Pileta and Ruaya, ancient Moorish fortifications of which only the towers are preserved and flanked by the ends of the stream of Cortes. The parish church of Our Lady of Angels is declared BRL and located in the square of the historical centre.

Castle of la Pileta. It is located on the northern flank of the town, in a strategic position on an outcrop at 430 meters of altitude. Its perimeter had a roughly triangular shape. Today only a multi-level square observation tower and the base of another tower are preserved.

Castle of Ruaya. Located southwest of Cortes, on a promontory above the ravine of the Barulla. It had two levels that are still visible. At the top, there was a square tower, with part of its walls still preserved. Currently the element is in a deterioration state, with various cracks in its entire structure. Because of this there's great danger of collapse if no works are carried out for its consolidation.

Church of Nuestra Señora de los Ángeles. It is a baroque building from the year 1775. It's said to be fully paid for by the Baroness of Cortes, although there is no evidence to prove this, except for the memory of the Council of Elders about a painting near the destroyed presbytery depicting the Baroness with a little bag of coins representing her donation to the people (Hermosilla, 1999). The building has a Latin cross floor with a single nave and gabled roof and dome over the cruise. The façade has a square bell tower. It was rehabilitated in the late 1990s and early 2000s.

D. Other Cultural Heritage Assets

In the *huerta* of Cortes other significant assets have been identified, collected in the Inventory of Cultural and Natural Heritage of the General Structural Plan of Cortes de Pallás (City Council of Cortes de Pallás, 2016). In addition to some of the elements mentioned in the above headings, this inventory considers as an asset of interest the house of the Baron and all its threshing floors.

Casa del Barón. It is a Baroque house of the late eighteenth century that belonged to the barons of Cortes de Pallás. It's located in the town's main square. It is a squared floor stately mansion with a gabled roof. Above the lintel of the main door is the coat of arms of the barons. It is currently privately owned for residential use.

Threshing floors. There are eight of them, located in the highest sector of Cortes, in a staggered way adapted to the unevenness of the terrain. They are semicircular agro-industrial constructions built with masonry and filled with earth and used to threshed cereal. They operated until the last third of the 20th century.

E. Intangible assets

In the *huerta* of Cortes, there are certain intangible assets, some of which have official recognition. In this sense, the art of dry stone construction is relevant. It was included in UNESCO's Representative List of Intangible Cultural Heritage at the 13th Session of the Intergovernmental Committee for the Safeguarding of Intangible Cultural Heritage. The City Council of Cortes de Pallás has recently made a catalogue of dry stone assets, thanks to a grant from the Ministry of Education, Culture and Sports (City Council of Cortes de Pallás, 2018). This art of construction overlaps and joins bricks without any additional material. In Cortes the most prominent structures are threshing floors,

but also paths, walls, ditches, ponds, bridges, etc. The catalogue includes 68 structures, 39 of which are located in the Moorish huerta. The construction technique of dry stone is also considered as Intangible Good of Local Relevance, according to the General Management of Heritage of the Ministry of Culture and Sport Education.

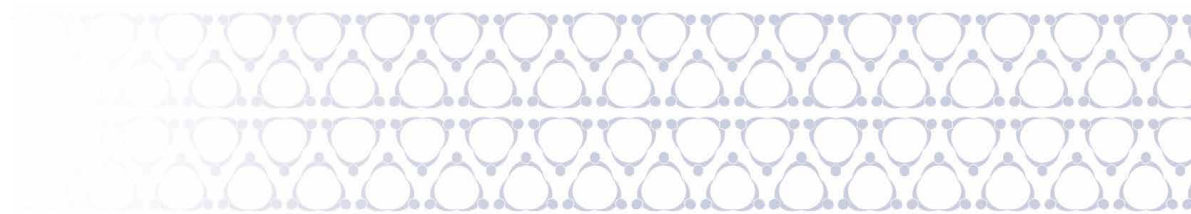
The Valencian popular musical tradition has also been declared of Heritage Cultural Asset, materialized in the Musical Societies of the Valencian Community. Cortes de Pallás has two musical societies: the Unión Musical Santa Cecilia de Cortes de Pallás, founded in 1885, and the more recent Ateneo Musical of Cortes de Pallás.

Cortes de Pallás also has several popular festivals. The popular festivity known as *cantos* of Los Mayos and Las Copletas, held

in several central Valencian regions, stand out. Also relevant are the procession of *pan bendito*, held on the day of the Virgen de la Asunción, and the Hogueras de San Antón.

Finally, it is important to highlight as an intangible cultural asset water management and irrigation techniques, which represent a cultural legacy of relevance in the *huerta*. The methodological system designed has allowed the evaluation of thirty assets.

The results obtained show the presence of a valuable and valued heritage, which is a paradigmatic example inside the Valencian territory.



03 SWOT Analysis

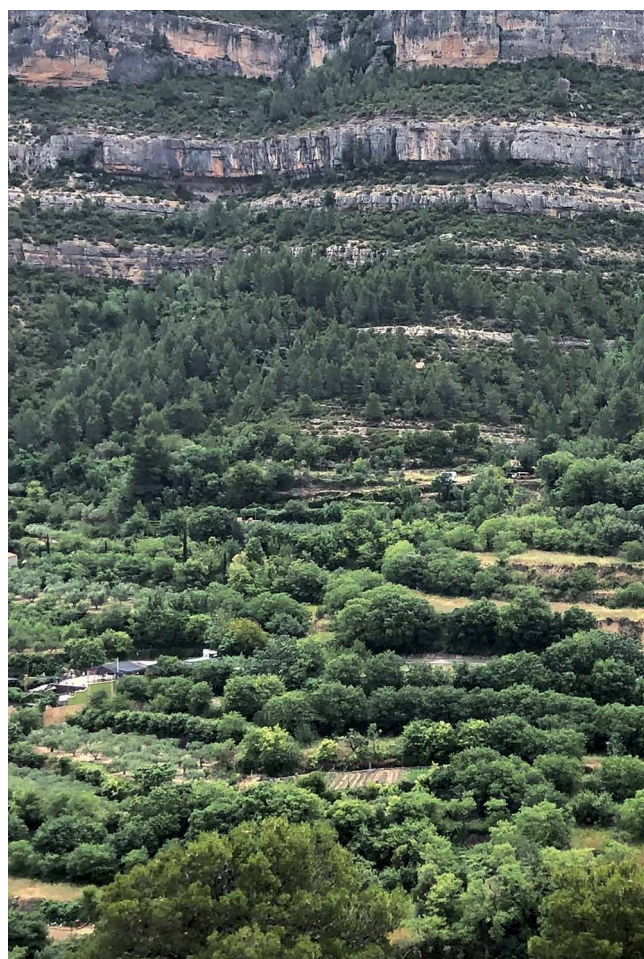
Below we present the main aspects of the current situation of the huerta of Cortes de Pallás acquired in the diagnosis and participation processes, in order to identify the objectives and strategic lines that make up the Action Plan.

WEAKNESSES

- Damaged or abandoned assets.
- Unawareness among the inhabitants.
- Destruction of traditional irrigation systems.
- Inadequate rehabilitation of hydraulic heritage (concrete, cement).
- Destruction of traditional irrigation systems.
- Hard-to-reach areas: private roads, non-conditioned roads, etc.
- Hard-to-reach areas (private or non-conditioned roads).
- Insufficient signalling.

THREATS

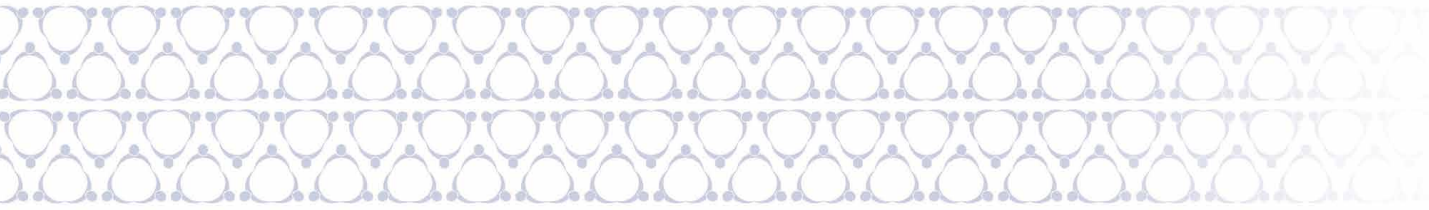
- Agricultural contamination of soil and water by herbicides.
- Animals from the game reserve that can cause damage to the *huerta*.
- Indiscriminate prune (hackberries).
- Lack of coordination in territorial policies.
- Lack of commitment from public administrations.
- Disorganised intervention in the huerta.
- Land abandonment.
- Lack of generational changeover, ageing of farmers.
- Loss of agricultural-environmental diversity.
- Low profitability of agricultural activity.
- Low level of professionalization.



- Obsolescence and loss of infrastructure functionality.

STRENGTHS

- Landscape, environmental, historical and cultural values.
- Identity and sentimental value.
- Environmental function
- Recreational and social function.
- Presence of significant cultural resources. Heritage and landscape assets.
- Natural areas of interest.



*Terraced
landscape
of la Huerta
of Cortes de Pallás*

- Great social support when it comes to its protection.
- Citizenship awareness of its values.
- Knowledge of the *huerta* as a cultural agricultural landscape.
- Gastronomic wealth (products, recipes, culinary techniques).
- Appearance or adaptation of complementary services linked to the *huerta* (restaurant businesses, trade).
- Obtaining quality productions.
- Touristic activities.
- Promoting associative tissue.
- Creation of educational projects that promote the assessment of agricultural space.

OPPORTUNITIES

- Possibility to revalue the land through a Territory Museum.
- Creating direct and indirect employment.

04

Integrated diagnosis of the Huerta of Cortes de Pallás

The integrated diagnosis captures the main factors that define the situation of the historical *huerta* of Cortes de Pallás. It exhibits an overview of existing problems and limitations, as well as their resources and potentialities. The main processes that define the area of study as a synthesis are presented and developed below. Figure 1 shows a graphic with the most significant features and aspects of this agrarian landscape and its interconnections.

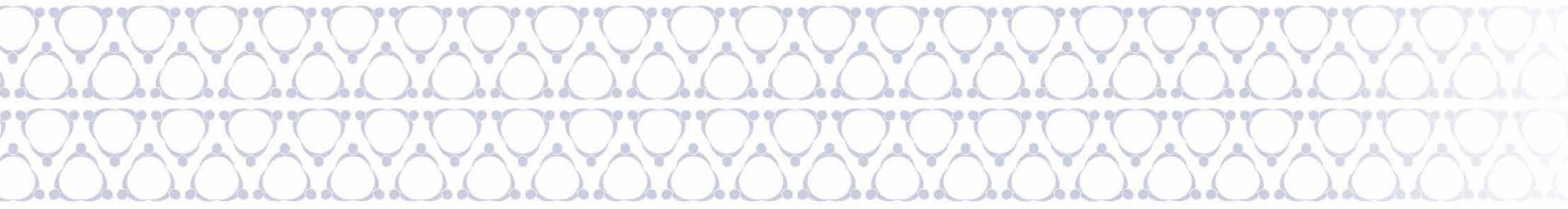
Territorial traits

The territory of Cortes de Pallás is characterized by great isolation, due to the existence of rough and irregular topography and restrictive natural conditioning. Irrigation sys-

tems have adapted to this abrupt orography and the unevenness that exists through terraced cultivation. This sandy landscape, characteristic of the Mediterranean interior, maintains its original structure. The farm plots are elongated and narrow. The terraces are entrenched on numerous occasions by rows of hackberries, typical on this area of the Valencian territory and used for the manufacture of utensils and other objects.

Sustainable system

The historical irrigation land located in the vicinity of the population centre of Cortes de Pallás has its origins in the Andalusian period, in the centuries of Islamic domination. They are made up of mountain micro-irriga-



tion adapted to the abrupt orography. These systems remain virtually unchanged, with functional ditches in various sections despite the progressive abandonment of crops recorded in recent years. Main ditches remain active in a considerable part of their journeys, while the traditional elements of the water heritage remain intact.

The historic *huerta* of Cortes de Pallás extends into the valley formed by the stream of Cortes, a tributary of the Júcar River. The ditches are interconnected, which means that there are no significant water losses. Leftovers of the ditch circulating at a higher topographical level are captured by the channel below, or even by the ravine itself

and its weir. In this sense, the traditional irrigation system is an example of sustainability and use of water resources.

The *huerta* forms a landscape unit of extraordinary heritage value, delimited by its network of irrigation ditches. It's a water landscape that houses sustainable well-preserved hydraulic systems. The City Council's management contributes to its working and maintenance.

City Council's management of the historical irrigation system

In Cortes de Pallás there is no association of water rights holders and the City Council is responsible for the management of the his-

torical irrigation. The consistory is responsible for the cleaning and maintenance of the ditch network and the elements of water heritage. Hydraulic systems have an optimal state of operation and have remained unchanged over the centuries.

Abandonment of traditional irrigation

Cortes de Pallás shares common aspects with rural areas of the Valencian inland, characterized by an ageing and demographic migration, and limited economic activities. The place records rural exodus and depopulation processes. Traditional agriculture currently has a testimonial function, as a result of the instability of this activity and the farm crisis. Ageing, depopulation and lack of generational changeover have meant a progressive reduction of areas cultivated in recent decades. In addition, animals from the National Game Reserve frequently cause damages to the crops. Currently, cultivated plots account for a quarter of the total existing plots, with an area of 100 ha.

