

In praise of the industrial landscape.

Rehabilitation of Valle Salado de Añana salt flats.

Type of intervention

Restoration Rehabilitation / Renovation

**Concerned elements
on the intervention project**

- 1. Foundations and underground structures
- 2. Vertical structures
- 3. Horizontal structures and vertical connections
- 4. Roof and terraces
- 5. Façade and building envelope
- 6. Finishes and completion elements
- 7. Integrate services
- 8. General strategies for building recovery

Site Valle Salado de Añana
Salt flats of Añana, Álava, Spain

Objectives Rehabilitation of historical heritage. Pre-industrial architecture.

Property Private

Designer Mikel Landa & Alazne Ochandiano, architects (1998-2012)
Javier Bárcena, Raquel Mielgo & Luis Zufiaur, architects. (2011-2012)

Date 1998- present



Background to the intervention

These salt flats, together with the Poza de la Sal salt flats, are among the most important in the north of the Iberian Peninsula. The exploitation is documented since the year 822, however, the salt activity is more than six millennia old. Ceramic deposits underneath the current threshing floors led to the investigation of a previously unknown phase. The salt makers evaporated the hyper-concentrated brine from the natural springs in ceramic vessels by burning wood. It has been possible to date an era of natural evaporation in the year 80 AD, which represents a radical change in the method of salt production, with obvious consequences on the landscape. It is from the beginning of salt production by natural evaporation on clay terraces that the landscape we know today began to take shape.

Until the revolution of mechanical cooling systems, salt was a highly desirable commodity, to the point of being known as the "white gold" of pre-industrial times. This was due to its many utilities (such as food preservation) and to its scarcity, since until the mining of subterranean deposits its production was limited to coastal salt flats and inland areas where there were saline springs, or accessible salt rocks. It came to be used as a form of payment in Roman times, which is the origin of the term "salary".

In the Middle Ages the Salinas de Añana flourished with the salt trade. At the time of its maximum splendor, there were more than five thousand evaporation pits in the valley, which, in total, occupied a surface area of 95.233 m².

Due to various circumstances, such as the introduction of improvements in the coastal salt flats or the transport revolution with the installation of the railroad, the salt flats entered a phase of decline that culminated in a progressive abandonment from the late 60s of the twentieth century, reaching its almost complete abandonment in 1998. This

situation led to the fact that a good part of the threshing floors are currently sunken. However, the growing interest of the society for its heritage motivated the public institutions to promote a Master Plan for the integral recovery of the complex. These were declared Historical Monuments.

The complex project to restore one of the world's most important salt cultural landscapes has been underway since the late 1990s and can be divided into three stages:

- The first was developed between 2000 and 2004 by a multidisciplinary team of professionals who drafted the "Master Plan for the Integral Recovery of the Salt Valley" to document and investigate the tangible and intangible heritage of the property and establish the guidelines that provide a future for the Salt Valley.
- During the second period (2005-2008), some of the actions prescribed by the Master Plan were implemented, but above all, the foundations were laid for the future management of the salt flats.
- The third stage began in 2009, when the Añana Salt Valley Foundation was created, the entity in charge of its management, recovery and enhancement.

Description of the building

The unusual salt architecture that has been generated in Añana is the result of the exchange of cultural and human values that have been developed throughout its more than seven millennia of history.

This popular architecture does not show the rigid architectural styles of erudite knowledge, but rather, due to its utilitarian

character, technological innovations have coexisted harmoniously with the material testimonies of the different periods in the valley.

Following the patterns marked by experience and tradition, the salt makers have created an unusual, anonymous, popular and traditional architecture.

With rare exceptions, the salt architecture of the Salt Valley has not been built by specialized labor, but by the salt workers themselves, using the materials provided by the natural environment: stone, wood and clay.

In the process, the minimum resources have been used with the maximum performance in an absolutely sustainable and ecological way, applying an ingenious technology.

The result is a humanized landscape formed by more than four kilometers of wooden channels that carry salt water from the springs to the wells and the stepped terraces, built with stone, wood and clay, that support the threshing floors where the salt is collected.

This has meant a high fragility of the structures, which require continuous care and maintenance. The salt workers have been able to take advantage of the stone walls as a base for the wooden structures on which to build terraces of great height that, in some cases, exceed the eight meters.

The Diagnosis of the building (values and state)

SPRINGS

The springs are upwellings that supply brine at surface level in a natural and continuous manner, which allows them to be used without the need for drilling or pumping. There are a large number of them in the Salt Valley and its surroundings, but only four of them -Santa Engracia, La Hontana, El Pico and Fuentearriba- are usable, since their flow is permanent -about 2 liters per second- and their degree of salinity is close to saturation -210/240 grams of salt per liter-.

BRINE CONDUCTION

The salt water is transported continuously and by gravity through a network of channels called royos. Although most of them were originally simple ditches dug in the ground, over time they were replaced by hollowed wooden trunks, generally of pine, which were used to transport the salt water.

BRINE WELLS

The reservoirs are the heart of the salt-making farms, and their filling is the cause of a centuries-old organization of the brine rights, which regulated the filling times of each farm. This is due to the limited quantity of salt water emanating from the springs, the large number of existing threshing floors and the concentration of the production work during a few specific months, from May to September.

This explains the high number of wells in the salt mines (currently 848) and the need for a complex set of regulations for the distribution of the use of the salt, known as the "Master Book".

The morphology of the wells is varied, but they can be broadly divided into four types: exterior wells, manhole wells, heater wells, and soakaway wells.

EVAPORATION BEDS OR PLATFORMS

The production of salt in Añana is based on the evaporation of the water contained in the brine by natural means. To do this, the salt water is poured onto horizontal platforms called threshing floors, the surface area of which varies between twelve and twenty square meters.

