

# Safeguarding intangible cultural heritage for sustainable development. The case of traditional salt activity

Case  
of traditional  
salt activity

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## Abstract

**Purpose** – The authors have carried out a research project on artisanal salt activity in the Gulf of Cadiz, providing a new vision of the theories of intangible cultural heritage. The main objective has been to characterise artisanal salt activity in terms of its cultural and sustainable values, a perspective that had not been addressed until now. Moreover, the replacement of this activity by a more industrialised one has contributed to problems in the preservation of this heritage and a transformation of its places.

**Design/methodology/approach** – The research has combined qualitative methodology, based on observation and fieldwork, with a statistical review of the phenomenon under study. Finally, the data has been triangulated to understand the heritage and sustainable value, as well as its historical evolution.

**Findings** – All this contributes to understanding the importance of artisanal salt activity as an element of the intangible cultural heritage of the region, for the conservation of biodiversity and sustainable ways of life in the marshes of the Gulf of Cadiz, and the possibility of preserving it in the face of the problems of globalisation.

**Originality/value** – To date, there has been no research that combines sustainability and heritage in the field of salt activity. Likewise, until this study was carried out, there had been no research on salt activity from the perspective of intangible cultural heritage.

**Keywords** Artisanal salt activity, Sustainable salt activity, Anthropisation of salt marshes, Safeguarding intangible cultural heritage, UNESCO, Sustainability, Salt history

**Paper type** Research paper

## 1. Introduction

The 2003 Convention for the Safeguarding of the Intangible Cultural Heritage (UNESCO, 2003) defines intangible cultural heritage (ICH) as “the practices, representations, expressions, knowledge, skills – together with the instruments, objects, artefacts and cultural spaces associated therewith” (Article 2.1). This definition is based on communities, groups and individuals recognising these expressions as part of their cultural heritage and on a number of other ideas that will be discussed below.

In Spain, artisanal salt activity is a practice with a great historical legacy and a strong economic and cultural imprint, which some communities and institutions recognise as an integral part of historical and cultural heritage. This activity brings together all the knowledge and practices for the traditional cultivation and harvesting of salt.

Due to the way in which natural resources are used, there is one type of salt works that obtain salt from continental aquifers and another that obtains it from seawater. In Spain,

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three types of maritime saltworks can be distinguished according to their adaptation to the territory (Cabrera, 2019; Vilà, 2001; Román, 2015), but they all share general characteristics (Plata, 2006).

Despite the great expansion in the Gulf of Cádiz, there are currently few salt enclaves where salt is obtained in an artisanal way. This endangers the conservation of this heritage but also limits the practice of tasks for its safeguarding such as documentation, research, education, etc.

On the other hand, salt production takes place in areas of marshes and wetlands of great ecological value and several studies have recognised artisanal salt production as an anthropic activity that enriches the biodiversity of the physical environment (Castro-Nogueira *et al.*, 1997). The recent industrialisation of the activity and its commercialisation has led to the introduction of less sustainable methods (Ménanteau *et al.*, 2012).

Due to the progressive loss of this heritage, this work brings the novel vision of the theories of ICH to investigate the artisanal salt activity in the Gulf of Cadiz, as a heritage of great importance for its community, but also as a practice that has adapted perfectly to the physical and environmental surroundings and that, in addition, favours a situation of sustainability between human practice and the biodiversity of the marshes. This case shows us how ICH helps us in the search for sustainable development for our society.

## 2. Objectives

The general objective of this work has been to carry out an interdisciplinary study of artisan salt activity for two fundamental reasons. Firstly, to characterise this asset of intangible heritage due to its ecological, social, economic and cultural importance in the Spanish territory of the Gulf of Cadiz (provinces of Huelva and Cadiz); and secondly, due to the scarcity of studies that deal with the subject from the point of view of cultural heritage and the danger of the disappearance of the knowledge and techniques associated with this activity. To this end, the following specific objectives have also been set:

- (1) To characterise maritime salt production in the different Spanish enclaves through a diachronic analysis and from the perspective of sustainability.
- (2) To compile the knowledge and know-how linked to the artisan salt activity from an ethnographic, historical and heritage point of view.
- (3) To learn about the values of environmental sustainability and heritage linked to the artisanal salt activity in the Gulf of Cadiz.
- (4) To discover the existing safeguarding and protection mechanisms in the public administration and to examine whether they are being implemented.
- (5) To find out which public and private actors interfere in the safeguarding of this heritage.

## 3. Methodology

The methodology used in this research is of an interdisciplinary nature, based on qualitative methods from ethnography, whose results are supported by the use of quantitative methods from statistical analysis.

The fieldwork carried out was ethnographic in nature. Initially, a prospection work was carried out in 2019 by the active saltworks in the provinces of Huelva and Cadiz to contact key informants. The bulk of the fieldwork was carried out between 2019 and 2021 in the salt pans of Huelva and Cadiz. It has mainly been a work of observation in the artisanal salt works. This

has been recorded in a notebook and a field diary (Hammersley and Atkinson, 2004), in addition to photographic documentation.

This technique was complemented with interviews, the recording of narratives and life histories and the analysis of discourses presented in documentary sources. The key informants have been protagonists of the salt activity and technical and professional experts in the subject.

Regarding the quantitative methodology, an analysis and statistical review has been carried out through the documents of the Spanish Mining Statistics for the series published between 1958 and 2018 with a review by decades. The data have been organised and tabulated in the form of time series to perceive the trends and evolution of the variables considered. The results are presented in graphs and tables.

The methods selected respond to the need to obtain knowledge from diverse sources. The economic and social evolution around the salt activity in the historical period analysed disperses the sources of knowledge in those of the collective life, but also in others belonging to public administrations or companies.

The quantification of the salt practice, in values such as production, expenses or income, responds to concrete and large-scale productivity interests, which help us to know its national evolution and to quantify by periods the progressive historical process of industrialisation.