Problems linked to the National Game Reserve

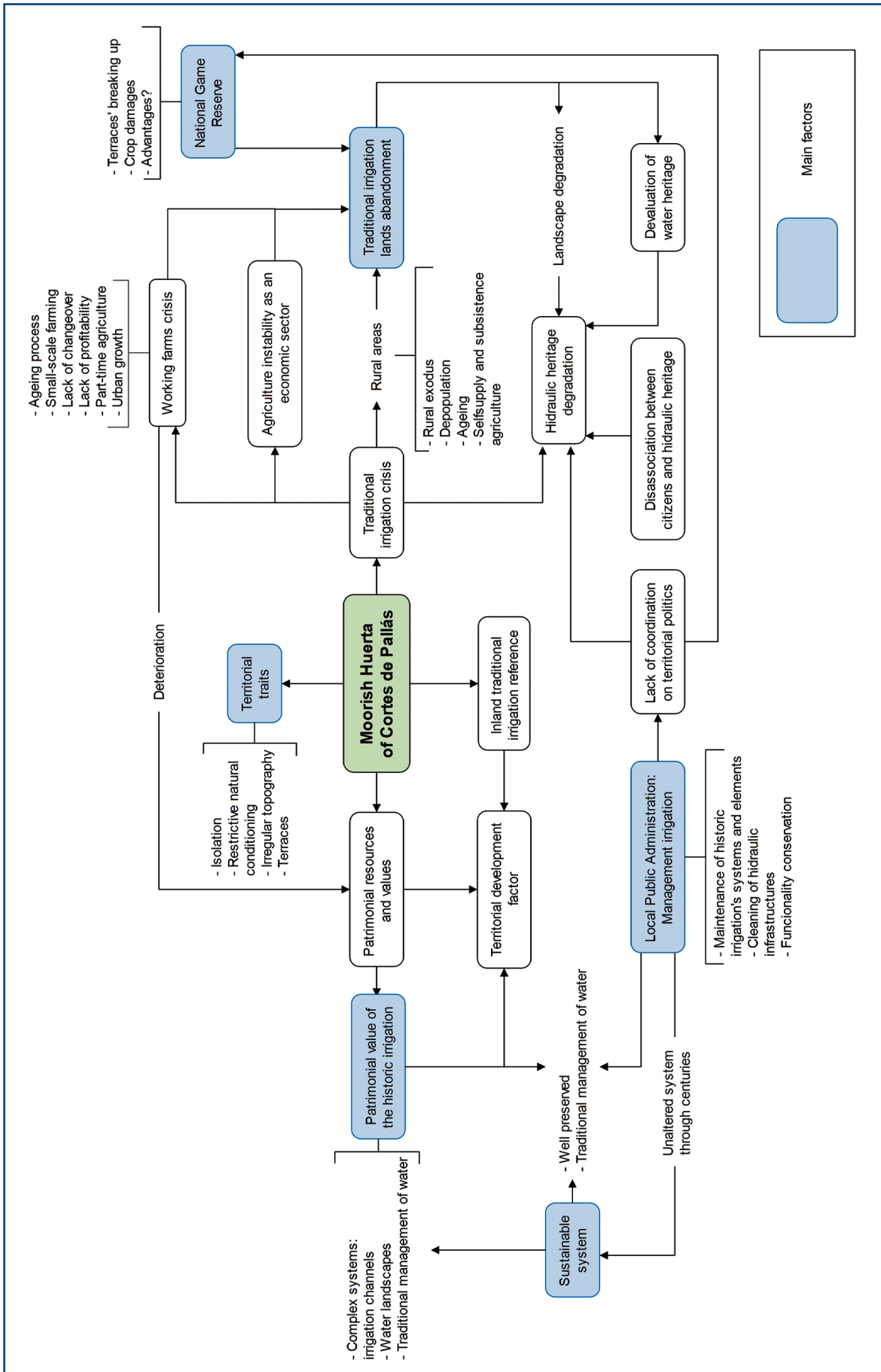
The National Game Reserve is located in the southern sector of the territory. It was appro-

ved in 1973 in order to ensure the permanence of the Iberian ibex and ensure kinetic exploitation. Today, however, the impact of animals in cultivated space poses multiple problems. Wild boars, goats and mouflons routinely destroy and deteriorate the crops, which entails a problem for farmers and, consequently, the abandonment of plots.

Heritage value of historical irrigation

The richness of the hydraulic heritage of the historical irrigation of Cortes de Pallás is an identifier element of the water culture in Valencian lands, in this case inland. The huerta of Cortes de Pallás is a landscape unit of recognized heritage value. It is a reference to the traditional irrigation of the Mediterranean mountain and its conservation is an example of landscape and environmental heritage. Existing resources and values represent a factor of territorial development. The valorisation of this space through the implementation of a territory museum could facilitate the socio-economic stimulation of the municipality.

Figure 1. FACTORS AND PROCESSES OF THE HUERTA OF CORTES DE PALLÁS



Source: own elaboration

05

Action Plan

Strategic guideline 1. Organisational Design. Museum Territory Governance

Strategic objective 1.1. Creation of the management team	2020	2021	2022
• Choice of the components of the management team, with three types of representation: public sector, private sector and associative sector	X		
• Appointment of tasks and responsibilities for each of the components of the management team	X	X	X
Strategic objective 1.2. Collaboration with public administrations and local representatives	2020	2021	2022
• Establishing agreements with public entities related to the Cortes huerta	X	X	
• Establishing agreements with local agents (local associations, neighbours, owners)	X		
• Seeking economic, human and academic support from cultural institutions	X	X	X
Strategic objective 1.3. Financing and regulation	2020	2021	2022
• Search for grants and aids for the creation and development of the Territory Museum	X	X	X
• Identification, analysis and assessment of regulations affecting the huerta	X		
• Development of a framework document regulating actions on heritage	X		
• Valencian Cultural Heritage Law 4/1998, amended 5/2007 Turning the Territory Museum into a cultural park, BIC protection	X		
Strategic objective 1.4. Evaluation and control of the Master Plan	2020	2021	2022
• Constant updates	X	X	X
• Follow-up indicators	X	X	X

Obj. 1.2.

- INDICATOR: number of meetings with local entities and agents
- INDICATOR: number of agreements established with public entities
- INDICATOR: number of agreements established with cultural institutions

Obj. 1.3.

- INDICATOR: number of grants granted
- INDICATOR: the amount of the grants granted

Strategic guideline 2. The configuration of the Museum Territory. Creating cultural products

Strategic objective 2.1. Interpretation Plan	2020	2021	2022
• Milestone selection: identifying and inventorying the main resources	X		
• Story: the tale of an attractive and unique story that attracts visitors and investments	X		
• Design and structure: the design of a spatial structure (doors, interpretation centres, windows, elements, milestones, itineraries, etc.)	X		
Strategic objective 2.2. Creation of a complimentary offer	2020	2021	2022
• Implementation of recipes based on local products in restaurants	X	X	
• Promotion of activities related to agriculture, such as agro-education, agrotourism, etc.	X	X	X
• Promotion of local trade with local products (hackberry, honey, etc.)	X	X	
• Creating and promoting tourist events	X	X	X
Strategic objective 2.3. Improvement and recovery of the functionality and landscape of the huerta	2020	2021	2022
• An improved network of ditches and hydraulic elements with materials that respect the environment	X	X	X
• Improvement and restoration of heritage elements of different types: castles, church, threshing plots	X	X	X
• Recovery of mills for new uses	X	X	X
• Recovery of abandoned agricultural plots (e.g. rental of plots for cultivation)	X	X	X
• Creation of a field bank	X	X	X
• Hackberry's repopulation	X	X	X
• Recovery of slopes using the dry stone technique	X	X	X
• Fences with harmonious materials	X	X	X
• Aid and financing to private owners of cultural elements and huertas for their restoration, maintenance and control	X	X	X
Strategic objective 2.4. Improve the visibility of the huerta	2020	2021	2022
• Recognition of the value of the huerta as a historic agricultural space	X		
• Dignificación de la imagen del agricultor (reconocimiento e incentivación de su trabajo)	X		
Strategic objective 2.5. Improving public accessibility and connection between spaces	2020	2021	2022
• Conditioning of roads and paths for pedestrians and cyclists	X	X	X
• Conditioning of roads and paths for people with reduced mobility	X	X	X

Obj. 2.2.

- INDICATOR: number of restaurants that use local products / total restaurants
- INDICATOR: companies engaged in agricultural activities (agro-education, agrotourism) / total companies
- INDICATOR: stores based on local products / total stores
- INDICATOR: number of tourist events / total events

Obj. 2.3.

- INDICATOR: number of hydraulic elements restored
- INDICATOR: number of assets restored
- INDICATOR: length of ditches restored
- INDICATOR: area of restored agricultural plots
- INDICATOR: land area in the field bank

- INDICATOR: surface repopulated with hackberries

- INDICATOR: reconstructed space with dry stone
- INDICATOR: number of plots fenced with traditional material
- INDICATOR: financing granted to owners for the restoration of their assets/total owners

Obj. 2.4.

- INDICATOR: cultivation area for organic farming / total cultivation area
- INDICATOR: promotion activities to promote local products (campaigns, trade fairs)
- INDICATOR: image promotion campaigns of the farmer and his activity

Obj. 2.5.

- INDICATOR: conditioned length of roads for pedestrian and cycling routes
- INDICATOR: conditioned length of roads for people with reduced mobility

Strategic guideline 3. Promotion and commercialization of the Museum Territory (TM)

Strategic objective 3.1. Creation and use of the Territory Museum brand	2020	2021	2022
• Design of a brand that visually reflects the attributes of the TM	x		
• Selection of a name that is capable of communicating TM attributes	x		
• Definition of brand use criteria	x		
Strategic objective 3.2. Disclosure and communication	2020	2021	2022
• Integrated signalling typical of the territory of the huerta (visual relationship, knowledge of the territory, etc.)	x		
• Signalling. Implementation of panels and viewpoints	x		
• Creation of a website of the Museum Territory or incorporation into other existing pages. Social network	x		
• Organization of events, informative conferences, meetings with groups of interest (schools, museums, youth centres, etc.), exhibitions, etc.	x	x	x
• Development and dissemination of promotional material (leaflets, maps, guides, etc.) at local fairs, meetings and seminars.	x	x	x
• Start-up of educational workshops aimed at school audiences (environmental education and huerta values)	x	x	x
• Awareness for the local population through actions to communicate the benefits of TM	x	x	x

Obj. 3.2.

- INDICATOR: number of signs of the territory of the huerta (an arrow, a sign, a painting)
- INDICATOR: number of milestones marked (panels, QR)
- INDICATOR: number of itineraries marked
- INDICATOR: number of followers on social networks
- INDICATOR: number of informative events held (campaigns, fairs, conferences, etc.)

- INDICATOR: number of participants in the events
- INDICATOR: number of users of the educational workshops
- INDICATOR: number of educational programs developed for school audiences related to environmental education and the values of the huerta
- INDICATOR: number of communicative actions carried out that benefits the TM

Strategic guideline 4. Territorial Development and Innovation Program

Strategic objective 4.1. Promotion of entrepreneurship and development of sustainable economic activities	2020	2021	2022
• Information, technical and financial support to entrepreneurs of agricultural and other complementary activities (local stores, cultural activities, agrotourism)	x	x	
• Technical support and advice to professionals in agriculture and other sustainable economic activities	x		
• Identification of active farmers (City Hall)	x		
• Creation of a cooperative approved workshop for the transformation of the products (jams, essential oils, tinned food)	x		
• Training and awareness-raising days on sustainable actions related to the huerta and its heritage (restoration with harmonious materials, cleaning of hydraulic elements, avoiding the use of herbicides)	x	x	
• Promotion of agricultural activities for information purposes carried out by local farmers (beekeeping, flower planting)	x	x	
• Recovery of traditional techniques related to hackberries and dry stone technique	x	x	

Strategic objective 4.2. Training	2020	2021	2022
• Study of the local training needs of professionals in agriculture and the tourism sector related to the Huerta of Cortes and its heritage	X	X	X
• Agreements with training institutions (LABORA)	X	X	X
• Training courses in agricultural uses of tools and machinery (cutters, chainsaws, mechanical mules)	X	X	X
• Specialization courses for agricultural professionals (crops, marketing, safety techniques, regulations)	X	X	X
• Organic vegetable growing courses, flowers and aromatics sowing, fruit trees, etc.	X	X	X
Strategic objective 4.3. Improving quality in environmental management	2020	2021	2022
• Establishment of a cleaning and maintenance calendar according to biological rhythms (fauna and flora)	X	X	X
• Replacing harmful products (herbicides) with sustainable techniques	X	X	X
• Performing pruning activities according to an established timetable	X	X	X
• Use of agricultural waste and pruning remains (transformation into compost and distribution among farmers)	X	X	X

Obj. 4.1.

- INDICATOR: number of entrepreneurs (and professionals) of agricultural and other complementary activities attended and advised
- INDICATOR: number of entrepreneurs (and professionals) of agricultural and other complementary activities that have received some kind of subsidy
- INDICATOR: number of grants awarded to entrepreneurs (and professionals) of agricultural and other sustainable complementary activities
- INDICATOR: the number of subsidies granted to entrepreneurs (and professionals) of agricultural and other sustainable complementary activities
- INDICATOR: number of members that are part of the cooperative / workshop
- INDICATOR: number of conferences related to the huerta and its heritage
- INDICATOR: number of informative activities by local farmers

Obj. 4.2.

- INDICATOR: number of agreements with training institutions (LABORA)
- INDICATOR: number of courses using agricultural tools and machinery, and attendees
- INDICATOR: number of organic farming courses and attendees
- INDICATOR: number of specialization courses for agricultural professionals, and attendees

Obj. 4.3.

- INDICATOR: the amount of agricultural waste reused or used in relation to total agricultural waste produced

Strategic guideline 5. Process' management

Strategic objective 5.1. Assignment of managers and schedule	2020	2021	2022
• Assignment of work teams to different strategies and actions according to the deadlines set	X	X	X
• Regular monitoring of established indicators	X	X	X

Obj. 5.1.

- INDICATOR: Relationship between the number of indicators calculated (and improving) in the TM in relation to the total indicators established

06

The revaluation of the huerta of Cortes de Pallás: the Territory Museum

THE SPATIAL STRUCTURE OF THE TERRITORY MUSEUM OF THE HUERTA OF CORTES DE PALLÁS: DELIMITATION AND ORGANIZATION

The historical *huerta* of Cortes de Pallás constitutes a territory of great landscape and cultural interest, therefore, from the point of view of cultural and environmental heritage, it's an area that deserves being converted into a rural-cultural attraction of the municipality and the county. In the same way, from the perspectives of heritage and territorial development, the Territory Museum of the *huerta* of Cortes would facilitate the vindication of the meaning of this *huerta* in the context of the hydraulic heritage of historical irrigation, as well as the opportunity to create a suggestive and unique touristic product, capable of attracting visitors and especially tourists.

