Sustainable tourism initiatives in European saltscapes

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Abstract

When we speak about salt landscapes, or saltscapes, eroded, polluted, lifeless flats come to our minds. Saltscapes, however, are rich in halophyllic fauna and flora. These life forms are well adapted to salty environments but are very sensitive to changes in their ecosystem. Many halophyllic species are included in the Habitats Directive and a number of their sites are within the Natura 2000 network. Saltscapes are also rich from the cultural and ethnological points of view. The industrialisation of the salt business, in combination with low transportation costs, however, have led to the abandonment of the smaller, traditional salt making sites everywhere. Many examples of agonizing or already abandoned solar evaporation salt making sites (salinas) can be found in the Mediterranean basin and in inland Iberia. Fortunately, a number of managers of these sites have changed the orientation of their businesses towards sustainable tourism and artisanal salt production. In this presentation, some examples of sustainable tourism in salinas will be discussed as well as the role of different saltscapes conservation initiatives.

Keywords: saltscapes, salinas, salt making, sustainable tourism, cultural landscape conservation, protected areas, saline wetlands.

1 Saltscapes as wetlands

High salinity is associated with polluted soils and desertization. However, saltscapes are defined here as “a type of cultural landscape formed in salt making areas, combining saline semi-natural habitats and cultural values related to salt-making activity”. Most saltscapes function as wetlands and are treated as such by policy makers, nature conservationists, visitors, etc.
Wetlands are landscapes in which water is present either on a permanent or a temporary basis. They are highly valuable for the local population thanks to the high productivity of the ecosystems they host, as well as the services they provide (food, transportation, building materials). Also, wetlands are of important cultural and spiritual value [1].

The Ramsar Convention of Wetlands holds a wetland classification system in which salt lakes and marshes are included. Ramsar distinguishes between coastal and continental or inland saline wetlands, temporary or permanent salinas and artificial saline wetlands (that is, salt making sites). The Ramsar List has included a number of them, which are about 15% of the total number of Ramsar sites. Most of these are coastal salinas or salt marshes, since the size of inland salinas is usually too small to be of major importance for birds [2].

As we know, wetlands are disappearing in Europe. In the UK, the surface of salt marshes has been reduced to half its size since they have been in use for salt production in the Middle Ages. Between 1950 and 1984, 20,000 hectares of salt marshes have disappeared in the Wadden Sea and only 40,000 are left. The Netherlands, France, Spain, Germany, Italy and Greece have lost more than half of their wetlands in the last century [3]. An inventory of Spanish lakes made by Pardo [4] in 1948 includes 80 salt lakes, which represents 3% of all Spanish lakes. It is not known how many are found today, since only partial inventories exist.

2 The natural values of saltscapes

In the light of Zonneveld’s [5] definition of landscape, “the part of space on the surface of the Earth that consists of a complex of systems formed by the activity of rocks, water, air, plants, animals and man, and whose physiognomy make it a recognizable entity”, saltscapes can be considered an easily recognizable entity due to the special saline conditions it imposes on the flora and fauna it hosts. The presence of salt forces biota to find survival strategies based on physiological adaptations that are energetically very demanding. Therefore, the biodiversity found in saline habitats is low, but highly specific and sensitive to changes in salt concentration. The most common fauna are halobacteria, crustaceans (especially Artemia sp.), insects and birds [6,7]. Most species can usually survive in a narrow range of salt concentration, occuring just where the right degree of salinity and salt composition is found [8]. Halophylic flora and fauna communities are thus easily outcompeted by generalist species as soon as the saline conditions disappear. This narrowly occupied niche makes saltscapes easily recognizable as an entity.