On the other hand, the ethnographic methodology helps us to know all the social systems linked to the traditional salt activity. Ethnography, applied with the comparative function, helps us to know the forms of the oldest artisanal salt works, as well as the uses and ways of life associated with them that are still maintained with inherited character. The transmission of this knowledge is carried out intergenerationally through orality, experience and practice, hence the need to apply fieldwork.

Finally, the data were triangulated, making it possible to combine the methods of data collection and analysis to approach the researched reality Navarro *et al.* (2004).

#### 4. Maritime salt activity in Spain: a diachronic analysis: from the first productions to the present day

Salt (sodium chloride) has historically been a highly valued resource for its nutritional, preservative and chemical properties, improving the quality of life and food preservation until the recent invention of refrigeration systems (Alonso *et al.*, 2003, 2007). Therefore, the use of salt has been a driving force in different societies and times, and the different ways of obtaining it have become widespread and specialised throughout the world.

Thanks to this great discovery, it is common to find in specific territories the installation of salt extraction systems in their different variants, even more so in the Iberian Peninsula, “where the greatest concentration of these exploitations is found in all of Europe and, consequently, of the unique landscapes associated with and generated by them” (Román, 2014: 5). Their importance is also recognised through expressions of Spanish culture such as folklore (Ghosh and Barrick, 1969).

The continuous search for ways to extract sea salt – and consequently the use of salt mines to obtain it – since ancient times was due to the fact that its taste and properties made it preferable to salt extracted from aquifers or mines Martínez (2012). As Copán, (2003, p. 59) points out, “Andalusia was always quite rich in fish and salt. This activity appeared very early here . . . and reached great splendour between the 5th century BC and the 5th century AD, when this coast was the main supplier for the urban markets of the central and eastern Mediterranean”.

As far as the Gulf of Cádiz is concerned, the most remote evidence of organised salt production is found in the archaeological site of La Marismilla (Puebla del Río, Seville), dated to the 4th millennium BC and located in the Betic Peleosenada (Escacena and García, 2019).

It is a Neolithic salt mine where salt was obtained by igneous heating of seawater. For this purpose, ceramic vessels were used to cook the water and to obtain cakes from the compacted mineral.

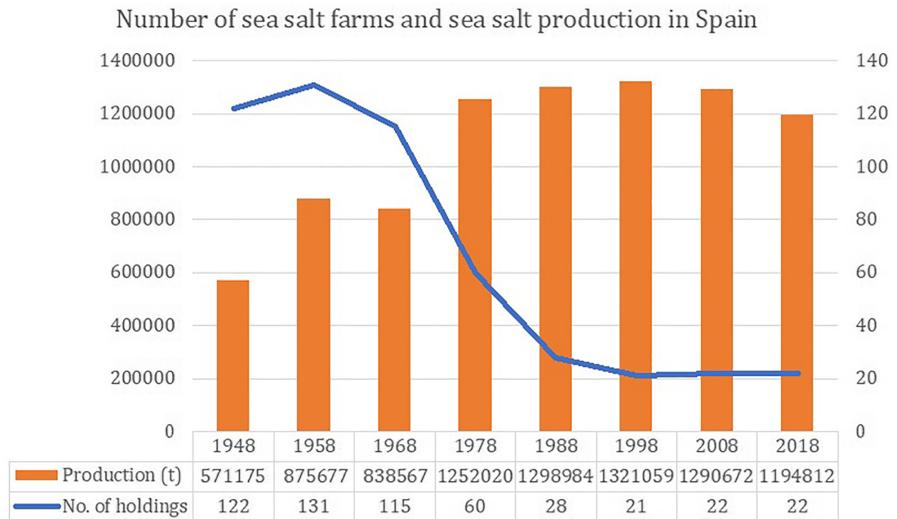
The later salt pans by solar evaporation proved to be a productive improvement over the costly igneous system and gradually spread and replaced it. Some authors point out its diffusion throughout the Mediterranean Sea with the protohistoric cultures [Alonso et al. \(2003\)](#) and its boom during the Romanisation period. Some examples from the Gulf of Cádiz are La Tiñosa or San Diego ([Campos and Vidal, 2004](#); [Campos et al., 2014](#)).

For later periods, among others, we find important references thanks to the houses of Medina Sidonia and Medinaceli and their disputes over the Villa de Huelva, the salt mines of the Villa de Huelva or Sanlúcar de Barrameda. Salt became a very important economic source for the Crowns and governments of the country. There was great fiscal control over this product, with heavy taxes being levied on its purchase ([García et al., 2017](#); [Flores, 2001](#); [García, 1895](#)).

The most striking aspect of more recent times is known thanks to the incorporation of salt mines into the Mining Law. The Spanish Mining Statistics show the evolution of the sector ([Figure 1](#)). The main feature is a process never before experienced in the sector, which will mark the future of the activity. This is the process of industrialisation of Spanish saltworks, accompanied by the disappearance of a large number of artisanal saltworks. This will transform everything that has been dealt with up to now in terms of saltworks.

The comparison of the values selected and shown in the graph (production given in tonnes -t-) and the number of sea salt farms in the total Spanish territory highlights the importance of the salt activity in the country. It can be seen that in 1958 there were 131 maritime salt works of recognised importance for the State.

Between 1948 and 1968 the largest number of farms was concentrated, with 122 in 1948 and 115 in 1968. In 1978, there was a notable decrease in the number of farms compared to the previous decade, with a total of 60 in the whole country. The number of salt farms fell to 22 in 2008, a figure that was maintained in the following decade.