After the delimitation of the sector that will constitute the Territory Museum arises the need to establish an Interpretation Plan that

values the cultural and landscape heritage that configures it, which involves the following actions:

- Define contents of the heritage offer
- Determining themes and arguments for interpretation
- Explanation of a coherent narrative
- Define positioning and identity reference

Once the research, selection and hierarchy of resources that will give meaning to the content of the Territory Museum have been carried out, a clear structuring of the space, easily recognizable by the visitor, will be necessary.

The methodology used for the elaboration of this project allows us to group the heritage resources of the huerta de Cortes de Pallás, according to its economic, social, cultural or tourist potential. We will be able to concentrate efforts and take advantage of synergies, making efficient work.

Below we describe the configuration of the Territory Museum of the Huerta of Cortes de Pallás.

1. The territory: the delimitation of the Territory Museum

The location of homogeneous characteristics that allow constituting a thematic unit, based on certain landscape references (colours, textures, construction modalities, vegetation species, land uses, etc.) allows establishing a visual unit of the Territory Museum. In our case, water will be the nucleus around which we will delimit our work area, due to its status as a vertebrate axis that shapes the Moorish huerta. From its birth in the spring of San Vicente and along its farmland, it is channelled by an irrigation system composed of ditches, weirs and ponds, adapted with great skill to a complicated morphology of the terrain, through terraces, which allows gravity irrigation. Thus, the whole set of ditches that run on both sides of the stream of Cortes make up an area of irrigation of great heritage value and leads to our Territory Museum next to the municipality.

2. What do we show? Identifying heritage resources and milestones

The Moorish huerta of Cortes de Pallás houses unique heritage resources of different types, mainly linked to the hydraulic heritage, in addition to other material goods of a rural nature. It highlights the presence of various natural places that constitute attractive spaces for inhabitants and visitors. Also significant are intangible manifestations, like knowledge and techniques related to irrigation stand out.

The milestones that make up the Territory Museum of the Huerta of Cortes have been determined from the resources identified in the diagnosis. Different processes have been carried out for selection, which are described below:

1. Selection of hydraulic milestones from the ESTEPA inventory

The inventory carried out by the ESTEPA group consists of 299 goods, as set out in model IMM. These elements are of hydraulic typology, with the exception of the castle of la Pileta and the castle of Ruaya, declared BIC, as well as the parish church of Nuestra Señora de los Ángeles, declared BRL. From this inventory, it has been proceeded to define which elements of the water heritage are the most representative, qualified as "milestones of historical irrigation". Criteria such as conservation status, location and distribution, or the uniqueness of some of these elements have been considered. In this sense, the following 15 hydraulic milestones have been differentiated: pond of la Barbullá, pond of la Solana, pond of

Chano or Grande, weir of la Solana, pond of Jesus, pond of Ferrer, weir of the Acequia del Lugar, pond of the Lavadero, the public washing place, pond of la Montañaica, pond Nueva, spring of San Vicente, weir de la Barbulla, weir Escalericas and pond of the Chapole.

2. Selection of milestones from the assets listed in the General Structural Plan

The Inventory of Cultural and Natural Heritage of the General Structural Plan of Cortes de Pallás identifies twenty cultural assets located in the Moorish huerta. The elements that make up this document are:

A. 15 hydraulic elements, also included in the Sectoral Inventory of Ethnology of the General Management of Valencian Heritage, as mentioned in the diagnosis. Pond of Chano, pond of Chapole, pond of Ferrer, pond of Jesus, pond of the Barbulla, pond of the Garroferica, pond of the Montañaica, pond de la Solana, pond del Lavadero, pond Nueva, pond of the Camino de la Muela, pond of the Path of la Cortada, mill of Tío Carranca, mill of Tío Castaño and weir de la Solana. These 15 properties have also been collected in the aforementioned inventory of the ESTEPA group, with the exception of the two hydraulic mills.

Table 1. Technical heritage assessment of the hydraulic assets collected in the Inventory of Cultural and Natural Heritage of the General Structural Plan of Cortes de Pallás.

Name	Typology	Patrimonial value
Balsa de Chano	Pond	7,6
Balsa de Chapole	pond	6,7
Balsa de Ferrer	pond	6,9
Balsa de Jesús	pond	6,9
Balsa de la Barbulla	pond	7,3
Balsa de la Garroferica	pond	6,0
Balsa de la Montañaica	pond	6,9
Balsa de la Solana	pond	7,3
Balsa del Lavadero	pond	7,1
Balsa Nueva	pond	7,1
Balsa del Camino de la Muela	pond	4,7
Balsa de la Senda de la Cortada	pond	4,9
Molino del Tío Carranca o de la Pileta	water mill	4,9
Molino del Tío Castaño	water mill	4,4
Nacimiento de la Solana	weir	6,2
Castillo de la Pileta	castle	5,6
Castillo de Ruaya	castle	5,3
Iglesia Parroquial de Nuestra Señora de los Ángeles	church	8,7
Casa del Barón	noble house	7,1
Conjunto de eras	Threshing plot	5,8

Colour blue determines items as milestones.

Source: own elaboration from the Inventory of Cultural and Natural Heritage of the General Structural Plan of Cortes de Pallás (City Council of Cortes de Pallás, 2016)

B. The castles of La Pileta and Ruaya and the church of Nuestra Señora de los Ángeles. The Moorish castles of La Pileta and Ruaya are listed as BIC, while the BRL corresponds to the parish church of Nuestra Señora de los Ángeles.

C. The Inventory of Cultural and Natural Heritage of the General Structural Plan of Cortes de Pallás includes as goods of interest the House of the Baron and the threshing plots.

The method of evaluation of cultural heritage has been implemented in these 20 assets, in order to know their heritage value and determine the most significant ones. The relationship between these elements and their score is shown in Table 1. As noted, the parish church of Nuestra Señora de los Ángeles has obtained the highest score, with 8.7 points, while the House of the Baron has a high score of 7.1 points.

In relation to the 15 hydraulic elements, a dozen have obtained 6.2 points or higher, so they would be significant properties, which had also been previously determined as milestones under the previous heading. All other assets of this typology have obtained scores below this rating, and have not been included as elements of high equity value.

Finally, the two Moorish castles and the threshing plots have been pointed out as milestones, since although their heritage valuation is not high, they are relevant elements and with significant sentimental and identity value for their inhabitants.

3. Milestones selected from participation processes

Hackberries. Integrated into the culture of Cortes, they constitute a unique species of tree capable of avoiding the erosion of the

land. They are propped up in the terraces of cultivation forming rows in order to avoid the destruction of the edges of the terraced plots of the *huerta*. Although they are still preserved today within the limits of some plots, their repopulation is claimed by the inhabitants given their significant usefulness, both in preventing the loss of soil and in their profit-generating role to their owners.

Essential as a raw material in the elaboration of agricultural tools and canes, its value as the protagonist of this artisanal activity is widely valued and recognized by the people, who perform their pruning in such a peculiar way that it allows the obtaining branches of an ideal size and calibre (Hermosilla, 1999).

3. The Interpretation Centre: the door of the Territory Museum

It is a space intended to publicize what is to be found, the structure and services available, so it requires concentrating the interpretive message and organizing the visitor's experience. Here is a first overview of the significant heritage value of the municipality of Cortes and its Moorish huerta, and it fulfils the objective of motivating visitors to know both the structure and history of its historical irrigation and the richness of its cultural heritage. It's the first contact between the user and the territory and is an information point where the general panorama of the Territory Museum is explained. It is a space that takes the form of an interpretation centre. It would be located in the municipal public washing place (**Lavadero Municipal**), in a recently renovated building.

Located in the city of Cortes de Pallás, on the road of La Muela, this hydraulic heritage element collects the waters coming from the Chapole fountain, 245 meters upstream, driven by the ditches, and pour into the adjoin-

ning pond after going through the washing place. This ditch is partially visible inside the building thanks to a glass on the floor. Currently, this laundry building is functional, and the adjoining building reconstructed constitutes an appropriate room for informational and interpretive purposes of the municipality and its *huerta*.

4. The most interesting places: the thematic windows of the Territory Museum

The windows are places where the contents that make up the basis of the story and its interpretation are focused, through an attractive discourse that can facilitate information on specific topics. These are spaces that organize the tourist-cultural offer of the territory. Their ability to attract gives them an identity meaning and a unique appeal. In the case of our Territory Museum we consider the following windows as prominent spaces of singular charm:

1. The window of El Corbinet. This window focuses its appeal in the area of El Corbinet, located in the vicinity of the village. It's a spectacular sprinkler of about 15 meters high, located in a recreational area that can be accessed by a paved road. This waterfall is in the ravine of Barbulla or stream of Cortes and has a natural pool suitable for bathing. The recreation area has outdoor kitchens, tables and benches located inside a natural cavity. There is also a path that allows the ascent to the top of the waterfall, from which it's possible to get magnificent views. The limestone nature of the terrain involves the presence of abundant fountains and waterfalls, so it is possible to visit in the surroundings of other places of interest, such as the Three Waterfalls.

2. The window of San Vicente. The traditional irrigation around Cortes de Pallás originates from several springs. The highest of them is called San Vicente or Barbulla. This window highlights the value of this upwelling and includes other hydraulic milestones related to the irrigation system that originates, called the Barbulla. The spring of San Vicente is located on the right bank of the ravine de la Pascuala. The water is immediately collected by a weir, located in the aforementioned riverbed, from which the ditch derives along the left bank of the stream of Cortes. About 400 metres from his birth is the pond of the Barbulla. It's a rectangular pool built of masonry joined with concrete and cement. Its dimensions are 24.5 meters long, 8.9 meters wide and 0.9 meters deep. In one of its corners there's an access ramp for cleaning and maintenance. A few meters from the pond arises a small ditch already abandoned called Secanos, which represents the contact between the irrigated and the mountain.

3. Window of Cortes. The municipality of Cortes is itself an area of singular appeal for its particular physiognomy and its heritage elements of great historical value. Its magnificent church of Nuestra Señora de los Ángeles, together with the Baron's house, both in the town square, constitute the main historical buildings of Cortes. The sinuous streets of the nucleus, with slopes that sometimes hinder its pedestrian journey, constitute a beautiful medieval Islamic fabric, whose journey offers us not only the ability to admire portals and facades of ornate houses, but also the possibility of admire the views of the Muela from different points, particularly from the highest part of the village, where the threshing plots are. From here, the Moorish *huerta* of Cortes claims his admiration.

5. The thematic paths of the Territory Museum

Various thematic itineraries that allow us to see and interpret outdoors the variety of opportunities that our Territory Museum provides, both in the municipality of Cortes and in the surroundings. They must not be permanent, but they can adapt to the changes that are made of the various tales that are drawn up. In its design, both the linkage between resources and elements and the formal criteria, that is, the distinction with the environment, the continuity of the paths, the understanding of the movement, the linearity and the clear identification of the route, take precedence. Therefore, it's vital the coordination with the contents generated by the research, as well as the thematic connection between the spaces that make up each itinerary. The different routes created will link milestones and windows explained above in the design of our Territory Museum. In the particular case of itineraries designed in the Cortes environment, the water resource will constitute the main common thread.

We highlight three thematic paths based on the criteria outlined and proposed by the ES-TEPA group:

1. Urban route. With a length of approximately 1 km, this walking tour through the streets of the municipality of Cortes begins and ends in the Church Square, and allows both the visit of the church of Nuestra Señora de los Ángeles and the enjoyment of incomparable views from the highest part of the town. It's a tour through the window described in the previous section.

2. Corbinet route. Starting from the public washing place and following the path of the Trance, a route of just over 1 km takes us be-

tween olive trees, hackberries and poplars, to the beautiful place of the fountain of El Corbinet, described above in the section of the window of the same name.

3. Route of San Vicente. A long itinerary, approximately 6 km, which also begins in the public washing place and ends in the spring of the same name, surrounded by an area of cultivation of olive trees and scrubland.

