

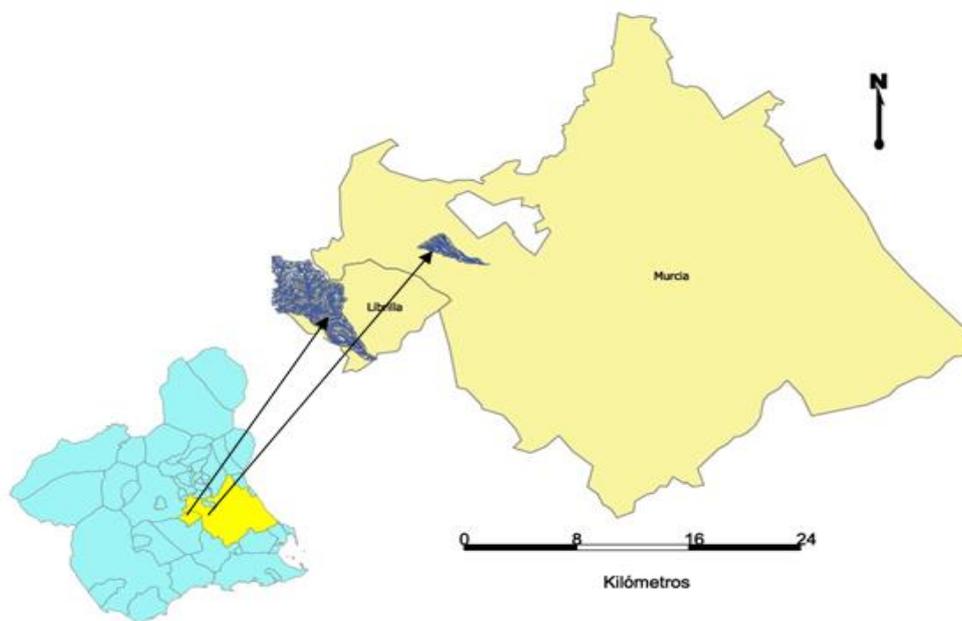
SALINE INTERIOR SPACES: THE SALTWORKS OF SANGONERA LA SECA AND LIBRILLA IN THE REGION OF MURCIA

*José Antonio Albaladejo García y José María Gómez Espín¹.
University of Murcia².*

1. INTRODUCTION

In the Depression Prelitoral in Murcia, terms of Murcia and Librilla, stand several indoor salt linked to the drying of sea intrusion and gypsum marl outcrop of Messiniense. The presence of this salt material traversed by a stream generated by the brine, which together with the rainfall poverty and the high number of hours of sunshine annually in semiarid environment as the Southeast of the Iberian Peninsula, allow ordering these spaces for precipitation salt (GIL GUIRADO *et al.*, 2010a); as in the boulevard of Salinas in Sangonera la Seca (Murcia), or the boulevard of Orón river in Librilla. (Figure 1).

FIGURE 1
Geographic location of the study area. Basin of the boulevard of Salinas and Basin of the boulevard of Librilla or Orón river.



Source: Compiled from the files "Municipalities" and " MDE " obtained in the IGN.

¹Departament of Geography. University of Murcia. E-mails: joseantonio.albaladejo@um.es
espin@um.es

²Some of this work is part of research project CSO2012-39564-C07-06 about heritage landscapes of Spain. The Mediterranean Spain and the valley of Ebro.

2. OBJECTIVES AND METHODOLOGY

The purpose of this work of Regional Geography is to discover and explain how these hydrogeological spaces as places of interest are arranged to take advantage of saline water within the region. Assess the historical and socio-economic role of these salt mines as strategic areas for the production of salt. Analyze the current status of the various elements that allowed the harvest of this asset. Putting the cultural value of these holdings in order that society assume as heritage in the territory of the Region of Murcia.

Most of the studied areas are in a abandonment state so in the methodology of this research stands fieldwork (key aspect to the location by coordinates and measurement of the main hydraulic elements) to discover the remains of the hydrogeological heritage and rural areas of these inland saline ordered, along with the use of oral sources through interviews with people related to the activity (official chroniclers, local scholars, owners and workers of the salt, etc).

3. ANALYSIS AND DIAGNOSIS OF SALTWORKS OF INSIDE

The saltworks of inside under study, capture saline water from a spring and is channeled into accumulation rafts being transported to the beds of crystallization whose shape and distribution is not classify, without following any model, which eventually evaporates and after a few days the pure salt is obtained.

3.1. SALTWORKS OF SANGONERA LA SECA.

In the saltworks of Sangonera la Seca (UTM Coord. X = 650665; Y = 4201610), the brine was captured by a gallery of unknown length located on the bottom of the boulevard of Salinas. So the brackish water corresponds to horizontal wells (mined or excavated galleries) (GIL GUIRADO *et al.*, 2010b). These traditional techniques of capture water through horizontal well, allowed to drive the water by gravity to the surface, where it is accumulated in a storage raft (GIL MESEGUER *et al.*, 1993).

As affirm (MARTÍNEZ *et al.*, 2005), according to data and measurements obtained in the field work, the gallery captures water from the gypsum formations to be conducted through a pipeline of approximately 800 m to the storage raft. This salt center has 8 deposits (rafts allocated for accumulation and heating the brine) of rectangular and quadrangular form, of dimensions ranging from 22 x 6 m to 24 x 20 m, then brine it led to the crystallization ponds (now disappeared by building a raft for irrigation).