**Figure 1.** Number of sea salt farms and sea salt production in Spain between 1948 and 2018

**Source(s):** Own elaboration based on Spanish Mining Statistics (years 1948 to 2018)

In 1948, 571175t of sea salt was produced. In 1978, despite the number of farms falling by less than half, sea salt production increased by 220% to 1252020t. In 2018, production was 1194812t, lower than in the previous 4 decades. Compared to the year with the highest number of salt farms in the country, 1958 with 131 salt works, production increased by 150% in 1998.

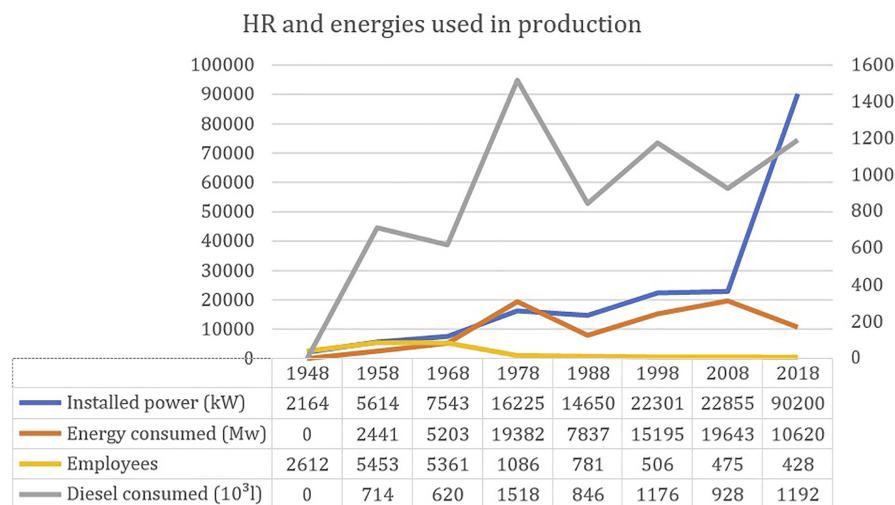
The use of energy vs the use of labour also echoes this industrialisation process (Figure 2). If in 1958, the sector employed 5,453 employees, in 2018 it employed only 428. The hiring of personnel for salt work declines from the first 3 decades analysed (1948–1968) to the last decade, with the employment of labour in the activity decreasing by approximately 92%.

Regarding energy, the installed power in Spain in 1948 was 2,164 kW, however, in 2018 the total installed power was 90,200 kW although the number of farms decreased to 22. From 1978 to 2018, there has been an increase in energy consumption linked to the increase in salt production. The same is true for diesel, the consumption of which has increased considerably, remaining between 846 and 1,192  $10^3$ .

This industrialisation process has given rise to two main types of salt works, and a third type that is located between the first two. In the first place, we find the artisanal salt works. Secondly, there are industrial salt works, where heavy machinery is used and the salt is subjected to industrial processing before being sold. This process means that the salt loses its qualities. Specifically, heavy machinery is used for the construction of the salt pans, but also, as they are transformed into intensive work spaces, mobile machinery and a processing plant are used for the purification and washing of the salt.

Using this machinery, tonnes of salt are extracted, in a non-selective manner, from large crystallisers along with pond waste. This salt then has to be washed, but this process in turn removes the iodine and all naturally occurring trace elements and has to be added synthetically. The loss of iodine in industrial salt has contributed to the iodine deficiency in our modern diet that has already been alluded to in documents such as the World Declaration on the Survival, Protection and Development of Children.

The lack of iodine in our diet, especially at an early age, causes health dysfunctions which this document aims to eradicate by the year 2000. In their study, the authors Escobar and



Source(s): Own elaboration based on Spanish Mining Statistics (years 1948 to 2018)

Figure 2.  
Resources used in  
Spanish maritime  
salt works

[Morreale \(1998\)](#) propose a series of actions to alleviate iodine deficiency through the provision of supplements and the regulation of the iodisation law in Spain. We consider that our proposal to safeguard and increase artisanal saltworks would also contribute directly to eradicating this problem.

Thirdly, there is a semi-industrial typology. These are mainly artisanal saltworks that use some kind of industrial process or machinery in their production. It is a process that does not alter the properties present in virgin salt, although it involves greater pollution and environmental impact, which is less advisable than artisanal production ([Table 1](#)).

Most of the existing salt pans are industrial. To a lesser extent we find semi-industrial salt pans and, lastly, there are four artisanal salt pans. In order to contribute to the safeguarding of artisanal salt pans, the following section deals with the documentation of this heritage, a process that helps us to understand their ecological and heritage importance.

### 5. Ethnographic description of artisanal salt activity in the Gulf of Cadiz

In addition to being a labour activity, the salt industry is characterised by a particular working culture: the manual nature of the process, the need to master the environment (the formation of salt marshes, tidal movements, local climatology, etc.), the use of simple tools and utensils, and the acquisition of knowledge by oral transmission.

As a form of work it is linked to certain ways of life. In this case, we have carried out an ethnography of artisanal salt activity in the Spanish provinces of the Gulf of Cadiz. Broadly speaking, we can define this type of work as that which involves the cultivation and harvesting of salt through sea or continental water. For this to be possible, a series of specific physical and climatological conditions must also be present, which is why this activity is linked to specific geographical areas and their people.

The salt pans located in the Gulf of Cadiz are of the coastal type, which is why they differ significantly from inland salt pans or other coastal salt pans in the country (for example, those located in the Canary Islands). There are two types of salt marshes in this area, some closer and more exposed to oceanic conditions, such as those found in the Cadiz area; and others, typical of marsh and wetland areas. Although this condition does not alter the salt production cycle, it does interfere with the productivity of the salt pans and the salinity of the water processed by the cultivation system (the former are more saline than the latter).

The salt cultivation and harvesting system of artisanal salt pans is made up of distinct areas. Firstly, it is necessary to have controlled brackish water irrigation. To this end, the salt pans are located next to the marshes' estuaries, which also provide protection from the inclement weather and the tides. The energy of the tides is what facilitates the entry of water from the estuaries to the first inner zone, the area of the heaters. The supply of water from the estuaries to the heaters is controlled by the installation of floodgates ([Figure 3](#)).