6. The events of the Territory Museum

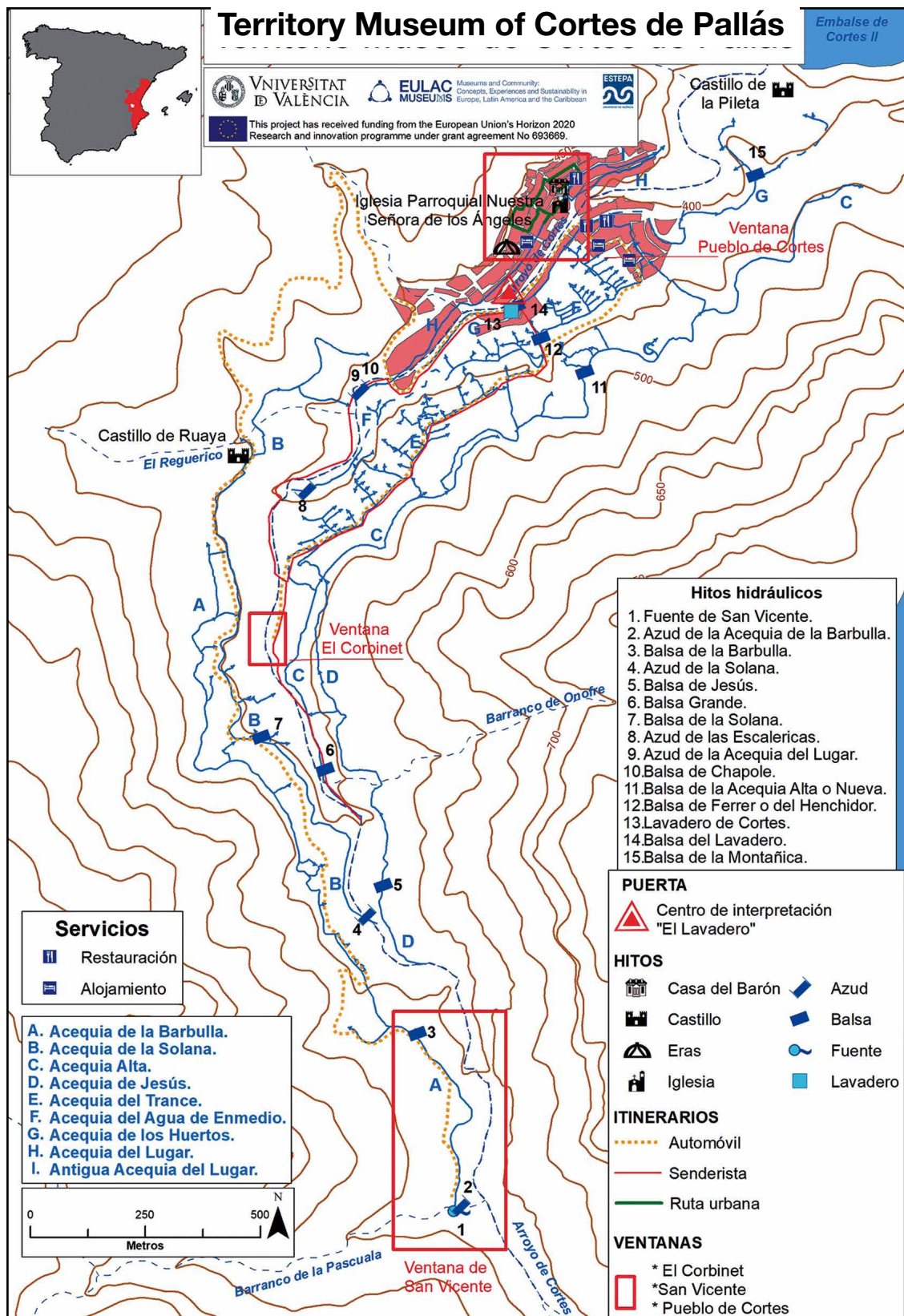
Continuous programming of events related to the territory and the landscape. Various activities related to gastronomy, training, education and research, craftwork fairs, music festivals, etc.

7. Territory Museum Services

The consideration of these cultural landscapes as a claim through their image and their quality badge can be used by all the local companies and institutions rooted in the territory. Initiatives related to accommodation, catering, transport, trade-in promotional products or complementary service companies (guides, monitors).

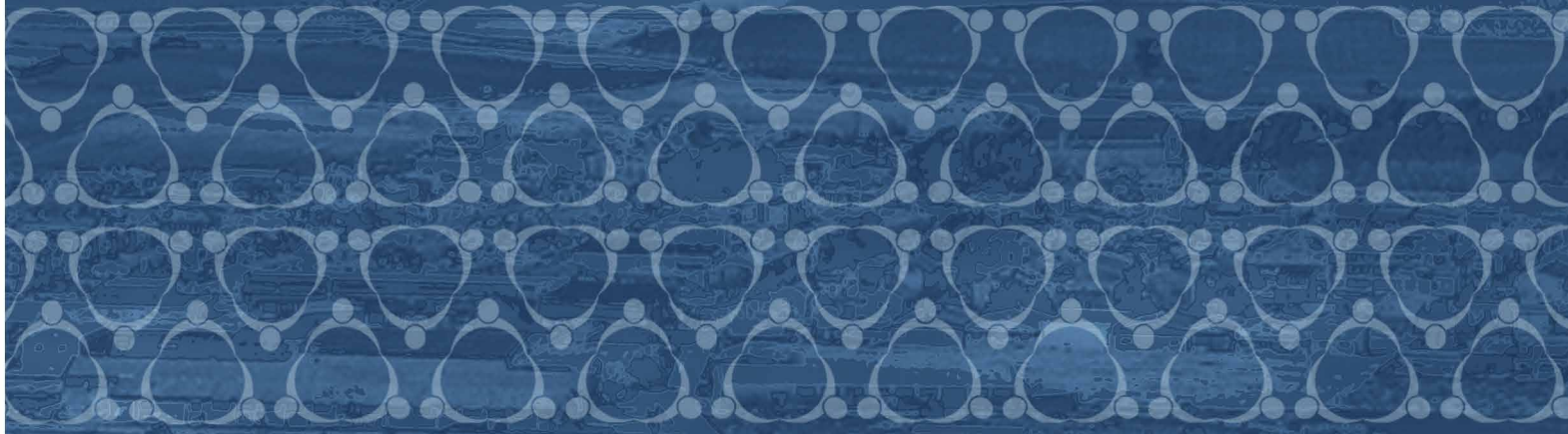
Main places offering accommodation: Chema, rural rooms and apartments; Hostal Casa Fortunato.

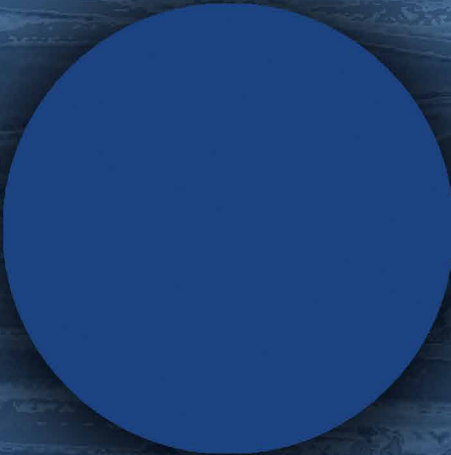
Catering services: Bar Restaurante Chema; Fortunato Restaurant Bar; Bar Emiliano.





*El Corbinet place.
Water landscape
in the Ravine
of San Vicente*





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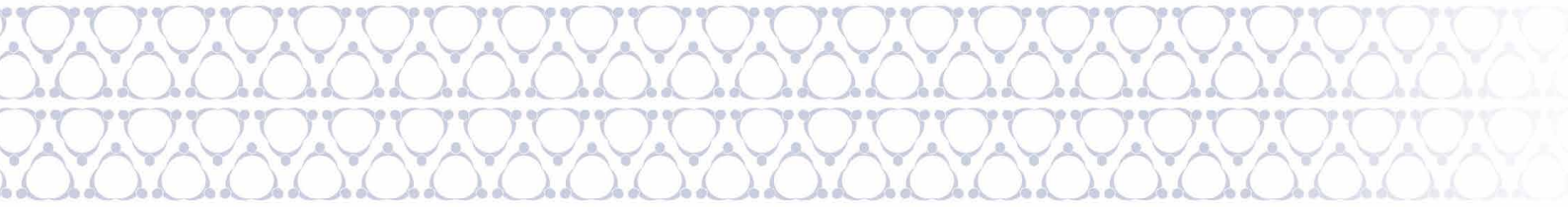
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Barbulla pond







CHAPTER IV

APPLICATION OF THE EU-LAC MUSEUMS PROJECT'S METHODOLOGICAL SYSTEM OF EVALUATION OF CULTURAL HERITAGE IN PERÚ

Authors:

SPAIN

Miguel Antequera, Ghaleb Fansa and Jose Vicente Aparicio

PERU

Luis Repetto Málaga, Amalia Castelli Gonzalez,

Viviana Munguía Monterroso and Claudio Mendoza Castro

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Application of the EU-LAC-MUSEUMS project's methodological system of evaluation of cultural heritage in Perú

1. GENERAL CONTEXT OF THE PERUVIAN PROJECT

Cultural heritage comprises a wide variety of assets. The identification and evaluation of these elements and expressions are key for their management and value. The cultural heritage assessment methodology developed by the research team at the University of Valencia is one of its contributions to the EULAC-MUSEUMS project. It's a quantitative methodology based on the use of multiple indicators or criteria based on objective parameters.

The proposed method, previously applied in the territories of the Huerta de Valencia and the historical Huerta of Cortes de Pallás in Spain, consists of three specific systems that allow quantifying the economic interest of the tangible and intangibles goods and landscapes, for any type and territory. In addition, it includes actions that facilitate the participation of local agents, specialists and experts, as well as the local population: interviews, expert panels and surveys. The design of territorial strategies for the recovery and management of these assets requires the prior identification of the value of each resource and its categorization, in order to know its main features and uniqueness.

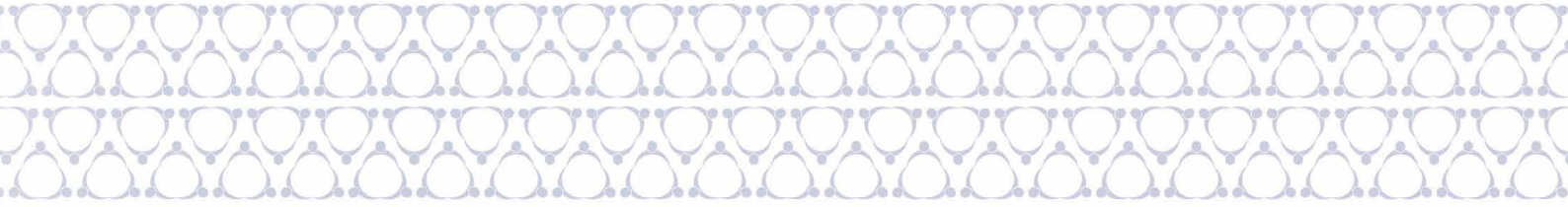
The work reflected in this text is a consequence of the participation and collaboration of technical teams from the University of Valencia, that travelled to Peru expressly for

this purpose, and the Pontificia Universidad Católica de Perú, together with experts from the archaeological site of Chan Chan. The application of the method of evaluation of cultural heritage in Peru was carried out in a dozen goods located around the archaeological site of Chan Chan, declared World Heritage Site by UNESCO, between the towns of Trujillo and Huanchaco, in La Libertad, in the northern coastal sector of the country.

2. WORKING METHODOLOGY: PHASES OF A PROJECT OF INTERNATIONAL INTEREST

The application of the cultural heritage's evaluation methodology developed within the EULAC-MUSEUMS Horizon 2020 Project in Peru has been possible thanks to the collaboration between researchers at the University of Valencia and the Pontificia Universidad Católica de Perú, the managers and technicians of the Regional Culture Department of La Libertad located in the city of Trujillo, archaeologists and curators of the archaeological complex and the Chan Chan Museum, and the supervision of St. Andrews University, chief-coordinator of the EULAC-MUSEUMS project.

The adaptability, predisposition and professionalism of the various work teams have enabled the development of research within the framework of the EULAC MUSEUMS European Project. The collaboration was initiated through contacts between the leaders of



both Spanish and Peruvian research teams, which resulted on a work plan for before, during and after the journey of the Valencian team in Trujillo (Peru). During the first fortnight of December 2019, technicians from the Estepa research unit from the Department of Geography of the University of Valencia travelled Trujillo. Subsequently, in 2020, project managers in Peru have carried out surveys, as a prominent action to incorporate popular participation in the assessment of cultural heritage.

The methodology and the work plan has several phases that allow the implementation of the proposed evaluation method.

Phase 1. Identification and selection of property

Tangible and intangible elements and landscapes located in the archaeological environment of Chan Chan and its surroundings that have integrated the evaluation method were previously selected. There was a previous list made by the PUCP about possible goods that could be evaluated. The final selection of these elements was established by holding numerous meetings with local Peruvian and Spanish technicians and specialists. In some cases, several of the different manifestations of the goods were a merger because they were part of a collective heritage element, and in others, some additional elements were incorporated. Elements of cultural heritage that have been evaluated:

A. Tangible:

- Chan Chan's walled buildings.
- Chan Chan's Huacas.
- Chan Chan's walls (adobe or stone).
- Chan Chan's Huachaques.
- Popular architecture of Chan Chan.
- The church of San José de la Legua.

B. Intangible:

- The legend of the Huaca de Toledo.
- The Descent of the Virgen Candelaria del Socorro of Huanchaco every five years.
- The traditional elaboration of Caballitos de Totorá.

C. Landscape:

- Chan Chan's Chacras Hundidas Prehispánicas.

The Geographic Information System (GIS) developed for the occasion shows the location of each of the assets in the area. In some of the intangible goods, such as the Descent of the Virgin Candelaria, the procession has been represented from its departure from the Sanctuary of Huanchaco to the city of Trujillo. The GIS also shows the various stops and stages that take place during those days.

Phase 2. Search and consultation of bibliographic and cartographic sources

The information has been obtained regarding the heritage elements subjected to study and analysis. The contributions, materials and indications of the various local technicians and

specialists on documentary references have allowed a detailed study of the features and particularities of the selected assets.

Technicians from the archaeological site of Chan Chan have provided some of the layers of geographical information necessary to implement a GIS on the heritage elements analysed.

Phase 3. Development of the fieldwork in Chan-Chan's site and surroundings

The selected heritage elements are visited, as direct observation in the field and on-site treatment of tangible, intangible and landscape goods is necessary. Fieldwork is essential for the implementation of the proposed method, as well as for the correct mapping. In this phase, local technicians and experts are consulted simultaneously due to their great knowledge, which complements the bibliographic information previously consulted.

Several encounters were held on the ground. The archaeological site and the Chan Chan's Museum were shown by the archaeologists Flor Díaz and Rolando Paredes. The internal visit of the archaeological complex of Chan Chan to Huachaque Chico and Huachaque Grande was guided by the archaeologist Rolando Paredes, which allowed us to observe the landscape of the so-called pre-Hispanic Chacras Hundidas. It is a landscape of historical irrigation currently operating. The anthropologist Luis Chaparro directed the visit to Huanchaco, which showed us the itinerary and the various stops made by the Virgen Candelaria del Socorro de Huanchaco on its journey to Trujillo. The information obtained was essential to map this route, which was subsequently incorporated into the GIS.

Phase 4. Participation processes.