The Kingdom of Murcia salt was supplied during the Middle Centuries (XIII -XV) mainly from the saltworks of Sangonera la Seca. So the salt of Sangonera was one of the main sources of wealth of the kingdom. Thanks to the benefits from this exploitation could undertake several construction and arrangement, as the wall of Murcia or ditches from the vegetable garden.

Numerous conditions to protect the saltworks were imposed, as was the ban on cattle through that saline space. The salt production was surplus, so the salt obtained in Sangonera la Seca was exported to all southeast of Castilla and the northern part of the province of Granada. On the other hand, at the end of s. XIX, the fame of this product led to numerous falsifications.

The water from this salt center was declared industrial mining in the 70s of s. XX, period that coincides with its abandonment by the fall in the price of salt, not being profitable to extract this property. Currently, this space belongs the company "El Pozo", where irrigation has been the main protagonist of this space in recent years. Some elements have being modified, which participated in the process of removing the salt, inflicted by the construction of several rafts, and generally, the adequacy of the land to a modernized irrigated space, assuming a break in the structure and dedication in salt activities that had this farm, according to (TORRES FONTES, 2005), from the s. XIII.

SALINE INTERIOR SPACES: THE SALTWORKS OF SANGONERA LA SECA AND LIBRILLA IN THE REGION OF MURCIA

3.2. SALTWORKS OF LIBRILLA.

The saltworks of the municipality of Librilla are located on the right bank of the boulevard of Librilla or Orón river (UTM. Coord. X = 642995; Y = 4196674), *"although there have been a practice of these salt activities at the Centre historical"* in interview with the columnist Fernando José Caballero Barquero, with a requalified urban land currently use, so almost all of salt heritage is disappeared.

These saltworks of inside took advantage of local knowledge and resources for economic purposes (almost subsistence) linked to quotidian life, without have great significance or have a monumental character, simply serving local communities who exploited.

The two saline centers of municipality were a distance about 4 km: the first located in the middle of the boulevard of Oron, where the salt is produced in its course (it is still noticeable this natural process); and the second located in the center of town, known by locals as the saltworks of Pepe Meoro, being receiving water coming from the watercourse to a storage raft, from this to the two sets of 12 crystallization rafts where natural drying for removal of the salt occurred.

Thus, water is captured in a nearby phreatic surface to be channeled, until the saltworks of center of Librilla, as well as those located in the middle stretch of the boulevard, so that the water creep salts that are in the subsoil, appearing in surface the minerals which has been collecting the terrain. As conductive elements saltwater, were useful gutters of aqueduct (later to the salt construction) that united the two sides of the boulevard of Oron. After removing the salt, the product was distributed by trucks throughout the province of Murcia, constituting a source of concern to the business of the municipality of Librilla during the s. XIX and early s. XX.

These saline interior spaces were abandoned and disappeared almost entirely during the 50s of last century, both by the falling price of salt, as the difficulty of maintaining the channel carrying the brine in the boulevard, result of floods that run through it.

3.3. OTHER SALTWORKS OF INSIDE IN ABANDONED STATE, WHICH NEED CONSERVATION AND REHABILITATION

In the High Meadow of Segura, there are saltworks of inside found in a state of neglect as the Ramona in Calasparra, those of Realillo in Cieza, or Curro in Ricote-Blanca; or San Antonio de Padua in Ojós. In the Altiplano, the Salero of the Águila or the old saltworks of Principal in Jumilla. In the northwest, the Periago in Caravaca de La Cruz that about twenty years ago ceased to be exploited.

4. CONCLUSIONS

These saline centers are located in rural areas where salt production enabled a remarkable economic growth in the local and regional assembly. The result of this historical socio-economic importance allowed a territory management that generated unique landscapes.

The saltworks of Librilla have undergone a process of patrimonial virtually irreversible decline for restoration (there are only some remains in the mainstream of the boulevard of Oron river, while those located in the center of town have totally disappeared), so that is accentuated forgetting this space.

On the other hand, the saltworks of Sangonera still have much of their facilities in a fully farmed environment, and in a serious state of disrepair. Constituting, today, a real place between modernism and tradition, where without the existence of landscape figures and cultural heritage which might involve a system based on conservation, rehabilitation and management of this saline space future, eventually disappear this hydrogeological heritage over 800 years of history.

5. BIBLIOGRAPHY

- GIL GUIRADO, S. y GÓMEZ ESPÍN, J. M^a. (2010a). «Salinas de interior en el territorio de la Región de Murcia». *Papeles de Geografía* n^o 51-52. Pp. 115-130.
- GIL GUIRADO, S.; GIL MESEGUER, E. y GÓMEZ ESPÍN, J. M^a. (2010b). «El territorio, un bien que conviene ordenar: Las salinas del litoral e interior de la Región de Murcia». *Cuadernos Geográficos*, n^o 47. Pp. 611-635.
- GIL MESEGUER, E. y GÓMEZ ESPÍN, J. M^a. (1993). «Galerías con lumbreras en el sureste de España». *Papeles de Geografía* n^o 19. Pp. 125-145.
- MARTÍNEZ, M. y MORENO, L. (2005). «Los balnearios olvidados y las salinas de interior de la Región de Murcia: Un patrimonio hidrogeológico a redescubrir y su aplicación a la didáctica geológica». *Enseñanzas de las Ciencias de la Tierra.*, n^o 13. Pp. 177-184.
- TORRES FONTES, J (2005). «Las salinas murcianas en la Edad Media». *Revista Murgetana*, n^o 113. Murcia. Pp. 9-31.