Within the salt ponds there are several heating ponds. The function of these heaters is to increase the concentration of salinity in the collected water thanks to the high temperatures

| CCAA                | Artisanal | Industrial | Semi-industrial |
|---------------------|-----------|------------|-----------------|
| Andalusia           | 2         | 6          | 5               |
| Canary Islands      | 1         | 0          | 0               |
| Valencian Community | 0         | 3          | 0               |
| Region of Murcia    | 0         | 1          | 0               |
| Catalonia           | 0         | 1          | 0               |
| Balearic Islands    | 1         | 1          | 1               |

**Table 1.**  
Classification of active maritime salt marshes in Spain by Autonomous Community

**Source(s):** Own elaboration based on Spanish Mining Statistics (years 1948–2018)

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## Case of traditional salt activity

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Source(s): Own elaboration

**Figure 3.**  
Map of the salt pans  
with their different  
parts. Salt pans of Isla  
Cristina

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and evaporation caused by the winds and the sun. The degree of salinity increases until it reaches the heater prior to the pit phase. From there, the passage of highly brackish water is controlled by gates and channels, called coils, to enter the last stage of the pits. The pits or crystallisers are a series of contiguous shallow ponds in which the water accumulates in its highest salt concentration. Thanks to solar radiation and winds, the salt is concentrated in this area where it is collected in its different variants (Alonso and Ménanteau, 2004).

As work in the salt works, we can distinguish three main processes. The work phase that lasts throughout the year is the storage and sale of salt. Then we can distinguish the work in the cold months, when cleaning and maintenance tasks are carried out in the salt pans; and the work in the warm months, which corresponds to the tasks of collecting water, cultivating and harvesting the salt.

There are no exact dates for each activity, but in order for the salt to dry and crystallise, it is necessary to have the winds and solar radiation typical of the warmer months. According to our informants, depending on the weather each year, salt harvesting can begin between the months of May and July, and the end of the season comes at the beginning of autumn or when the first rains begin after the summer, around September or October. Before being able to collect seawater and process it through the heaters, it is necessary to carry out some cleaning tasks in the ponds and estuaries, either of the structures or the renewal of the stored seawater in which there is a favourable environment for the development of some species.

The preparation of the salt pans consists of clearing the irrigation channels and coils, as well as preparing the bottoms of the heaters to remove the salts stored in the previous season. This can be done every year. The use of the sludge to build the structures and channels greatly facilitates the process of cleaning and construction of the salt pans. The surface mud is removed and replaced by new material from the salt marshes. At present, the water and salts are analysed for sanitary control.

On the other hand, the water stored in the estuaries is renewed by opening the sluice gates in the months prior to intensive work in the saline. Thus, nutrients such as trace elements are renewed, the species that live in the estuaries can continue their cycle and the richness and quality of the raw material is increased. Once the water has reached optimum conditions, it is passed to the heaters which, during the warm months, are opened to allow the water to pass through to the crystallisers. Work in the crystallisers or pits is continuous during the harvesting season. Every day, the workers go over the different crystallisers to know when to collect the salt and give way to new water to produce a new harvest.

There are three types of harvesting. The most superficial and punctual is the harvesting of the fleur de sel. As our informants call it, a cream that grows for a few days on the surface of the pits and must be collected before nightfall. For this “cream” to rise to the surface, the climatic conditions and salinity must be optimal. For example, solar radiation must not be too strong and the wind must not be from the east. It is collected using fine-mesh strainers and is collected in small quantities.

Due to sunshine and wind conditions, the dissolved salt, whether it has gone through the process of becoming a fleur de sel or not, becomes denser and agglomerates into flakes that float on the media and surface of the crystallisers (Plate 1). These flakes are usually medium to large in size. They are collected on a daily basis with the help of larger-sized strainers. Some of these other salt are used for the cultivation and harvesting of virgin sea salt.

As the salt descends to the bottom of the pits, it becomes denser and more concentrated, turning into coarse salt. The coarse salt takes between 20 and 30 days to form, depending on the temperatures and winds that are reached. The salt is harvested daily from different crystalliser areas of the salt pans. The salt is compacted into coarse grains and the water evaporates almost entirely. The density of the material increases significantly, so other tools and implements such as the “rol” are used to collect it.

In order to collect the virgin sea salt, it is necessary to use a “rol” with a metal end that breaks the salt cakes from the middle of the crystalliser towards the opposite outside and so on with the other half of the surface. In turn, another person, with an all-wooden “rol”, collects and piles the salt on the outer edge of the crystalliser to form pyramidal mountains called “barachas”. The use of the “barachas” is no coincidence; their shape allows the salt to dry and allows for greater cleaning of dust and elements from the marshes (Plate 2). The salt is then packaged at the edges of the crystallisers in bags of about 10 kilograms.

The packaging of the flake is different. Once harvested, it is left to dry on the sides of the pits. It is then passed through a sieve to separate the flakes, the fleur de sel and the virgin sea



**Plate 1.**  
Manual harvesting of  
salt flakes with  
colanders

**Source(s):** Own elaboration

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## Case of traditional salt activity

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salt. Each type of salt is packaged separately and stored differently (Plate 3). In all these ways, a salt is created by manual processes without industrial intermediation, which allows the natural conditions of the salt, iodine, trace elements and the quality of the product to be maintained. Thanks to this working process, it is not necessary to artificially wash and enrich the salt (as is the case in industrial salt works), as it is not extracted in large quantities together with the sludge residues from the marshes.

In addition, salt works have a number of other rooms for storage, classification, packaging and sale of the product. As a complex space, it fulfils two main functions. The work function described above and a second, social and family function. The latter is linked to ways of life prior to the beginnings of modern forms of our current society.

