Valle Salado de Añana

In this salt landscape located in Salinas de Añana (Álava -Basque Country), 30 km from Vitoria- Gasteiz, man has taken advantage of the salt springs for thousands of years to obtain a product that is essential to life, Salt.

Valle Salado, one of the most ancient industries in the world

From our current perspective, it is almost impossible to understand how salt, such an abundant and low-cost product, could be so important historically. We must bear in mind that salt was and is essential in many industrial processes as well as in human food and animal feed; more so when industrial cooling systems had not been developed, as it was one of the most effective methods of preserving food.

Salt has been the cause of many wars and enforced peace processes, of death and success, of wealth and poverty, of the creation and destruction of towns and cities and, of course, of greed but also a cause for joy among human beings.

Valle Salado is one of the best examples in the world of the history of salt, known since antiquity as "white gold". The natural emergence of the salt springs caused the establishment of a settlement in the surrounding area that has developed uninterruptedly for thousands of years and that, based on the production of salt, has learned to adapt to the conditions and specificities of each historical period.

Click on each of the boxes on the right and visit the various historical periods of the Añana salt works.

The Origins

The origins of salt production in Valle Salado de Añana are linked to the progressive need of man to obtain the only rock in nature that is edible, salt. In recent years, archaeological research has revealed that Valle Salado is a unique archive of mankind's history. More specifically, a large part of the southern section of the salt works is an extensive archaeological site that is providing important data on the last six millennia that enable us to know when the systematic production of the salt springs began, how salt was obtained and how the salt workers lived at the time.

Ongoing research is revealing that the origins of salt production in Valle Salado de Añana go back about 6.700 years. In prehistoric times, the salt works were very different from what we can see today. This is because the production system was different. It was not based on exposing the brine that flowed from the springs to the elements (sun and wind) but on forced evaporation using log fires.

This production system, which consists of filling ceramic pots with brine and placing them on a fire until the liquid saturates, was used at Añana. These pots, which were like moulds, created compact cores of salt that had to be extracted by breaking the clay containers.

The salt-making facility in Valle Salado during this period was located at the entrance to the valley, not far from the salt-water springs and near the banks of the river. The salt makers who worked in this area did not live there; they lived on higher ground that was easier to defend, as evidenced by the presence of a large site from this period in the district of La Isilla, located to the north.

Salt-related architecture

The unusual salt-related architecture that has been developed in Añana is the result of the exchange of cultural and human values that have been developed over its more than six millennia of history.

This popular architecture does not display the rigid architectural styles of scholarly learning but, given its practical nature, the valley has witnessed the coexistence of technological innovations and material testimonies from different periods.

Following the dictates of experience and tradition, the salt workers have created an unusual, anonymous, popular, and traditional style of architecture.

With few exceptions, this salt-related architecture in Valle Salado was not the product of skilled labour. The salt workers themselves built the structures, using the materials that nature provided in the area: stone, wood and clay.

Minimal resources were used seeking the maximum yield, in a totally sustainable and ecological way, applying technology with inventiveness.

The result is a humanised landscape consisting of more than four kilometres of wooden structures that channel the salt water from the springs to the wells, and staggered terraces built with stone, wood and clay. These terraces support the salt pans where the salt is collected.

This meant that the structures were quite fragile and needed constant care and maintenance. The salt farmers learned to use the stone walls as the foundations for the wooden structures to build high-rise terraces; some of which are over eight metres high.

SPRINGS

The springs supply the brine at the surface in a natural and continuous manner, allowing it to be used without the need for drilling or pumping. There are a number of springs in Valle Salado and in the surrounding area, but only four (Santa Engracia, La Hontana, El Pico and Fuentearriba) can be used thanks to their permanent flow (about 2 litres per second) and level of salinity, which is close to saturation (-210 grams per litre).

CHANNELLING THE BRINE

The salt water is transported permanently by means of gravity through a network of channels called "royos". Although many of them were originally ditches dug in the ground, over time they were replaced by wooden structures, usually made of pine.

The main distribution system starts at the spring known as Santa Engracia in a single channel which then separates into two channels at a distribution well called Partidero. The Suso channel extends along the eastern side of the valley while the Quintana channel takes the western side. Twelve parts of the brine flow through the former while thirteen parts flow through the latter. A short distance from the distribution well, at another well known as Celemín, it again divides into two channels. The one serving the east of the valley is still called Quintana while the one that runs through the central area is called Enmedio or Meadero.

BRINE WELLS

The storage wells are the heart of the salt farms and filling them is the main cause of disputes between the salt workers. This is due to the limited amount of salt water that flows from the springs, the large number of existing salt-pans and the concentration of production work in a few specific months, from May to September.

This explains the high number of wells that exist at the salt works (currently 848) and the need for a complicated set of sharing regulations governing the use of the brine, known as the "Master Book" (Libro Maestro)

The morphology of the wells is varied, but they can be roughly divided into four types: external, the "boquera" type, heaters and the "hand filled" type.

SALT PANS OR EVAPORATION PLATFORMS

Salt production in Añana is based on the evaporation of the water contained in the brine by natural means. Consequently, the brine is poured onto horizontal platforms known as salt pans, the surface of which varies from twelve to twenty square metres.

The groups of pans belonging to the same owner are called farms. These adapt to the complex orography of the landscape, both in height and shape, resulting in convoluted shapes that occupy most of Valle Salado. Today, more than 2,000 salt pans have been recovered and are in operation.