There is a high diversity of saltscapes, from the arctic saltmarshes in Canada to hypersaline lakes in the high Andes or the rock salt making sites in the Mediterranean, many different types of saltscapes can be found. This diversity has been acknowledged by the EU and the Habitats Directive (Directive 92/43/CEE) includes a number of habitats of community interest related to saline environments (atlantic, mediterranean and continental saline pastures, halophylic mediterranean bushes, mediterranean and pannonic salt steppes, etc.).
Here we will only discuss coastal and inland salinas and ignore the high altitude salinas, which are found in America and Asia, out of the scope of this study. Most coastal salinas are found in the Mediterranean basin (Spain, France, Italy, Greece, Malta, Slovenia, Croatia, Tunis, Libya, Egypt, Turkey) as well as the southern European Atlantic shores (Canaries, Morocco, Spain, Portugal, France). Inland saltscapes, mainly found in the Iberian peninsula, are located in flat areas or more or less steep depressions in the middle of which there is a temporary or permanent body of salt water. Many athalassohaline lakes (inland salt lakes) and salt springs are found in arid and semiarid zones, usually in depressions of the Tertiary Era or in endorheic areas [6,7].

3 The cultural heritage of saltscapes

Heritage is defined here by two main features. First, it has a sense of belonging, “a form of heritage that is inextricably linked to the area in question and has a clear association with it”. Second, it involves a sense of time, “based on the history or geography of the place”. Therefore, cultural heritage does not only refer to museums and monuments, but encompasses any cultural expression from the past that has been inherited by present society [9]. It can be divided into material and intangible heritage. The first type is the physical result of cultural expression, that is, objects of historical, archaeological, artistic or scientific interest as well as buildings or other constructions that cannot be moved from place. The second type, intangible heritage, are those activities, techniques, customs, traditions and beliefs that belong to a certain culture [1].

Salt making, in the context of saltscapes, takes place in so-called solar evaporation salinas. These are a type of facilities where brine is conducted via channels and spread in flat, shallow basins to facilitate evaporation of the brine’s water content by effect of solar radiation and wind, leaving salt crystals ready for collection. This type of facilities can range in size between a few to a few thousand hectares. They are remarkably variable according to local history and culture, as well as the use of site-specific (pre-)industrial technology [1]. Therefore, salt making in Europe has left a considerable amount of cultural heritage behind, both material and intangible. To the first type belong all the buildings, facilities and tools used for this activity. Solar evaporation salinas usually have a series of channels, evaporation basins, crystallisation pools, pumps, windmills, storage buildings, salters’ homes, building, maintenance, scraping and collection tools, etc. Worth mentioning are the windmills used for pumping water in Trapani (Sicilia), Piran (Slovenia) and in different salinas in the Canary Islands [10,11]. Also, mule driven waterwheels were used to pump brine in Imón (Spain) and elsewhere in inland Spain [12]; man powered wells in Rio Maior (Portugal), Salinas de Añana and Poza de la Sal (Spain), etc. Particular salters’ homes and special vessels for salt transport were used in Cádiz (Spain) [1,13,14].

Salt making also is full of traditions, beliefs and local knowledge of technology. Much of this knowledge is being lost due to the abandonment of traditional salt making activities everywhere in Europe, although exceptions
occur, see case studies. Salt has been used for centuries as a food preserving material and as a food item. Therefore, salt has also a culinary heritage. Salted fish or meat, or vegetables in brine exist everywhere. Researchers work to preserve and recover recipes in which salt is the main ingredient. The *garum* (a salty fish paste) prepared by ancient Greeks and Romans is a good example of culinary heritage [15,16]. Salt water also has healthy properties and has therefore been used in spas since ancient times. Examples of salt spas can be found in numerous places in the Mediterranean and Atlantic coasts. Also inland spas can be found in Aragón, Castilla-La Mancha and Castilla-León, in continental Spain [15].

Many salt making sites, abandoned or not, have built salt museums, salt interpretation centres, ecomuseums, etc. with the purpose of “preserving and restoring within the restrictions of the feasible, everything that imprinted and still does the character of our landscape” [17]. In Europe, about 45 such facilities exist, some of which are related to salt mines [13,15,16,18,19,20,21]. Many others just allow visitors in, without having any specific facilities for them. For instance, it has been estimated that 5,000 people spontaneously visit the Salinas of Imón, in Guadalajara (Spain) every year, without being promoted by any body, private or public (Assoc. of Friends of Inland Salinas, unpublished data).