Historically, the salt pans have been the habitat of families dedicated to this activity or who subsisted by exploiting the resources of the salt pans, such as the harvesting of marine species or estuary fishing, also known as “despesque”, as well as linked to the production of salted fish and meat.

On occasions, there were large manor houses where the families who managed the saltworks lived. There were also warehouses and work areas that were adapted to house the workers (Suárez, 2004). In this way, we recognise the social complexity that has accompanied salt activity in the past but is not preserved today. In the following section, we address all the questions about its importance as a cultural heritage and as a sustainable practice.



Source(s): Own elaboration (left), <https://huelvabuenasnoticias.com/> (right)

**Plate 2.**  
Manual harvesting of virgin sea salt today, salt pans of Isla Cristina, Huelva (left). Harvesting virgin sea salt, salt pans of Huelva (1920s) (right)

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Source(s): Own elaboration

**Plate 3.**  
Manual sorting and packaging of salt

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## 6. Heritage and sustainability: knowledge and know-how of the artisan salt activity

On ICH, UNESCO, through its 2003 Convention, has done a great deal of work on the definition and classification of this type of heritage, recognising the various forms in which it manifests itself in order to contribute to its social appreciation. Within the classification it proposes, artisanal salt activity corresponds mainly to the definition provided in articles 2.d and 2.e of the 2003 Convention: "Intangible cultural heritage . . . is manifested in particular in the following domains: (d) knowledge and practices relating to nature and the universe; (e) traditional craftsmanship".

The artisan salt activity has a strong traditional character. Its knowledge, methods and techniques, as well as the ways of life it promotes, are passed down orally through the generations. What is most significant is how the knowledge acquired to extract salt by solar irradiation, the most effective and efficient method, has been known and maintained for around 2000 years (we find references in classical authors such as Titus Livy -History of Rome I, 33-).

The efficiency of the methods and knowledge, together with the forms of civil construction, with their own knowledge, and the use of suitable materials and tools, show a sophistication only attained today by professional studios. The knowledge of how to build salt pans in a suitable location and with a suitable materiality, combined with the knowledge of nature and how to make use of both, has been so adequate since the earliest evidence of this activity that its transmission and preservation has been a matter of utmost importance.

Thanks to certain non-invasive forms of exploitation, as in this case, the artisan salt activity, humans have managed to adapt to the physical environment in a sustainable way. The artisanal salt activity is an example of a way of life and work that is sustainable with nature and also with the preservation of cultural diversity itself:

Despite their natural appearance, it should not be forgotten that salt pans are areas created by man for economic purposes, which owe their value to traditional extractive tasks and that it is precisely the maintenance of these activities, and the associated hydraulic system, which allows a suitable environment for the development of flora and fauna (Ménanteau *et al.*, 2012: 383).

Firstly, artisanal salt production does not require industrial machinery or large-scale civil works for its development. This civil engineering is not very invasive. The clays that make up the marshes of the Gulf of Cadiz are malleable but not too soft, which makes it possible to scratch and clean the mud with tools and tools easily, repair damage with a mixture of the same material and gravel, reuse and dispose of the construction material without generating waste that is harmful to the environment, build and consolidate the structures with wood and unprocessed materials.

Likewise, the rich ecosystem of the marshes has historically provided human beings with resources that have favoured a symbiosis with the marsh species, together with the mild climates and the protection provided by the inland marsh areas in the estuaries as opposed to inhabiting the coastline. The adaptation of human beings to this environment has been favoured by the economies that have arisen, such as estuary fishing, the harvesting of marine and terrestrial species and the obtaining of salt by solar irradiation.

The way the salt marshes are built and the activity itself coexist in harmony with the environment. Firstly, the estuaries preserve different animal and plant species from the inclemency of the open sea. Many marine species live part of their lives in the marshes, where they also carry out their reproductive phase.

This biodiverse environment is also exploited by a range of other predators, mainly larger species and birds. Within the marshes and salt marshes a complete cycle of species sustainability is fulfilled. On the other hand, the shallow depth at which the ponds are built, similar to the depth of the shores, means that in these ponds and on their edges, birds take

advantage of the conditions to feed, live and protect themselves from predators, and even to lay eggs and raise the chicks that find protection and food in the salt marshes (Sripanomyom *et al.*, 2011; Luque-Fernández *et al.*, 2021; Hueso, 2020).

The different tasks involved in working in salt marshes help to conserve the areas and maintain a thriving environment for the life cycle of marsh species. In contrast to active salt marshes, abandoned salt marshes, or those converted into aquaculture farms, prevent such a balanced symbiosis because the latter do not provide optimal conditions for the habitation, breeding and feeding of the aforementioned species.

Understood as ICH, salt activity is a source of knowledge and ways of life directly related to nature, a cultural heritage of coastal and marshland territories. In a context in which this activity is being progressively lost, what concerns us now is to know how to safeguard this heritage to contribute to environmental, social and economic sustainability.

In order to find out whether the competent heritage institutions are applying the appropriate measures to contribute to an environment of safeguarding and sustainability, the following section deals with its management as a heritage asset.

## **7. Results. Analysis of the safeguarding of the traditional salt activity for sustainability**

The Convention for the Safeguarding of the Intangible Cultural Heritage defines safeguarding as “measures aimed at ensuring the viability of the intangible cultural heritage, including the identification, documentation, research, preservation, protection, promotion, enhancement, transmission (. . .) and revitalisation of this heritage in its various aspects” (article 2.3). There are also other international benchmarks, such as the Methodological Manual of the UNESCO Indicators of Culture for Development (Alonso and Medici, 2014). It shows us the importance of sustainably managing the assets of our heritage, as the way to ensure the use of heritage today and contribute to its preservation for future generations.