The groups of threshing floors worked by the same owner are called farms. These adapt to the complex orography of the landscape, both in shape and height, giving rise to complicated figures that occupy most of the Salt Valley. At present, there are more than 2,000 threshing floors already recovered and in production.

WAREHOUSES

The spaces created under the threshing floors are used by the salt makers as salt storage areas. The salt produced from May to September is stored in these warehouses. In October it is transported to the storage areas located outside the farm for subsequent packaging and marketing.

Rehabilitation works

Rehabilitation of the salt flats, consisting of the elimination and reconstruction of the floor on the salt flats and waterproofing of Greda, collecting separately the wood to be reused and the wood to be eliminated from the sides, the horizontal and vertical decking, the purlins and beams of the upper framework, right feet, braces and floor framework, using Scots pine for the new pieces.

Refurbishment of the first floor of the Salinas de Añana town hall building, as premises for the Añana Salt Valley

Foundation, including the restoration and reinforcement of the original wooden structure, new partitions, flooring, cladding, false ceilings, thermal and acoustic insulation, interior and exterior carpentry, electrical installation, plumbing, heating and elevation.

A cover was also provided for the study of the archaeological remains, consisting of the consolidation of the excavation by recomposition of walls, perimeter drainage, backfilling of excavations with gravel and ballast, lime mass concrete foundations, laminated wood structure and Bordeaux canvas cover welded by in situ bodies.

ARCHITECTURAL PROPOSAL

The future of the salt mines involves the recovery of sustainability and architectural and productive balance in the Añana Salt Valley. It has also been decided the rehabilitation of several buildings functionally and historically linked to the salt exploitation to be used as a center for the different activities related to the production of salt, its packaging and the leisure and educational initiatives that are developed.

In order to maintain the valley, it is necessary to continue with the work of conditioning the network of roads and brine distribution channels. In this way it is possible to produce salt in any area and carry out the proposed activities.

During the 20th century, traditional salt mines in general suffered a decline due to unequal competition with industrial salt. The imbalance between the efficiency and productivity of the industrial processes, with the traditional ones, led the latter to be unable to compete in the market, since the price was established by the large industrial producers. It was the awareness of the value of salt, which allowed orienting the Master Plan towards a future in which the economy of the

Añana Salt Valley would be based, once again, on salt. As a consequence, a sustainable, slow recovery was proposed, based on the coordination between the recovery of the terraces and the production of quality salt, which would generate a viable and solid outlet for the Añana Salt Valley. A collaboration plan with the great chefs of the country, based on the quality of the site and the project, and evidently, on the quality of the salt, allowed the launching of the commercialization of the Añana salt, produced as always, by local saliners, and thanks to the action of the sun and the wind.

This production is complemented by a whole plan of research, knowledge generation and valorization, open to society.

The enhancement also incorporates other incentives such as activities related to tourism, culture and leisure, which complement the real engine for the recovery of Añana, which is the production and valorization of salt. Thus, the objectives of the project are aimed at the production of high quality salt, the generation of historical-educational activities, events, tours and educational visits.

The concept of "minimum intervention" in the Salt Valley could be defined as moving from producing salt in the traditional way to producing salt in the traditional way, but with an awareness of its value.

Therefore, the Foundation's objective is to continue the process of sustainability of the Salt Valley Cultural Landscape and reach again the optimum -perfect- point that was maintained, in general, during the past centuries. The tools to achieve this are the know-how of the salt workers developed over the millennia and to recover the sustainability lost with the introduction of new construction techniques in the 20th century, which altered its fragile ecological and sustainable balance.

As has been seen throughout the project, it is Valle Salado itself that determines the number of threshing floors in operation. Therefore, the Management Plan itself is flexible in this aspect, since the continuous process of adaptation, innovation and change that it has undergone throughout its history, may introduce modifications that allow this number to fluctuate according to the needs and possibilities, as long as the principles of the salt philosophy are maintained and, in particular, the criteria of sustainability that will maintain the authenticity and integrity of the property.

Assessment of the results

The Foundation, as the sole owner of the Salt Valley, has three main goals:

- Recovering and preserving the material and environmental culture of the landscape to ensure its sustainability.
- To produce with traditional techniques, in a sustainable way and respecting the millenary "know-how" of the salt workers, a high-quality salt whose sale is contributing to the self-financing of the project.
- To develop, under a recovery approach open to citizens, cultural and tourist initiatives that are being a driving force for social, economic and tourist development in the region.

Since its creation, the Foundation has been aware that its objective could not focus solely on the Salt Valley but had to go much further. After years of work, it has already been demonstrated that compliance with the route set out in the

Management Plan, a document that updated in 2013 the guidelines of the Master Plan (2000-2004), makes the Salt Valley a key point for the tourist, cultural, economic and social revitalization of Alava and the Basque Country.

With a long-term action schedule, the Añana Salt Valley Foundation also promotes various actions open to citizens from the social, functional and landscape point of view. At the same time, it also develops research; respects and disseminates traditional construction and production systems; and promotes other resources that, working in a coordinated manner, collaborate in the enhancement of this unique Cultural Landscape in the world.

References

Valle Salado de Añana. Manual de preservación arquitectónica Añana Salt Valley. Architectural preservation manual (Bilingue) Mikel Landa y Alazne Ochandiano. AITIM, Madrid 2014 ISBN: 978-8487381-45-4

<https://vallesalado.com>

<https://www.instagram.com/vallesalado/>



Images



Fig.1: Aerial view of the Añana Salt Valley and its threshing floors.



Fig.2: View of the spaces created under the threshing floors used by the salt makers as storage areas for the salt produced from May to September.



Fig.3: View of the different levels of threshing floors, wooden construction, and stone retaining walls.



Fig.4: View of the wooden under structure that supports the threshing floors.