Development of complementary actions for the participation of territorial actors

A panel of local experts was set up and a survey for the inhabitants was designed. These actions took place in two different periods. The panel of experts was organized with the participation of the researchers of the University of Valencia, the Pontificia Universidad Católica de Perú (PUCP) and the local technicians and experts of the Regional Culture Department of La Libertad and the archaeologists and technicians of the archaeological complex and Chan Chan Site Museum. People who attended the experts' panel:

- Luis Repetto (director of EU-LAC MUSEUMS of Peru, museologist of the PUCP).
- Jhon Juarez (director of Regional Culture Department of La Libertad).
- Luis Chaparro (anthropologist).
- Rolando Paredes (archaeologist).
- Arturo Paredes (archaeologist).
- César Gálvez (archaeologist).
- Melissa Idada (architect).
- Roger Montealegre (social communicator).
- Víctor Vallejo (economist).

Technicians Miguel Antequera, Ghaleb Fansa and Jose Vicente Aparicio represented the University of Valencia, along with Jorge Hermosilla (director of the EU-LAC MUSEUMS project in Spain) and Mónica Fernández (UV's technique), via video conference.

The experts replied to the technical questionnaire for the evaluation of the selected heritage elements and there was also a round table about discussing the most relevant aspects of the research.

The questionnaire was previously provided to 11 technicians of the archaeological complex and museum of Chan Chan: Erick Gutiérrez (archaeologist), Marisol Castillo (archaeologist), Marco Aaro Puerta (plastic artist and conservation technician), Noé Luis Cabrera (plastic artist and conservation technician), Gloria Jara (archaeologist), F. Desiree Aguilar (conservation technician), Flor Díaz (archaeologist), Cinthya Gallardo (archaeologist), Carmen Gamarra (archaeologist), María Y. Chiroque (archaeologist) and Carlos Casteñeda (restorer technician).

Phase 5. The making of the Geographic Information System (GIS) for the archaeological site of Chan Chan and its surroundings, in two versions

A free-access GIS that allows the visualization and mapping of research results were designed, following model, Implementation and management of a G.I.S. applied to Cultural Heritage. The software used to implement GIS has been QGIS Desktop, which is a desktop and open source GIS application. In the same way, a web GIS has been implemented in ArcGIS Online in order to visualize the results without needing to install specific software. The information incorporated into the GIS provided by the Cartographic Service of the archaeological complex of Chan Chan includes the limits of the intangible area and the archaeological complex of Chan Chan, the walled ensembles, the Huacas of Chan Chan, civil architecture and popular housing, the ceremonial paths at the archaeological site, the church of San José de la Legua and, finally, the archaeological sites in the surroundings of the Chan Chan site.

The fieldwork carried out in the 3rd phase has allowed and facilitated the digitalization of the Huachiques layers of Chan Chan and the landscapes of pre-Hispanic Chacras Hundidas associated with said Huachiques, the irrigation channel from the Moche River and its water intake, the areas watered around the archaeological site of Chan Chan and the tourist route designed by the technicians of the Museum of Chan Chan.

Representing the intangible heritage, the route has been digitalized and the 25 stops and pascanas performed by the procession of the descent of the Virgin Candelaria del Socorro de Huanchaco between Huanchaco and Trujillo.

The set of geographic information layers has been incorporated into both the desktop GIS (QGIS Desktop) and the web GIS (ArcGIS Online).

Phase 6. Analysis and interpretation of the results. Writing reports

The information obtained on the various elements and assets analyzed and the statistics obtained in the technical evaluation, the experts' questionnaires and the surveys on the population are the subjects of analysis. Subsequently, the corresponding reports were drafted, containing interpretations of the obtained results.

3. RESULTS OF THE PATRIMONIAL EVALUATION PROCESS. THE APPLICATION OF THE EULAC-MUSEUM'S METHODOLOGY

One of the main strengths of this work is the implementation of the overall method of evaluation in a comprehensive manner. The technical evaluation is first addressed, detailing the obtained scores. Secondly, participatory assessment is examined, with data collected in both population surveys and the experts' panel questionnaire. Finally, a comparison is made between the two modalities of estate assessment. The selected heritage assets are 10: 6 tangible goods, 3 intangibles and a landscape.

3.1. Technical assessment

The technical evaluation carried out for each of the goods considered in the area of study was organized according to its heritage nature: tangible or intangible asset and landscape. Each of the variables is assigned a 1 or a 0, depending on the fulfilment or not of each statement. The matrix lists the detailed scores of each property and type of asset, as well as the criteria and categories that structure the methodological systems.

Tangible assets have obtained an overall rating of **8.1 points**, which is a high interest according to the proposed valuation levels. The highest score of the assessed heritage elements belongs to the walled sets of Chan Chan (9.3 points), which are 10 citadels or rectangular buildings isolated and independent of each other. Each walled ensemble was built in honour of the king who lived in that palace and had courtrooms, squares, his own *huachaque*, *canchones*, warehouses, funeral platforms and adjoining areas.

The Huacas of Chan-Chan (8.9 points), which are pyramid-shaped mounds of religious purposes, and the walls (8.7 points) that delimit the citadels, which are built with adobe or stone. The Huachaques (8.4 points) and the popular architecture (7.3 points) of Chan Chan also get a high score. Each of the walled ensembles had a *huachaque* for human supply. Outside these enclosures, there were also others whose function was human supply and irrigation. These *huachaques* located outside the walled ensembles originate the pre-Hispanic Chacras Hundidas, which form a valuable landscape of traditional irrigation. The place with the lower rating is the Church of San José de la Legua (6.4 points), which is of average interest. This church from the seventeenth century is one of the most outstanding stops in the procession of the Virgin Candelaria del Socorro of Huanchaco from its Sanctuary to the city of Trujillo.

Intangible assets have a high overall score, **7.6 points**. Both the traditional elaboration of the *caballitos* of Totorá and the Descent of the Virgin Candelaria of the Socorro of Huanchaco have a very high valuation (9 and 8.7 points, respectively). The *totorá* is cultivated in the so-called Huanchaco Wetlands or Huanchaco's marshes, a Regional Protected Area, which occupies 46.72 ha and contains 160 ponds, which has also been declared by the Ramsar Convention as a Wetland Built by Men. In the arid coastline of northern Peru, the Moche River people developed cultivation techniques such as digging ponds until reaching the water table by the sea. To its brackish waters, the *totorá* (*Scirpus californicus*) manages to adapt, the plant from which the material for the ancient *caballitos* de Totorá, a type of boat used since the time of the *mochicas* for fishing in the Pacific Ocean, is made. These

boats are still used today, although the number of fishermen has declined by 80% in the last 40 years.

The Descent of the Virgin Candelaria del Socorro de Huanchaco is a pilgrimage that was instituted by the Trujillo City Council on December 13th, 1681. As of 2015, 65 decreases have been made over a 323-year period and 66 will take place in 2020. The pilgrimage begins in the Sanctuary of the Virgin Candelaria del Socorro in Huanchaco and on its journey has several stops or *pascanas*, such as Huanchaquito, the Church of San José de la Legua or the church of Mansiche. Arriving at the doors of Mansiche, when the city was walled, it was received by the Archbishop and his canonry, a tradition still maintained. She then goes to Santa Ana Church and then tours the main churches of the city. The procession is accompanied by the dance of the Pallas, performed by *huanchaqueras*, girls under 18 years of age. They also celebrate the dance of the Devils, in which several people dress in multicoloured costumes and masks and dance accompanied by a musician who plays the drum and another who plays the *quijada de burro*, a traditional Peruvian musical instrument.

The intangible element with the lower technical evaluation is the Legend of Huaca Toledo or Peje Chico, with 5.1 points. This legend of oral transmission has been changing and over the years. The magnificent goldsmithery Chimú, made with gold and pearls, was enclosed in the tombs of the *huacas*. The first revelation of the buried treasures of the Chimú was given by the chief of the village, Sachas Guaman, in 1535. He presented Lieutenant Trujillo, Martín de Estete, with a dazzling and iridescent treasure of gold, feathers and pearls, extracted from the idols of Chimú-Guaman, by the sea. From the *huacas* of the city of Chan Chan (popular-

ly known as de Toledo o del Peje Grande y Chico, del Obispo, de las Conchas, de la Misa y de la Esperanza) numerous treasures were desecrated in colonial times, melted or taken to museums abroad.

The landscape of the pre-Hispanic Chacras Hundidas shows a high technical score (8.2 points). These traditional irrigated areas originate in a *huachaque*, which is usually located below the level of the plot, and from which a ditch originates with which the different plots of agricultural land are irrigated. The Chacras Hundidas are made of plots that have been elaborated by tilling the surface until wetness is found. In the archaeological site of Chan Chan, within the intangible area, there are several *chacras*, although today only Huachaque Grande and Huachaque Chico remain operating.

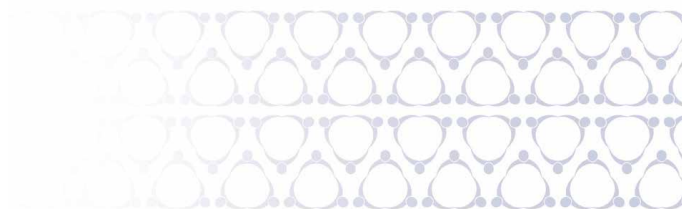
The analysis of the qualifications of the categories and criteria that make up the evaluation methods enables a detailed characterization of the heritage located in the environment of Chan Chan and its surroundings. Table 1 shows the technical evaluation matrix of the various assets evaluated. For tangible goods, the highest scores correspond to patrimonial values (8.9 points), followed by intrinsic values (7.8 points), and finally the potential and feasibility values, which only reach 7.1 points on average. The best-rated criteria correspond to patrimonial values. Both historical and landscape criteria have the highest rating (10) since all variables are met, while the symbolic/identity and territorial also reach very high values (9.4 points). The archaeological site of Chan Chan and the church of San José de la Legua are related to an important his-

¹PRIETO BURMESTER, G; RODRICH CALDERÓN, E. (2015): *Huanchaco y la fiesta del Huanchaquito*. Ed. Universidad Privada Antenor Orrego, Trujillo (Perú).

torical civilization They are testimony of the history of the territory and linked to a period and a prominent historical place. In addition, these goods are located in a landscape of environmental interest with official protection and visible from various places. The category of potential and feasibility values has the lowest rating (7.1 points) mainly because of the vulnerability criteria, which only has 1.7 points. Vulnerability contemplates the existence of threats or natural and anthropic risks that can have an impact on the conservation of the good and also assesses the fragility that the element itself possesses. Despite its conservation efforts, there are natural and anthropic threats to the Chan Chan site and its surroundings, making it vulnerable. The other criteria of this category (Aware-

ness of social agents, Participation and integration of local communities and Socio-economic Profitability) have very high values since all three reach 8.9 points.

For **intangible goods**, intrinsic values have the highest valuation (9.3 points), closely followed by patrimonial values (8.7 points). The category that causes the overall rating to fall significantly is Potential values and feasibility, as it only reaches 4.7 points. The criteria with the highest scores are Integrity and Historical, both with the maximum value (10 points). Integrity refers to the transmission of good over generations, respect for temporal patterns and tangible or material elements associated with intangible expression. The Historical criteria consider the very



history of the element and the community witnessing its creation and evolution. The criteria with lower scores are potential and feasibility values: Social Agents Awareness, Socioeconomic Profitability and Vulnerability, all with only 4.4 points. For these goods, the awareness of social agents is not the most suitable for the safeguarding of intangible expression. These elements do not generate relevant revenue and show difficulties in revitalizing or valuing them, and there are threats or risks that may have an impact on the conservation and transmission of the intangible expression.

In reference to the landscape of **pre-Hispanic Chacras Hundidas**, the Patrimonial values have the highest score (10), while

the Intrinsic values and the Potentials and feasibility have a rating of 7.3 points. Of the 15 criteria, there are 9 that have obtained the highest score. These are representative, geophysical/environmental structure, historical, social, symbolic/identity, artistic, cultural, social agents' awareness and participation and integration of local communities. The criteria with the lowest score meet only one of the three variables that make it is Ecological Integrity, because of the poor conservation of species and ecosystems, which has a negative impact on the biological diversity, and Vulnerability since there is a certain fragility in the landscape as it undergoes modifications in some of its structural elements.

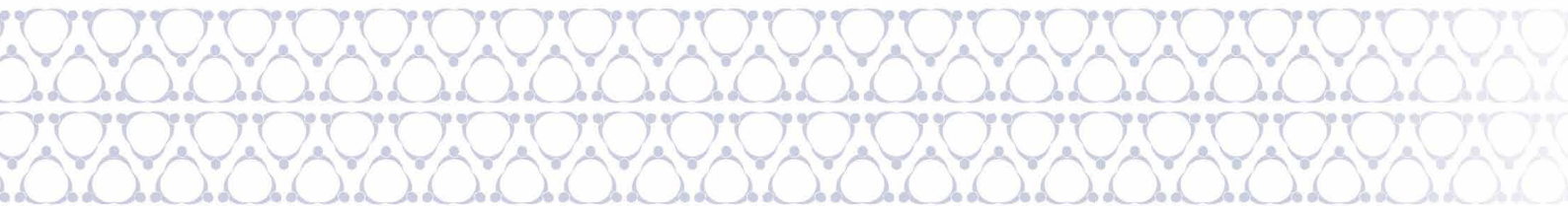


Table 1. Technical evaluation

TANGIBLE GOODSUES Name	INTRINSIC VALUES									PATRIMONIO											
	1. Represent.			2. Autenticity			3. Integrity			4. Historical			5. Social			6. Simb. / Id.			7. Artistic		
	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	7.1	7.2	7.3
Chan Chan's walled ensemble	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
Chan Chan's huacas	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
Chan Chan's walls	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
Chan Chan's huachaques	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1
Chan Chan's popular architecture	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	1	1
Church of San José de la Legua	0	1	0	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	1	1	1
TOTAL VARIABLES	5	5	5	5	5	3	5	4	5	6	6	6	5	6	5	5	6	6	1	6	6
AVERAGE VARIABLES	8,3	8,3	8,3	8,3	8,3	5,0	8,3	6,7	8,3	10,0	10,0	10,0	8,3	10,0	8,3	8,3	10,0	10,0	1,7	10,0	10,0
AVERAGE CRITERIA	8,3			7,2			7,8			10,0			8,9			9,4			7,2		
AVERAGE CATEGORIES	7,8																				