Some precedents to this work show the variety of measures that safeguarding plans can adopt, which are understood as complex and structured towards the same end. In cases such as the one presented by Labadi (2013) for the “Ceremonia de Voladores”, there is a strong link between environmental and heritage sustainability and the safeguarding plan of this ICH in Mexico integrates reforestation to ensure the future of the ritual that revolves around a large wooden pole.

In the same vein, the importance of integrating the natural environment, communities and economies into safeguarding plans is underlined, as only the maintenance of healthy ecosystems will enable heritage to deliver the many benefits it can provide to actors and communities (Osipova *et al.*, 2018).

In China, the transmission of the “Lacquer Art” faces similar challenges in its safeguarding, such as external but very conditioning ones, and internal ones, as its transmission is quite complex as it is a highly complex body of knowledge, is mainly based on long-term meticulous practice and is inescapably linked to the working space (Song *et al.*, 2019).

Fedakar and Kuzay’s (2018) study reviews the idea of sustainability in the 2003 Convention on the Living Human Treasures Programme, as the Convention places the transmission of knowledge at the heart of safeguarding ICH and thus providing that its protagonists can pass on their knowledge to future generations.

Furthermore, the idea of ICH safeguarding and sustainability intersect in other international actions, such as the research by Gliberto and Labadi (2021) in which they analyse the contribution of ICH to sustainable development through three safeguarding projects in the Middle East and North Africa. This study demonstrates how harnessing ICH

helped these regions to address the complexity and variety of global sustainable development challenges. However, it also highlighted the need to review current practices to better harness the potential of ICH in sustainable development initiatives.

The main premise of this research has been to learn through different means and methods about artisanal salt activity as ICH and its contribution to environmental, economic and social sustainability. The precedents set out in this section highlight both the need to safeguard ICH in danger of disappearing and the implementation of safeguarding plans to contribute to sustainability.

The artisan salt activity, due to its living and mainly immaterial nature, adds a series of conditioning factors that in themselves contribute to its sustainable management. Mainly, the maintenance of the salt activity becomes the best way to manage it sustainably. Its safeguarding, therefore, does not depend so much on conservation and restoration issues, which are more common in tangible heritage, but rather on providing an appropriate socio-economic context, and context of protection, that contributes to its survival for future generations.

In researching this issue, we found that there is no safeguarding plan for artisan salt activity despite its contribution to biodiversity and the maintenance of sustainable traditions. The competent heritage bodies, subject to Law 14/2007, of 26 November, on Andalusian Historical Heritage and Law 10/2015, of 26 May, for the safeguarding of Intangible Cultural Heritage, do not exercise any kind of protection or safeguarding over the salt enclaves of the Gulf of Cadiz.

Specific measures have been found that contribute to the documentation and recording of some of the saltworks in the Gulf of Cadiz. In the province of Cádiz there are three coastal saltworks included in two inventories called Atlas del Patrimonio Inmaterial de Andalucía and Proyecto de Patrimonio Industrial Andaluz (Andalusian Industrial Heritage Project). The province of Huelva is the province with the lowest number of salt heritage records in the whole of Andalusia. There are only two saltworks inventoried, Salinas Industriales de Aragonesa and Salinas de Isla Cristina, both of which are inventoried as Landscape of Cultural Interest (Table 2).

To date, these measures implemented by the competent heritage bodies have not proven to contribute to the preservation of these heritage assets. On the other hand, there are other protective actions that are accidentally contributing to the safeguarding of the activity. This is the legislation on the physical environment of great ecological value where these salt pans are located. However, there is no coordination between plans, legislation and bodies that would ultimately lead to the safeguarding of this ICH.

The active salt mines in the province of Huelva are located in two areas protected by environmental legislation. Salina Aragonesa is located in the Marismas del Odiel Biosphere Reserve and Nature Reserve. The Salinas del Alemán are located in the Marismas de Isla Cristina Nature Reserve. Both are included in the Natura 2000 Network and in the LIC, ZEPA and Ramsar inventories. Likewise, due to their high ecological and environmental value, the

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#### *Cádiz*

San Vicente Saltworks (San Fernando). Architectural values

Barbate salt flats (Barbate). Ethnological values

Saltworks of Nuestra Señora de los Dolores (Cádiz). Architectural values

#### *Huelva*

Aragonese Industrial Saltworks (Huelva). Architectural values. Landscape of Cultural Interest

Salt pans in Isla Cristina (Isla Cristina). Trades and knowledge. Landscape of Cultural Interest

**Source(s):** Own elaboration

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**Table 2.**  
Salt pans inventoried  
in the provinces of  
Huelva and Cádiz

active salt flats in the province of Cadiz form part of the Natura 2000 Network, as well as being included in the LIC, ZEPA, Ramsar and ZEC inventories.

Finally, external agents accelerate the disappearance of this heritage, added to the situation of lack of protection they face. This is the place occupied by artisan saltworks in the market. This activity has been incorporated into the processes of marketing economies, where it has to compete with large industrialised companies. The productivity demanded by the current market share is only attainable by these large industrialised saltworks, as there are not enough artisanal saltworks to meet this demand, sometimes making it unprofitable for families dedicated to artisanal saltworks to continue their activity.

The results conclude that there is a lack of institutional intervention and an excessive role for external agents in the development of the traditional salt activity. The lack of planning for its safeguarding endangers the survival of this heritage asset, but also of the environment it generates on the biodiversity of the marshes. On the other hand, the importance of safeguarding the knowledge and know-how linked to this heritage is recognised in order to ensure an adequate use of the physical environment and the protection of natural environments linked to sustainable practices that respect local ways of life.

Despite these proven values of sustainability, there are no coordinated safeguarding mechanisms at the service of the protagonists of the heritage or of society, nor are there public initiatives to promote its safeguarding, its inclusion in educational processes or its protection in the face of great difficulties, despite being one of the most significant forms of traditional life and local identity in this territory.