4 Tourism in salinas and saltscapes

Tourism is defined as the “activities performed by people when they travel and stay away from their places of residence, whether for business or leisure reasons” [22]. Tourists, as opposed to visitors, stay overnight between one night and one year. According to a Eurobarometer [23] survey, 50% of the Europeans choose their holiday destination according to the scenery. Climate, historical interest and environment are also good reasons for 25-45% of the surveyed Europeans. The types of tourism found in salinas and saltscapes can be considered sustainable tourism, which respond to the behaviour described above. It manages resources, fulfills economic, social and aesthetic needs and maintains cultural and natural heritage [9,22]. Within this broad category, many different types of specialised tourism can be found in salinas [15,16,24,25,26,27,28]:

- **Cultural tourism**: Rather heterogeneous group of tourists who are interested in culture, traditions, art, history, etc. in different degrees. Salt making is seen as a mixture of culture and history.

- **Agrotourism**: Tourists demand small sized, cosy accommodation. They seek a blend of culture and nature and travel in small groups (couples or families). Salinas offer both in one visit.

- **Ecotourism**: People who are interested in the biodiversity and the rare flora and fauna found in salinas, as well as in their landscape values. They demand well signed paths and travel alone or in small groups and usually stay outdoors in salinas. A specific type of ecotourism is bird watching, very common in larger coastal salinas.
- **Educational tourism**: Usually, groups of students who visit a specific salt making site or museum and study one or several aspects of it in different degrees of depth.

- **Health tourism**: Spa visitors are usually middle or older aged and focus their interest on the array of treatments offered by the facilities.

- **Gastronomical tourism**: Visitors are interested in the culinary side of salt and, besides learning how it is obtained, hope to taste new recipes or salt types. In some areas, this type of tourism combines salt with other local specialities (wine, olive oil, fish, seafood). It usually attracts middle aged couples.

## 5 Case studies

### 5.1 Guérande

The salt marshes of Guérande lie in northwest France. Today, 250 salt workers produce yearly 10 to 12,000 tonnes of salt in its 2,000 hectares. However, Guérande was an artisanal salina and was bound to disappear early in the seventies, under the threat of urban sprawl and uncontrolled development. The local population realised that the salinas were an important part of their heritage and economy; slowly by slowly they reconstructed the abandoned facilities, made them productive again and trained young salters. In the nineties, the Guérande gray salt (*sel gris*) became the well known product that it is today, thanks to a good marketing campaign, favourable regulations and a feel of belonging of the French public. The *sel gris de Guérande* is sold to tourists with an added value of heritage, landscape, holiday feelings, nostalgia, etc. [29]. Guérande hosts a museum of salt marshes (*Musée des Marais salants*), which was founded already in 1887, and an eco-museum, devoted to the natural values of these salinas, mainly birdlife [30].

### 5.2 Piran

Slovenia has a very short coastline, most of which is used for touristic purposes. In the middle of it, lie the large Sečovlje salt pans. Still active in the seventies, a few people raised their voices to defend the cultural and natural heritage of these salinas. Two decades later, an open air museum was built and in 1990, the salinas of Piran were declared protected area. Large restoration works were needed for the buildings, channels and dykes, which were performed in politically unstable times. Already in use in 500 AD and essential for the Venetian power in the 16th century, preserving them is not only important for Slovenian heritage, but also for Europe’s. Today, Piran salters follow specific training courses and show tourists and visitors how salt is being made – live [11].

### 5.3 Salinas de Añana

The salt valley of Añana lies in a deep V-shaped valley, in the Basque Country. Salt is produced on wooden platforms on stilts, set up in terraces [31,32]. The incredibly complex array of hanging channels and platforms had been
progressively abandoned in the sixties and had fallen in bits and pieces. The provincial government of Álava have been working in their restoration since a few years, painstakingly drawing every piece of wood and every stone, in order to respect the original structure [31]. Before that, the ownership situation needed to be solved. After years of discussions, the 80 former owners created a company in order to be able to negotiate the terms of the renovation agreement with the authorities. Some of the restored platforms are now used to produce salt again, which is apparently very popular among Japanese tourists.