INTANGIBLE GOOD Name	INTRINSIC VALUES									PATRIMONIO										
	1. Represent.			2. Autenticity			3. Integrity			4. Historical			5. Social			6. Simb.				
	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3		
Legend of the Huaca de Toledo	0	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1
Descent of the Virgen Candelaria del Socorro de Huanchaco	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Manufacture of caballitos de Totorá	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTAL VARIABLES	2	3	3	3	2	3	3	3	3	3	3	3	2	3	2	2	2	3		
AVERAGE VARIABLES	6,7	10,0	10,0	10,0	6,7	10,0	10,0	10,0	10,0	10,0	10,0	10,0	6,7	10,0	6,7	6,7	10,0			
AVERAGE CRITERIA	8,9			8,9			10,0			10,0			7,8			7,8				
AVERAGE CATEGORIES	9,3																			

LANDSCAPE Name	INTRINSIC VALUES															PATRIMONIO					
	1. Represent.			2. Autenticity			3. Environmental Integrity			4. Geophysical structure			5. Visibility			6. Historical			7. Social		
	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	7.1	7.2	7.3
Chan Chan's pre-hispanic Chacras Hundidas	1	1	1	1	0	1	1	0	0	1	1	1	1	0	1	1	1	1	1	1	1
AVERAGE VARIABLES	10,0	10,0	10,0	10,0	0,0	10,0	10,0	0,0	0,0	10,0	10,0	10,0	10,0	0,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0
AVERAGE CRITERIA	10,0			6,7			3,3			10,0			6,7			10,0			10,0		
AVERAGE CATEGORIES	7,3																				

PRINCIPAL VALUES												POTENTIAL AND FEASIBILITY VALUES											Points	Value	
8. Technical			9. Territorial			10. Landscape			11. Educational			12. Social agents			13. Participation			14. Profitability			15. Vulnerability				
8.1	8.2	8.3	9.1	9.2	9.3	10.1	10.2	10.3	11.1	11.2	11.3	12.1	12.2	12.3	13.1	13.2	13.3	14.1	14.2	14.3	15.1	15.2	15.3		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	42	9,3
1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	40	8,9	
1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	39	8,7	
1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	38	8,4	
1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	33	7,3	
1	1	0	1	1	0	1	1	1	0	1	0	1	0	0	0	0	1	1	0	0	1	1	29	6,4	
6	6	1	6	6	5	6	6	6	5	6	5	6	5	5	5	5	6	6	5	5	0	1	2	221	
10,0	10,0	1,7	10,0	10,0	8,3	10,0	10,0	10,0	8,3	10,0	8,3	10,0	8,3	8,3	8,3	8,3	10,0	10,0	8,3	8,3	0,0	1,7	3,3	8,2	
7,2			9,4			10,0			8,9			8,9			8,9			8,9			1,7				
8,9												7,1													

PRINCIPAL VALUES										POTENTIAL AND FEASIBILITY VALUES													Points	Value
7. Artistic	8. Landscape			9. Educational			10. Social agents			11. Participation			12. Profitability			13. Vulnerability								
7.1	7.2	7.3	8.1	8.2	8.3	9.1	9.2	9.3	10.1	10.2	10.3	11.1	11.2	11.3	12.1	12.2	12.3	13.1	13.2	13.3				
0	1	0	1	1	1	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	20	5,1	
1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	0	1	1	0	1	1	0	34	8,7	
1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	0	1	1	0	35	9,0	
2	3	2	3	3	3	2	2	3	3	0	2	2	2	2	1	2	2	0	2	2	0	89		
6,7	10,0	6,7	10,0	10,0	10,0	6,7	6,7	10,0	10,0	0,0	6,7	6,7	6,7	6,7	3,3	6,7	6,7	0,0	6,7	6,7	0,0	7,6		
8,9			8,9			8,9			4,4			5,6			4,4			4,4						
8,7										4,7														

PRINCIPAL VALUES									POTENTIAL AND FEASIBILITY VALUES															Points	Value
8. Simb. / Id.			9. Artistic			10. Cultural			11. Awareness			12. Particip.			13. Social agents			14. Vulnerability			15. Accesibility				
8.1	8.2	8.3	9.1	9.2	9.3	10.1	10.2	10.3	11.1	11.2	11.3	12.1	12.2	12.3	13.1	13.2	13.3	14.1	14.2	14.3	15.1	15.2	15.3		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	1	1	37	8,2
10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	0,0	10,0	0,0	0,0	10,0	10,0	8,2	
10,0			10,0			10,0			10,0			10,0			6,7			3,3			6,7				
10,0									7,3																

Source: own elaboration.

3.2. Participatory evaluation

The participatory evaluation of the elements located in the archaeological site of Chan Chan and its environment is obtained through the development of actions of participation by social agents. These procedures are based on two types of tasks: surveys on residents and panels with local specialists.

3.2.1. Surveys on the local population

3.2.1.1. Sample size and sampling method

The survey application allows us to know the opinion and assessment of the inhabitants about their heritage. Surveys have been carried out by sampling the population of the areas of Huanchaco, Huanchaquito Alto, Huanchaquito Bajo, Villa del Mar and Trópico, in the district of Huanchaco, a total of 28,228, according to the last census made by the Peruvian state (2017). Table 2 shows the number of inhabitants for each locality.

Table 2. Population of Huanchaco in the areas evaluated.

Huanchaco	Population
Huanchaco	11.012
Huanchaquito Alto	12.445
Villa del Mar	3.399
Huanchaquito Bajo	973
El Trópico	399
Total	28.228

Source: Peruvian statistic census (2017)

For the sample size, the statistical formula for the finite population was considered, with a confidence of 95%, ($Z=1.96$), an assigned error of 5% ($e=0.05$) and a prevalence percentage of 50% ($P=0.5$) maximizing the sample size.

$$n = \frac{N \cdot Z_{\alpha}^2 \cdot p \cdot (1-p)}{e^2 \cdot (N-1) + Z_{\alpha}^2 \cdot p \cdot (1-p)}$$

n= 379.01 ~ 380 inhabitants

Stratified sampling was applied proportionally according to the size of each zone. The sample was selected according to some criteria identified for the purposes of the study. For data collection, the study units that were available at any given time were taken (Canales, Alvarado and Pineda, 1994).²

The reliability is a way to ensure that any instrument used to measure variables always provides the same results, after the pilot sample has been applied to 30 individuals, the internal consistency method based on Cronbach's Alpha is performed.

The instrument contains three variables: tangible goods, with six evaluated items of 15 items each; intangible goods, with three evaluated items of 13 items each; and landscapes with 15 items. Finally, item 2 is considered inverse according to the Expert

²CANALES, H.; ALVARADO, L.; PINEDA, B. (1994): *Metodología de la investigación. Manual para el desarrollo de personal de salud*. Ed. Limusa, México.

Advisor's appreciation. It has been processed using SPSS Software version 25 getting the result shown in Table 3.

Table 3. Reliability statistics of the sampling.

Reliability statistics	
Cronbach's Alpha	N° of elements
951	144

Source: Own elaboration.

Internal consistency is frequently measured with Cronbach's Alpha, a statistic calculated from even correlations between items. It has a range between zero and one. The commonly accepted rule describing the magnitude of internal consistency is noted in Table 4.

Table 4. The magnitude of the internal consistency of the Cronbach Alpha method.

Cronbach's Alpha	Assessment
[0.95 a + >	Excellent
[0.90 – 0.95 >	High
[0.85 – 0.90 >	Very good
[0.80 – 0.85 >	Good
[0.75 – 0.80 >	Very respectable
[0.70 – 0.75 >	Respectable
[0.65 – 0.70 >	Minimal acceptance
[0.40 – 0.65 >	Moderate
[0.00 – 0.40 >	Inacceptable


Source: Own elaboration.

Note that the Cronbach's Alpha result is 0.951, EXCELLENT RELIABILITY. If any item is deleted, a larger alpha result will occur. Negative correlations have been found in some items, exclusively to improve some of the proposed ones. In these cases, the maximum value achieved in the test is 0.952, which differs to the result obtained, so it is suggested to keep all the proposed items.

3.2.1.2. Application of the questionnaire on the local population

A questionnaire has been designed for each type of cultural heritage asset: tangible, intangible and landscape. The tangible and landscape are composed of 15 different questions in each method, while the intangible has 13. These questionnaires are used for the valuation of the 10 goods evaluated in the Chan Chan area, consisting of 6 tangible goods, 3 intangibles and a landscape. Figure 1 shows the questionnaire of tangible goods and Figure 2 shows that of intangible goods and landscape.

Figure 1. Survey of valuation of the property of tangible cultural heritage of the Ch...



ENCUESTA DE VALORACIÓN DEL PATRIMONIO

Edad: _____ Sexo: _____ Población: _____

RELLENE ÚNICAMENTE LAS COLUMNAS DE

MATERIALES	CONJUNTO AMURALLADO		
	SÍ	NO	N/S
1. ¿El bien se parece a otros bienes del mismo tipo situados en el territorio de Chan Chan (forma, diseño, materiales...)?			
2. ¿Crees que el bien ha cambiado a través del tiempo?			
3. ¿Cree que el bien está bien conservado en la actualidad?			
4. ¿Sabe si el bien está relacionado con algún personaje, hecho o institución histórica importante?			
5. ¿El bien reúne a los habitantes en alguna actividad social?			
6. ¿El bien tiene un valor sentimental para los habitantes de tu localidad?			
7. ¿Cree que el bien es atractivo y tiene un valor artístico importante?			
8. ¿Cree que la forma de construir el bien fue complicada?			
9. ¿El bien se ubica en el territorio de Chan Chan?			
10. ¿Sabe si el medio ambiente favorece la conservación del bien?			
11. ¿Sabe si el bien aparece en publicaciones como libros, revistas, artículos...?			
12. ¿Sabe si las instituciones públicas y/o privadas invierten en el bien para conservarlo y difundirlo?			
13. ¿Los habitantes de tu localidad participan en la difusión del bien?			
14. ¿El bien genera un ingreso económico?			
15. ¿cree que existen amenazas o riesgos que pueden malograr el bien?			

Chan Chan area and its surroundings.



BIO CULTURAL DE CHAN CHAN Y SU ENTORNO


Asociación o Colectivo: _____

LOS BIENES CULTURALES QUE USTED CONOZCA

HUACA			MURALLA (DE ADOBE O PIEDRA)			HUACHAQUE			ARQUITECTURA POPULAR			IGLESIA DE SAN JOSÉ DE LA LEGUA		
SÍ	NO	N/S	SÍ	NO	N/S	SÍ	NO	N/S	SÍ	NO	N/S	SÍ	NO	N/S

Source: Own elaboration.

Figure 2. Survey of the valuation of intangible cultural heritage and landscape as



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RELLENE ÚNICAMENTE LAS COLUMNAS

INMATERIALES	LEYENDA DE LA HUACA DE TOLEDO			BAJADA QUINQUENAL DE LA VIRGEN CANDELARIA DEL SOCORRO DE HUANCHACO		
	SÍ	NO	N/S	SÍ	NO	N/S
1- ¿La expresión del bien cultural es igual o parecida a otras de los lugares cercanos al territorio de Chan Chan?						
2- ¿Sabe si la expresión del bien cultural se mantiene activa desde sus inicios sin haber tenido interrupciones?						
3- ¿Sabe si la expresión del bien cultural se transmite de generación en generación?						
4- ¿La expresión del bien cultural está relacionada con algún personaje, hecho o institución histórica importante?						
5- ¿Los habitantes de tu localidad participan activamente en relación al bien cultural?						
6- ¿La expresión del bien cultural tiene valor sentimental para usted?						
7- ¿Cree que el bien cultural tiene valor estético importante?						
8- ¿La expresión del bien cultural conserva el medio ambiente?						
9- ¿El bien cultural aparece en publicaciones como libros, revistas, artículos...?						
10- ¿Las instituciones públicas y/o privadas invierten en el bien cultural para conservarlo y difundirlo?						
11- ¿Los habitantes de tu localidad participan en la difusión del bien cultural?						
12- ¿El bien cultural genera ingresos económicos?						
13- ¿Los habitantes de tu localidad tienen interés en conservar y transmitir el bien cultural?						

sets of the Chan Chan area and its surroundings.



AS DE LOS BIENES CULTURALES QUE USTED CONOZCA

TÉCNICAS DE ELABORACIÓN TRADICIONAL DE LOS CABALLITOS DE TOTORA			PAISAJE DE LAS CHACRAS HUNDIDAS PREHISPÁNICAS DE CHAN CHAN			
SÍ	NO	N/S				
PAISAJE DE CHACRAS HUNDIDAS PREHISPÁNICAS UBICADAS EN LA PARTE BAJA DE CHAN CHAN			SÍ	NO	N/S	
			1- ¿El paisaje es parecido a otro dentro del territorio de Chan Chan?			
			2- ¿Cree que el paisaje conserva su imagen tradicional?			
			3- ¿Cree que la cantidad y variedad que existen de las especies vegetales o animales es elevado?			
			4- ¿El paisaje tiene formaciones de agua importantes?			
			5- ¿El paisaje puede ser observado ampliamente desde diferentes lugares?			
			6- ¿El paisaje se relaciona con algún personaje, acontecimiento o asentamiento histórico importante?			
			7- ¿En el paisaje se desarrollan trabajos tradicionales?			
			8- ¿El paisaje tiene un valor sentimental para los habitantes de tu localidad?			
			9- ¿El paisaje es atractivo y tiene un valor artístico importante?			
			10- ¿El paisaje aparece en publicaciones como libros, revistas, artículos...?			
			11- ¿Las instituciones públicas y/o privadas invierten en el paisaje para conservarlo y difundirlo?			
			12- ¿Los habitantes de tu localidad participan en la difusión del paisaje?			
			13- ¿El paisaje genera empleo o ingresos económicos?			
			14- ¿El paisaje está bien preservado?			
			15- ¿Se puede acceder y transitar por el paisaje sin dificultad?			

Source: Own elaboration.