## 8. Conclusions

This research recognises the importance of safeguarding ICH, understanding that safeguarding measures are effective if they are adapted to each case. In order to contribute to the safeguarding of artisanal salt activity, a heritage recognised by the coastal communities of the Gulf of Cadiz coastline, the conditions involved in the management of this heritage asset have been documented and exposed.

In contemporary terms, the artisanal saltworks of the southwest peninsular have been a major driving force for economic, social and cultural exchange. The dynamics of globalisation processes intensified the demand for production and promoted the industrialisation of artisanal salt activity.

As a result, the artisanal saltworks have almost entirely disappeared. Through fieldwork, we have compiled their heritage importance and their contribution to environmental protection, as they are also a highly sustainable heritage in terms of the physical environment and biodiversity.

Once the relevance of this heritage as an economic activity had been clarified, we analysed its safeguarding. This analysis revealed the non-existence of heritage protection figures applied to the artisan salt activity in the Gulf of Cadiz. However, this vacuum overlaps with the environmental measures which, from time to time, contribute to the protection of marshes, estuaries and the physical environment of the salt marshes, thus indirectly contributing to their safeguarding. This prevents the uses of their territories from being transformed into industrial, urban or other uses harmful to the natural environment.

The maintenance of craft traditions by the protagonists becomes a way of protecting this heritage asset. The artisanal production of salt becomes the safest way we currently have to ensure the preservation of the traditional ways of life and economies of the area. It also guarantees the sustainable use of coastal environments of great ecological value, as well as the procurement of quality materials that are essential for our nutritional health.

Because it is a heritage that respects the environment, biological and cultural diversity, a way of improving our food hygiene with ecological products, a treasure trove of knowledge

and ways of relating respectfully with nature, contributing to the improvement of the ecosystemic wealth of our natural environment, being minimally invasive and adapting perfectly to the environment in a reversible way, we consider it of the utmost importance and urgency to promote the safeguarding of the traditional artisanal salt activity in order to contribute to a sustainable present and future and to comply with the international objectives of ICH, protecting a heritage of the utmost importance for the historical development of the peoples of the area.

To this end, we consider it of the greatest importance to implement a coordinated safeguarding plan that includes the application of heritage protection; dialogue and exchange with the protagonists; the promotion of a stable social, economic and natural environment for the human groups involved in the artisan salt activity; and continued investment in the education and transmission of this heritage, which does not become incompatible with industrialised salt activity.

## References

- Alonso, C. and Ménanteau, L. (2004), "Métodos y técnicas de la explotación salinera", in Hurtado, A. (Ed.), *Salinas de Andalucía*, Junta de Andalucía, Seville, pp. 47-51.
- Alonso, G. and Medici, M. (2014), *UNESCO Culture for Development Indicators: Implementation Toolkit*, United Nations Educational, Scientific and Cultural Organization, Paris.
- Alonso, C., García, J. and Ménanteau, L. (2003), "Las salinas de la bahía de Cádiz durante la Antigüedad: visión geoarqueológica de un problema histórico", *SPAL*, No. 12, pp. 317-332.
- Alonso, C., Jiménez, M., Cabrera, F. and Ariza, J. (2007), "Geoarchaeology and archaeometry of salt", in Lagóstera, L., Bernal, D. and Arévalo, A. (Eds), *CETARIAE, Salsas y Salazones en Occidente durante la Antigüedad*, John and Erica Hedges. Oxford, pp. 317-325.
- Cabrera, V.M. (2019), "El paisaje salinero canario. Alternativas para su revitalización", *Ge-conservación*, Vol. 15 No. 15, pp. 50-61, doi: [10.37558/gec.v15i0.599](https://doi.org/10.37558/gec.v15i0.599).
- Campos, J.M. and Vidal, N. (2004), "Las salazones del litoral onubense: la Cetaria de El Eucaliptal", *Huelva en su historia*, Vol. 11 No. 10, pp. 51-82, doi: [10.33776/hh.v11i10.931](https://doi.org/10.33776/hh.v11i10.931).
- Campos, J.M., Vidal, N.O. and Gómez, A. (2014), *La "Cetaria" de "El Cerro del Trigo" (Doñana, Almonte, Huelva) en el contexto de la producción romana de salazones del S. Huelva*, Servicio de Publicaciones Universidad de Huelva, Huelva.
- Castro-Nogueira, H., López-Carrique, E. and Aguilera, P.A. (1997), "Salt production in salt pans: a model of sustainable development", *Transactions on Ecology and The Environment*, Vol. 22, pp. 1-9, doi: [10.2495/ECOSUD970081](https://doi.org/10.2495/ECOSUD970081).
- Copán, D. (2003), "El legado de la pesca marítima en Andalucía. Propuesta para su recuperación", *PH: Boletín del Instituto Andaluz del Patrimonio Histórico*, No. 44, pp. 58-63, doi: [10.33349/2003.44.1565](https://doi.org/10.33349/2003.44.1565).
- Escacena, J.L. and García, D. (2019), "Neolithic sea salt production at La Marismilla (La Puebla del Río, Sevilla). Renewed data and complementary hypotheses", *Lucentum*, No. 38, pp. 9-26, doi: [10.14198/LVCENTVM2019.38.01](https://doi.org/10.14198/LVCENTVM2019.38.01).
- Escobar, F. and Morreale, G. (1998), "Universal salt iodisation: a human right for children", *Endocrinology*, No. 45, pp. 4-16.
- Fedakar, P. and Kuzay, G. (2018), "Evaluation of living human treasures Programme in terms of intangible cultural heritage sustainability", *Milli Folklor*, Vol. 15, pp. 90-101, available at: [www.millifolklor.com](http://www.millifolklor.com) (accessed 27 Jan 2023).
- Flores, E. (2001), "Papeles salados. Guía general del estanco de la sal. Archivo General de la Nación", *Historias*, No. 48, pp. 105-122, available at: <https://revistas.inah.gob.mx/index.php/historias/article/view/13582> (accessed 16 May 2022).