5.4 Læsø salt

In such a northern latitude, evaporating brine with sunshine is a Herculean task. Therefore, salt is obtained by boiling brine in large cast iron pans. Numerous archaeological studies have shown that salt had been produced in this small island. No one knew how exactly, so Poul Christensen went to Germany to study brine boiling techniques and went back to the island to set up his own salt making hut, with support from the local authorities and some sponsorship. After several failures, he finally succeeded in producing a soft, airy salt. Today, twelve years later, he uses the hut for educational purposes and visitors willingly pay his salt as if it were a piece of art. *Læsø Salt* has significantly contributed to put the island on the tourist map of Denmark [33].

6 Other efforts to save saltscapes

Efforts are being made from universities, authorities, NGOs, etc. to gather knowledge and recover the cultural and natural heritage related to salinas and salt making. Examples worth mentioning are the ALAS project, the MedWet salinas network and the Chemins du sel initiative. The ALAS project (2000-2002) coordinated efforts from four European regions with traditions in salt making (Lesvos in Greece, Figueira da Foz in Portugal, Piran in Slovenia and Pomorie in Bulgaria). ALAS aimed at the development of salt production by means of experience exchange, training of salt-workers, management of salt-works in harmony with the ecological requirements and the collection and preservation of material and intangible culture related with salt production. ALAS produced a wealth of technical and dissemination material related to salt and salinas [7,16,18,25,26,27,28,29]. As a result of the ALAS project final conference, the salinas network promoted by the Mediterranean Wetlands (MedWet) initiative was born [34]. The aim of this network is to promote the efforts for the development and the implementation of a pan-Mediterranean strategy for salinas, with the participation of all relevant stakeholders. So far, the network has been actively searching for funds to perform this task. Another interesting initiative is the Chemins du Sel tour. Gilles Desomme, a French biologist, will finish in September 2004 his bicycle tour around Mediterranean salinas. He will have visited over a hundred salinas in sixteen countries. The purpose of this trip is to raise awareness on the fragility of the natural and cultural heritage of saltscapes and promote their economic value [35]. The Association of Friends of Inland
Salinas [36], a Spanish NGO, is collecting and disseminating the knowledge resulting from these efforts, as well as trying to defend the interests of inland traditional salinas, which are a rarity in Europe.

7 Conclusions

Tourism in salinas should not be based only in the option to visit the facilities or a small museum. It should not be forgotten that traditional salt works are a mixture of culture, nature, agriculture, industry, history, architecture, archaeology, geology, medicine... The touristic potential of salinas is high, if one can use these different approaches to it. Active tourism should be promoted, in which visitors can participate in salt production, enjoy a spa, taste traditional salt recipes or learn about the cultural and natural heritage in a proactive way. Tourism in salinas can certainly save their natural and cultural heritage from being lost, however, there should be other measures of support.

Salinas that are usually found in rural, less developed and populated areas, should be supported in their survival with measures related to rural development. Rural areas in western Europe have lost many of their traditional productive functions, but have acquired new ones, such as the production of high quality food items, nature conservation, protection of cultural heritage, landscape management through amelioration of degraded landscapes and renovation of traditional architecture, promotion of handicrafts and artisanal production in general, cultural, touristic and leisure services, etc. [37]. Small traditional salt production, sale of artisanal transformed products (soap, bath salts, vegetables in brine, gourmet salts, etc.), may economically support salinas. The buildings can be used for alternative purposes (education, restoration workshops, cultural events, concerts, etc.) and the outdoor facilities have many possible uses (ecology workshops, meditation, filming, etc.). There are numerous ideas that are economically viable and compatible with the necessary respect for the cultural and natural heritage of saltscapes.

References