In the different populations of the Huanchaco district, 380 questionnaires were collected. For the selection of the individuals, we used the technique called incidental sampling, in which subjects are chosen for their greater availability and accessibility. To this end, they were addressed to the different associations present in that space and meetings were arranged with each group. This led to a high number of questionnaires in a short pe-

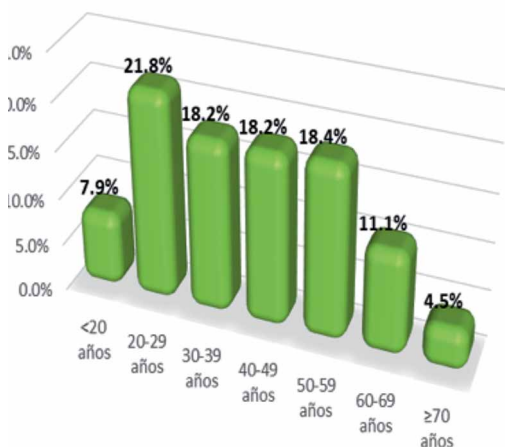
riod of time. The many groups present in the Huanchaco district allowed a wide variety of people to take questionnaires. The sample consists of individuals belonging to different sectors of society, who have a fairly similar distribution, in age (table 5 and Figure 3) and sex (table 6 and Figure 4). This makes the sample of respondents a representative picture of the population group.

Table 5. Distribution by age.

Age	Number of surveys
<20 años	30
20-29 años	83
30-39 años	69
40-49 años	69
50-59 años	70
60-69 años	42
≥70 años	17
Total	380

Source: own elaboration

Figure 3. Percentage distribution by age.



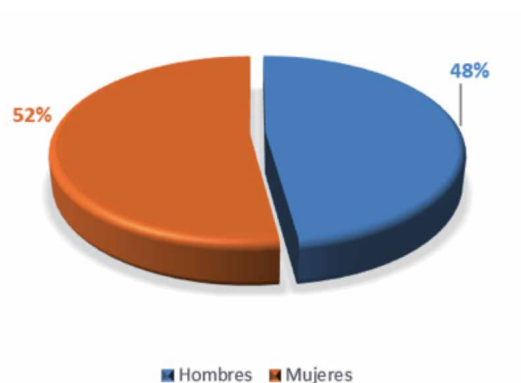
Source: own elaboration

Table 6. Distribution by sex.

Sex	Number of surveys
Hombres	182
Mujeres	198
Total	380

Source: own elaboration

Figure 4. Percentage distribution by sex.



Source: own elaboration

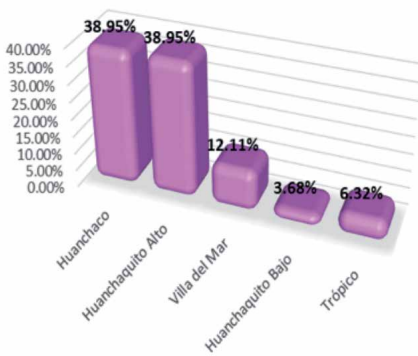
The selected sample consists of 182 men and 198 women. The largest age group includes the ages between 20 and 29, with 21.8% of respondents. The intervals between 30 and 39, 40 and 49 and 50 and 59 years have around 18% of individuals each. Finally, the remaining 23.5% is distributed among subjects between 60 and 69 years old, children under 20 and those aged 70 or older.

Table 7. Distribution according to the residence of the respondents.

City	Number of surveys
Huanchaco	148
Huanchaquito Alto	148
Villa del Mar	46
Huanchaquito Bajo	14
El Trópico	24
Total	380

Source: own elaboration

Figure 5: percentage distribution according to the residence of the respondents.



Source: own elaboration

Table 7 shows the sample distribution according to the fixation proportional to the sample size, being the areas of Huanchaco and Huanchaquito Alto the ones with the highest number of responses (38.95% each), since they have a larger population, with more than 11,000 inhabitants in both cases.

The fewest responses correspond to Huanchaquito Bajo, with only 14. Its population is the second smallest, with 973 inhabitants. In El Trópico, 24 responses were obtained, with its population being only 399 inhabitants, according to the 2017 census.

3.2.1.3. Results of the implementation of the questionnaire among the local population

The questionnaires let us know the opinion and the assessment that citizens have about the cultural heritage of their surroundings. Each respondent had to answer only the questions for those goods they knew, which allows us to obtain accurate figures of the degree of knowledge of each of the elements. The study of favourable and unfavourable responses gives us the score for each heritage asset.

As table 8 shows, the population’s knowledge about the heritage elements is usually high, although there are notable differences between the different assets. Tangible goods are better known, with a percentage of 87.85%. Among them, the highest score corresponds to the walled ensembles of Chan Chan, with 94.97%. All other tangible elements have a percentage higher than 82%, indicating that they are known and valued by the local community. With the exception of the Church of San José de la Legua, the rest are part of the archaeological complex of Chan Chan. When it comes to intangible goods, the traditional elaboration of the Totorá’s caballitos and the descent of the Virgen Candelaria del Socorro de Huanchaco are above 86%. However, the average is only 61.84%, as a result of the Legend of the Huaca of Toledo being less known, with only 11.84%. The landscape of the pre-Hispanic Chacras Hundidas in the Chan Chan complex has 27.63%.

Table 8. Valuation of the cultural heritage assets of Chan Chan evaluated by the local population and degree of knowledge (%).

Type	Elements evaluated	Points	Knowledge (%)
Tangible goods	Chan Chan's walled ensemble	9,45	94,47
	Chan Chan's <i>huacas</i>	9,29	92,89
	Chan Chan's walls	8,45	84,47
	Chan Chan's Huachaquas	8,39	83,95
	Chan Chan's popular architecture	8,26	82,63
	Church of San José de la Legua	8,92	88,68
	AVERAGE	8.79	87,85
Intangible goods	Legend of la Huaca de Toledo	4,59	11,84
	Descent of la Virgen Candelaria del Socorro de Huanchaco	9,16	86,05
	Traditional elaboration of the Totorá's <i>caballitos</i>	9,07	87,63
	AVERAGE	7.61	61,84
Landscape	Pre-Hispanic Chacras Hundidas	5,80	27,63
	AVERAGE	5.80	27.63

Source: Own elaboration.

The overall rating of each of the three types of goods evaluated (tangible, intangible and landscape) has been calculated by the relationship between the number of surveys favourable to the element and the total responses obtained, without counting the category of "no-reply". The 6 levels adapted to a

decimal scale are Very High (8.6-19), High (7.2-8.5), Medium (5.8-7.1), Low (4.4-5.7), Very Low (3-4,3) and No Interest (0-2.9). The score of tangible goods has very high values, average 8.79. Chan Chan's Walled Ensembles are the best rated, with 9.45 points, followed by Chan Chan's huacas,

with 9.29 points. They are the two elements of the archaeological site of Chan Chan perhaps more recognizable and better preserved. The descent of the Virgen del Socorro of Huanchaco and the traditional elaboration of the Totorá's *caballitos*, with 9.16 and 9.07 points respectively. However, the average of intangible goods drops to 7.61 points due to the low valuation of the Legend of the Huaca de Toledo, with only 4.59 points. Meanwhile, the landscape of Chan Chan's pre-Hispanic Chacras Hundidas obtained an average rating of 5.8 points.

A detailed analysis of the results by categories and criteria is carried out in order to obtain a nuanced explanation of the general figures. The percentages have been established by the relationship between the number of favourable responses and all of those obtained, without considering the category of "no-reply". The percentages of favourable responses for each category for each of the goods evaluated are shown in Tables 9, 10 and 11 for tangible and intangible goods and landscapes, respectively.

As shown in Table 9 the best-valued criteria for tangible goods are artistic, with 94.69% favourable responses, and territorial, with 93.99%. The territorial criterion evaluates the interaction of the good with the culture or traditional uses of the territory, which in the archaeological complex of Chan Chan is very high. The criteria with the lowest assessment

are the participation and integration of local communities (35.26%), due to the low involvement of the population in the tasks of management, research and dissemination of the good, and the social (42.24%), since the respondents have not considered these elements as dynamics of the territory.

When it comes to intangible goods (table 10) the criterion with the best valuation is integrity, with 65.96%. This result must be nuanced, since both the traditional elaboration of the Totorá's *caballitos* and the descent of the Virgen Candelaria del Socorro de Huanchaco have percentages of 90.79 and 89.21% respectively. However, the valuation of this criterion is significantly lowered by the Legend of the Huaca of Toledo, which only reaches 17.89%. The worst-rated criterion is representativeness, with only 16.23%.

The landscape of Chan Chan's pre-Hispanic Chacras Hundidas' criteria best valued are social, artistic and profitability, with approximately 36% favourable responses. The economic profitability of crops based on these traditional irrigated systems makes it a criterion with a higher valuation. Criteria with a lower rating are representativeness (12.63%) and awareness of social agents (13.95%).

Table 9. Criteria of the evaluation methodology of the tangible goods according to the local population

	1. Represent.	2. Authenticity	3. Integrity	4. Historic	5. Social	6. Symbolic	7. Artistic
Huacas	63.68	81.32	64.21	82.63	37.89	85.26	96.84
Huachaques	53.42	75.79	51.32	80.26	32.37	78.95	96.05
Church of San José de la Legua	16.58	68.16	71.05	81.05	61.58	85.53	93.16

Table 10. Criteria for intangible elements according to the local population (% of favourable responses)

TANGIBLE GOODS	INTRINSIC VALUES				
	1. Represent.	2. Historical	3. Integrity	4. Historic	5. Social
Legend of Huaca de Toledo	6.05	11.32	17.89	30.00	11.32
Virgen Candelaria	25.53	84.21	89.21	75.53	77.63
Totora's Caballitos	17.11	85.26	90.79	76.84	73.68
AVERAGE (%)	16,23	60,26	65,96	60,79	54,21

Table 11. Criteria for landscape according to the local population (% of favourable responses)

LANDSCAPE	INTRINSIC VALUES					
	1. Represent.	2. Authenticity	3. Ecological integrity	4. Geophysical structure	5. Visibility	6. Historic
Pre-Hispanic Chacras Hundidas	12.63	29.21	20.79	33.42	28.42	33.16

population (% of favourable responses).

PATRIMONIAL VALUES				POTENTIAL AND FEASIBILITY VALUES			
8. Téc.	9. Territorial	10. Landscape	11. Educational	12. Awareness	13. Participation	14. Profitability	15. Vulnerability
68.68	95.00	46.05	90.26	65.79	40.26	82.89	92.37
69.74	93.16	43.95	82.37	60.26	34.21	65.26	90.53
66.58	94.47	43.95	64.47	50.00	31.58	58.68	91.05
67.37	94.74	42.89	70.26	47.37	31.58	56.84	92.37
67.11	94.21	43.42	58.95	46.32	33.42	55.26	91.05
67.63	92.37	47.89	64.21	46.32	40.53	60.53	90.26
67.85	93.99	44.69	71.75	52.68	35.26	63.25	91.27

Source: Own elaboration

responses).

PATRIMONIAL VALUES				VIABILITY AND FEASIBILITY VALUES			
6. Simb.	7. Art.	8. Landscape	9. Educational	10. Awareness	11. Participation	12. Profitability	13. Vulnerability
12.89	18.68	20.26	13.68	16.05	9.21	12.37	11.32
69.74	82.63	45.00	79.21	55.79	78.68	75.26	82.89
83.95	92.63	74.47	71.05	35.79	63.16	67.63	75.53
55.53	64.65	67.85	54.65	35.88	50.35	51.75	56.58

Source: Own elaboration

PATRIMONIAL VALUES				POTENTIAL AND FEASIBILITY VALUES				
7. Social	8. Symbolic	9. Art.	10. Cultural	11. Awareness	12. Participation	13. Profitability	14. Vulnerability	15. Accesibility
36.58	30.53	36,32	15.79	13.95	19.47	36.05	20.53	23.68

Source: Own elaboration

3.2.2. Local Specialist Panel

The implementation of a panel of experts on cultural heritage is an effective procedure for obtaining relevant qualitative information. In the panel itself, there were 9 local specialists from different disciplines: 3 archaeologists, a museologist, an anthropologist, a lawyer, an architect, an economist, and a social communicator. These specialists applied the evaluation methods to the 10 selected elements by assigning binary scores to variables. At the archaeological site of Chan Chan, the questionnaires were also passed to some of the specialists who work there: 7 archaeologists, 2 plastic artists, a conservative technique and a restorer technician. The scores set by these local experts for each property are shown in Table 12. The tangible goods have an overall high rating (7.82 points). The element with a higher score is Chan Chan's walled ensemble (8.8 points), as in the technical evaluation. All other tan-

gible goods have high ratings, with the exception of Chan Chan's popular architecture, which reaches an average score of 6.54 points. This low score is a consequence of its poor condition, as well as its vulnerability because this type of construction has not been excavated and restored in its entirety, opposite to other areas of the archaeological site.

When it comes to intangible goods both the descent of the Virgen Candelaria and the traditional elaboration of Totorá's *caballitos* have a very high rating (9.8 and 9.6 respectively), close to the maximum. In both cases, these are manifestations that have existed for several centuries and have outstanding importance at the historical, social, symbolic/identity level and the participation and integration of local communities. The sentimental values of these traditions and their aesthetic qualities make up some of the most significant aspects for experts. The Legend of the Huaca of Toledo has a high

Table 12. Evaluation of the heritage elements according to local experts.

Type	Elements	Points
Tangible goods	Chan Chan's walled ensemble	8,8
	Chan Chan's huacas	7,89
	Chan Chan's walls	8,05
	Chan Chan's Huachiques	7,86
	Chan Chan's popular architecture	6,54
	Church of San José de la Legua	7,83
	AVERAGE	7.82
Intangible goods	Legend of la Huaca de Toledo	7,2
	Descent of la Virgen Candelaria del Socorro de Huanchaco	9,8
	Traditional elaboration of the Totorá's <i>caballitos</i>	9,6
	AVERAGE	8.86
Landscape	Pre-Hispanic Chacras Hundidas	7,7
	AVERAGE	7.7

Source: Own elaboration

rating (7.2 points), although its lower rating is mainly due to the criterion of Integrity, referring to the intergenerational transmission of the good and the preservation of the tangible elements associated with intangible expression.