- García, J. (1895), *La sal como materia imponible en España, Principales impuestos durante el siglo actual en España, Imprenta y Litografía del Asilo de Huérfanos*, Biblioteca del Banco de España, Madrid, D-3187.
- García, F.J., Alonso, C. and Abarca, J.M. (2017), “Evolución histórica y geomorfología de las explotaciones salineras en marismas mareales. Examples from the Bay of Cádiz”, *Quaternary and Geomorphology*, Vol. 31 Nos 1-2, pp. 45-72, doi: [10.17735/cyg.v31i1-2.54681](https://doi.org/10.17735/cyg.v31i1-2.54681).
- Ghosh, S.K. and Barrick, M.E. (1969), “On the folklore of salt in Spain”, *Ethnologia Europaea*, Vol. 2 No. 1, pp. 150-155, doi: [10.16995/ee.3142](https://doi.org/10.16995/ee.3142).
- Gliberto, F. and Labadi, S. (2021), “Harnessing cultural heritage for sustainable development: an analysis of three internationally funded projects in MENA Countries”, *International Journal of Heritage Studies*, Vol. 28 No. 2, pp. 133-146, doi: [10.1080/13527258.2021.1950026](https://doi.org/10.1080/13527258.2021.1950026).
- Hammersley, M. and Atkinson, P. (2004), *Etnografía: métodos de investigación*, Paidós Ibérica, Barcelona.
- Hueso, K. (2020), “The salt of life, life in salt: salt production in landscapes of high ecological value”, *Cuaderno de Investigación Urbanística*, No. 129, pp. 62-73, doi: [10.20868/ciur.2020.129.4405](https://doi.org/10.20868/ciur.2020.129.4405).
- Labadi, S. (2013), “Intangible heritage and sustainable development: realistic outcome or wishful thinking?”, *Heritage and Society*, Vol. 4 No. 1, pp. 115-118, doi: [10.1179/hso.2011.4.1.115](https://doi.org/10.1179/hso.2011.4.1.115).
- Luque-Fernández, C.R., Caballero, K., Pauca, G.A., Villegas, L., Alcelay, I. and Machaca, J. (2021), “Unmanned aerial vehicle, and GIS tools, to monitor the reproduction of the flamingo *Phoenicopterus chilensis* (Aves: phoenicopteridae)”, *Revista de Biología Tropical*, Vol. 69 No. 2, pp. 733-742, doi: [10.15517/rbt.v69i2.45794](https://doi.org/10.15517/rbt.v69i2.45794).
- Martínez, J. (2012), “La producción fenicio-púnica de sal en el contexto del Mediterráneo Occidental desde una perspectiva diacrónica”, in Costa, B. and y Fernández, J.H. (Eds), *Trabajos del Centro Arqueológico de Ibiza y Formentera*, Museo Arqueológico de Ibiza y Formentera, Ibiza, pp. 9-32.
- Ménanteau, L., Neves, R. and Tros, M. (2012), *Coastal salt marshes and integrated management of protected natural areas. El caso del litoral atlántico de la península Ibérica*, I Congreso Iberoamericano de Gestión Integrada de Áreas Litorales, Spain, pp. 383-396, January 2012, Cádiz.
- Navarro, L., Pasadas, S. and Ruíz, J. (2004), “La triangulación metodológica en el ámbito de la investigación social: dos ejemplos de uso”, in Andréu, J., Padilla, J.L. and Rueda, M.M. (Eds), *III Congreso de Metodología de Encuestas, Book of Abstracts*, Granada, Spain, Editorial University of Granada.
- Osipova, E., Badman, T. and Bille, P. (2018), “The role of World Heritage in achieving environmental sustainability”, in Bille, P. and Logan, W. (Eds), *World Heritage and Sustainable Development*, Routledge, London, pp. 155-167.
- Plata, A. (2006), *El ciclo productivo de la sal y las Salinas reales a mediados del siglo XIX*, *Doctoral Thesis*, Diputación Foral de Álava, Álava.
- Román, E. (2014), *Paisajes de la sal en Andalucía*, PhD Thesis, Universidad Politécnica de Madrid, Madrid.
- Román, E. (2015), *Protección, gestión y ordenación del paisaje salinero de Andalucía*, Cuadernos de Investigación Urbanística, Madrid.
- Song, X., Yang, Y., Yang, R. and Mohsin, S. (2019), “Keeping watch on intangible cultural heritage: live transmission and sustainable development of Chinese lacquer Art”, *Sustainability*, Vol. 11 No. 14, pp. 1-15, doi: [10.3390/su11143868](https://doi.org/10.3390/su11143868).
- Sripanomyom, S., Round, P.D., Savini, T., Trisurat, Y. and Gale, G.A. (2011), “Traditional salt-pans hold major concentrations of overwintering shorebirds in Southeast Asia”, *Biological Conservation*, Vol. 144 No. 1, pp. 526-537, doi: [10.1016/j.biocon.2010.10.008](https://doi.org/10.1016/j.biocon.2010.10.008).

Suárez, J.M. (2004), "Las casas salineras de la Bahía de Cádiz. Un modelo en trance de desaparición", in Hurtado, A. (Ed.), *Salinas de Andalucía*, Junta de Andalucía, Seville, pp. 60-67.

UNESCO (2003), *Convention for the Safeguarding of the Intangible Cultural Heritage*, UNESCO, Paris, available at: <https://unesdoc.unesco.org/ark:/48223/pf0000132540> (accessed 16 May 2022).

Vilà, J. (2001), "Las salinas de Ibiza y Formentera", *Territoris*, No. 3, pp. 191-204.

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