The landscape of the pre-Hispanic Chacras Hundidas has also obtained a high rating (7.7 points), although slightly lower than that of the technical evaluation, which was 8.2. The criteria best valued by experts have been Social, Geophysical / Environmental Structure and Historical. The criteria with the lowest scores have been Ecological Integrity, Vulnerability and Accessibility.

3.3. Final thoughts

Table 13 shows the three types of valuations for each asset. Different groups show cer-

tain differences between the scores given to each property. The highest scores according to the technical valuation, the local population and the local experts, are obtained by the descent of the Virgen Candelaria del Socorro de Huanchaco and the traditional production of the Totorá's caballitos, both with 9.22 points. At a very short distance is the walled ensemble of Chan Chan, with 9.18 points, the better valued tangible good.

If we analyze tangible goods, the average scoring obtained by the local population is higher than the technical valuation and the local experts' (8.7 compared to 8.2 of the technicians and 7.8 of the experts). The local population usually gives a higher valuation of these goods, except for the Chan Chan's walls (8.7 by the technical valuation and 8.4 by population), and the Huachaques, with an equal score in all the groups.

Table 13. Overall valuations

TYPE	ASSET	TECHNICIAN EVALUATION	LOCAL POPULATION	LOCAL EXPERTS
Tangible goods	Chan Chan's walled ensemble	9,3	9,4	8,8
	Chan Chan's <i>huacas</i>	8,9	9,2	7,8
	Chan Chan's walls	8,7	8,4	8,0
	Chan Chan's Huachaques	8,4	8,3	7,8
	Chan Chan's popular architecture	7,3	8,2	6,5
	Church of San José de la Legua	6,4	8,9	7,8
	AVERAGE	8.2	8.7	7.8
Intangible goods	Legend of la Huaca de Toledo	5,1	4,5	7,2
	Descent of la Virgen Candelaria del Socorro de Huanchaco	8,7	9,1	9,8
	Traditional elaboration of the Totorá's <i>caballitos</i>	9,0	9,0	9,6
	AVERAGE	7.6	7.6	8.8
Landscape	Pre-Hispanic Chacras Hundidas	8,2	5,8	7,7
	AVERAGE	8.2	5.8	7.7

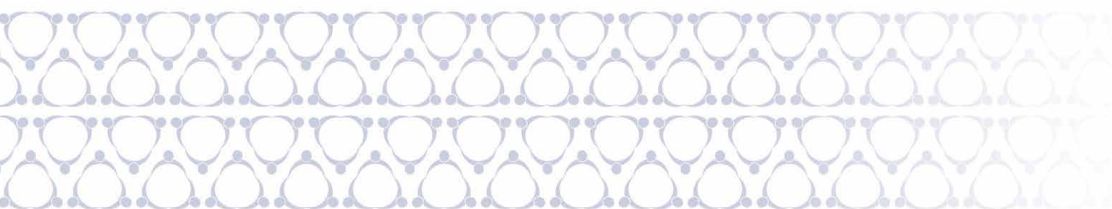
Source: Own elaboration.

For intangible elements, the average between the scores of the technical valuation and the local population are identical (7.6), although the assessments of the local experts are clearly higher (8.8 on average). In the landscape of the pre-Hispanic Chacras Hundidas of Chan Chan, the highest score corresponds to the technical assessment (8.2), being the local population the one that gives a lower value, only 5.8 points. Although they are integrated into the archaeological complex of Chan Chan they do not have as much recognition for the inhabitants as other tangible and intangible elements.

The technical and participation results obtained for the assets located in the Chan Chan site and its surroundings reflect a very valuable cultural heritage and important attributes. The full application of the method in this area of Peru confirms its validity, which makes it an effective instrument of management, which can be assumed by the institutions for decision-making for their conservation and value.

In addition to the methodology carried out and, in order to improve the knowledge of the neighbouring population, other indicators of valorization of Chan Chan's cultural heritage and its surroundings, awareness-raising and training workshops could be held as strategies to raise awareness. This would improve the quality of cultural and tourist manifestations while moving towards the sustainability of tourism programmes and improving the quality of life of the inhabitants.

A previous experimental study with a specific group or sector of the population would be applied to test the effectiveness of these workshops. This type of design would consist of administering a stimulus in the modality of pre-test and post-test, in order to measure the effect and subsequently be able to raise awareness and commitment.



02

Photographic appendix

1. APPLICATION OF THE METHODOLOGICAL SYSTEM OF HERITAGE EVALUATION BY THE LOCAL SPECIALIST PANEL, DDC, TRUJILLO, PERÚ.



DDC experts during the assessment process, with the principal investigator of the project in Spain via Skype.



DDC experts during the assessment process, completing the questionnaires.

2. FIELD WORK OF THE RESEARCH TEAMS FROM VALENCIA (ESTEPA) AND PERU INSIDE THE SITE OF CHAN CHAN



Technicians from Chan Chan show the site to the research unit ESTEPA



Identification of heritage elements during the field work



Visit to the Huachaque



Cycling route in the archaeological site of Chan Chan

3. HERITAGE ELEMENTS EVALUATED WITH THE IMPLEMENTATION OF THE EVALUATION METHOD



Caballitos de Totora and Church Virgen del Socorro, from the Huanchaco beach



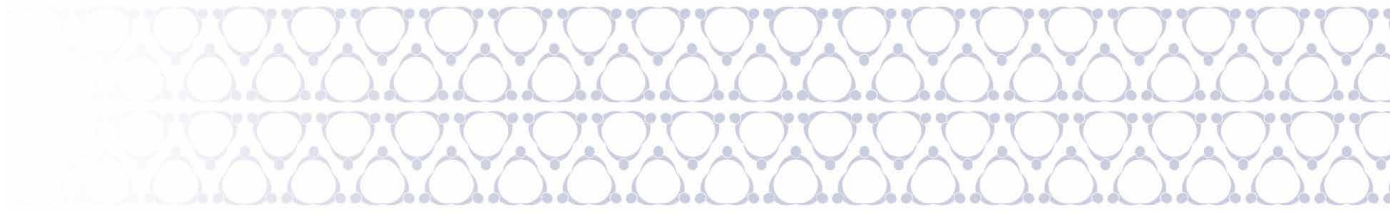
Church Virgen del Socorro, beginning of the Bajada quinquenal



Huachaque in the walled enclosure of "Casa del centro o C. A. NICK AN EX TSCHUDI"

Exterior wall restored part of a walled enclosure Chan Chan





Chacras hundidas with their Huachaque



Landscape of a farming Chacra Hundida



View of walled buildings in de Chan Chan



*The inside
of la "Casa del centro"
in the Archaeological
site of Chan Chan*

Huaca de Toledo



Huaca de Toledo

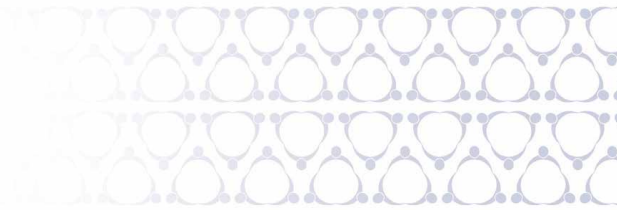


Church of San José de La Legua



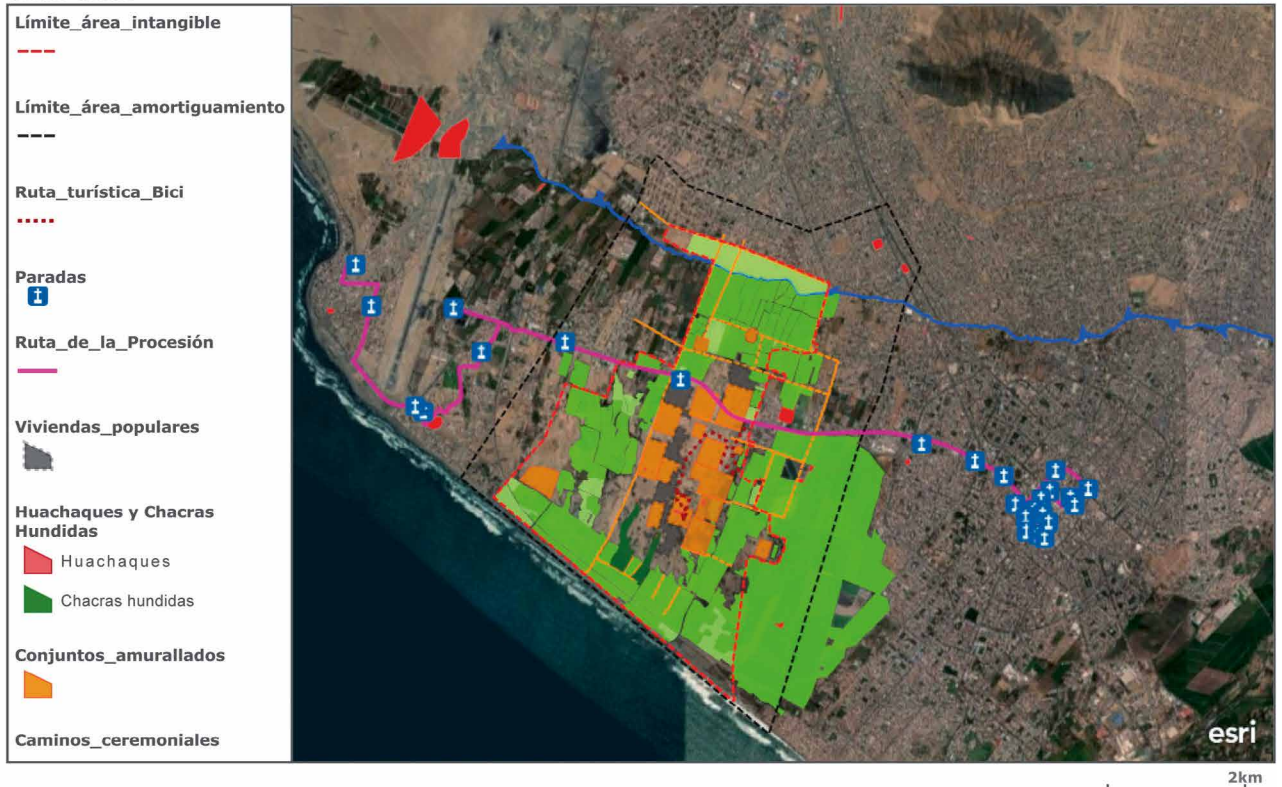
4. GIS REPRESENTATION. SITE OF CHAN CHAN AND SURROUNDINGS

The Geographic Information System (GIS) shows the location of each of the assets in the evaluated area. In some of the intangible goods, such as the Descent of the Virgin Candelaria, the procession has been represented from its departure from the Sanctuary of Huanchaco to the city of Trujillo. The GIS shows the various stops and stages that take place during those days. You can view the ArcGIS Online through the link: <https://arcg.is/1zSD8C0>



ArcGIS Online-Chan Chan

Chan Chan



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Cartographic representation of the Procession and stops along the route in the old town of Trujillo.

Chan Chan



Cartographic representation of Chacras hundidas-Chan Chan

Chan Chan



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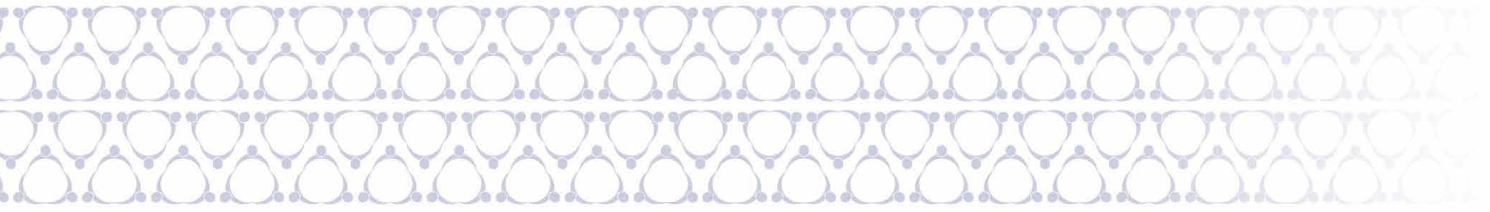
03 Conclusions

The work carried out by the ESTEPA research group of the University of Valencia (UV) in Trujillo, Peru, within the framework of the EULAC-MUSEUMS project has succeeded in highlighting the applicability of models of Strategic Planning, Management of Cultural Heritage, Method of Evaluation of Cultural Heritage and Geographic Information System, in the different territories of the project's partners. Through a process of adaptation to the area under analysis, these models, may be implemented in those territories that require it. It is recommended that all four documents are integrated and supplemented to achieve greater efficiency. However, the instruments that have been designed and worked with during the deve-

lopment of the EULAC-MUSEUMS project by the UV allow its application in a unique and individual way. They can be applied separately according to the needs of the museum or research centre.

The Valencia team stay in Peru was a success. The collaboration between two of the project partners and the results reflect an intense joint work, through which the importance of the exchange of knowledge and working methods is clear.

This study presents the work carried out in the Chan Chan area of Trujillo, Peru, as well as the results obtained by the Valencia and Peru teams in the implementation of the Eva-



luation Method and the creation of a Geographic Information System for the study area.

The application carried out to the elements and expressions of the archaeological site of Chan Chan, Trujillo and Huanchaco, is convenient for its management by those responsible for this valuable cultural heritage. Likewise, the realization of a GIS in that territory is useful to those interested in the geographical and heritage knowledge of the area, from museum technicians to policymakers whose purpose is to value the cultural elements in the area.

In conclusion, the final work submitted by the University of Valencia is considered as

a very convenient basic instrument of Planning and Management of Cultural Heritage, which is applicable to any territory that claims the value of its assets for conservation and tourist or economic purposes. We believe that the chosen format, a theoretical-practical manual for the management of a local museum, is valid and fits the objective that was intended with the participation of the ESTEPA Team of the University of Valencia in the EULAC-MUSEUMS project.



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