STORAGE

The salt workers use the spaces beneath the salt pans as salt storage areas. The salt produced from May to September is placed in these particular storage areas and, in October, it is transported to warehouses outside of the production area where it is prepared for packaging and marketing.

Salt workers

One of the main assets of the Valle Salado recovery project is, without doubt, the community of Añana salt workers.

For generations, they have built, looked after and lived for the salt works. Above all, they have proudly transmitted the "know-how" of their ancestors with a view to maintaining and preserving one of the most unusual salt-production landscapes in the world and to producing the best salt that can be found in any market.

In the early twelfth century, the Community of Knights Heirs of the Royal Salt Works of Añana was created. This governing body brought together all the owners, whether secular or religious, to organise and control all matters related to Valle Salado.

This ancient society of salt workers was governed for centuries by traditions and customs, until, as happened with the distribution of the brine, its statues had to be put into writing.

The Community of Heirs is fully and permanently committed to the Cultural Landscape of Valle Salado. With the creation of the Valle Salado de Añana Foundation in 2009, a wide-ranging change occurred in the ownership of the salt works. Gatzagak, which consisted of more than one hundred members, performed the greatest act of solidarity and respect for its heritage that can be made by citizens. It donated the ownership of the salt-pans to the Valle Salado Foundation to enable it to take charge of recovering their sustainability.

The salt workers, who have become part of the Foundation's Board of Trustees, have preserved their rights over the salt water that flows from the springs. For the use of the brine, the Foundation pays them an annual fee of 70,000 euros. Further evidence of their commitment to the project is that half of that money is reinvested in cultural activities and in the enhancement of the surrounding area.

As can be seen, the Gatzagak salt workers' association is a key element in the future of the salt works as it intervenes in all decisions and actions performed by the Valle Salado de Añana Foundation.

The former Community of Knights Heirs has deposited its archive, consisting of thousands of documents, in the Archives of the Historical Territory of the Provincial Council of Álava (A.T.H.A.). A project promoted by this institution with the support of the salt workers has enabled us to digitise and analyse all these documents for their publication and consultation via the Internet. To view them, click on the link

Water system

The way the brine is distributed at Añana is really exceptional given the wooden structures used, but also because it is based on a system of springs and on ancient rights to the brine that has been documented for over 1200 years.

The salt water springs - with 210 grams of salt per litre - are located at the head of the valley, which is the southern end. A system of pine wood channels distributes the brine through the force of gravity throughout the saltworks.

The Añana salt workers devised a distribution system based on wooden trunks that were emptied. This network of channels measures over four kilometres long. Through various support systems, the required slope is maintained so that the brine can flow to all the points of the saltworks thanks to the force of gravity.

This led to the creation of a unique and impressive landscape of channels supported on the ground or by wooden pillars measure up to 10 metres high to bridge the gaps between both slopes.

The limited amount of salt water that flows from the springs and the great number of owners resulted in the need to regulate and control its distribution in order to have enough water for all the farms.

All throughout the year, both day and night, all the brine from the mountain springs was assigned to different owners in turn. Following a strict schedule, the salt workers blocked the course of the salt water in the main distribution channels using clay to direct the liquid to their own wells and salt-pans for the time they had been allotted.

Habitat and biodiversity

Salinas de Añana and the surrounding area are located on a geological phenomenon known as a diapir; which brings the salt from an ancient sea that disappeared millions of years ago to the surface.

The freshwater springs flowing through the diapir dissolve the halite or rock salt (NaCl) and bring it to the surface. This creates a habitat with a great biodiversity including important palaeoenvironmental and palaeoclimatic information, as well as the typical biodiversity linked to saline environments.

A specific and perfectly identifiable halophilic flora coexists in Valle Salado with particular species of fauna, such as the Arthemia Parthnogenetica. This wealth has made it possible for it to be included in the Ramsar List of Wetlands of International Importance.

The rich geodiversity, with outcrops of materials from the Mesozoic (Triassic) caused by orogenic thrusts, has led to a unique landscape.

In the case of Salinas de Añana, the Jurassic ophitic and limestone outcrops imply that the landscape is made up of endless hills and gullies, resulting in a mosaic of landscapes.

Applied sustainability

Thanks to the wisdom and techniques developed by the salt workers, taking advantage of natural elements, a sustainable industrial system has been achieved.

The water that emerges at the springs, the hillsides, the sun, the wind and the use of traditional techniques created a distinctive landscape. There were no waste materials for centuries; they used every natural resource to incredible limits.

All the materials used were natural, except at certain unstable times when the basic principles governing life in the valley were relegated and economic criteria were given precedence.

. Both the production of salt and the construction of the structures are perfectly sustainable, achieving an optimum environmental and ecological balance.

Throughout its life, Valle Salado has been under constant maintenance; with ups and downs depending on the fluctuating demand for salt in the markets.

One of the worst periods occurred in the twentieth century when the mechanisation of transport and improvements in the production of sea salt and in the techniques used in salt mines led to the systematic bankruptcy of traditional inland salt works that were based on family and manual production systems. This fierce competition in the markets led the Añana salt workers to use certain materials on the surfaces of the ancient salt pans, such as cement, that were not sustainable or environmentally friendly. For the first time in the history of the salt works, waste products were generated that were difficult to remove due to the great effort required to transport them out of the valley.

The evaporation surface was also increased considerably with the construction of salt-pans in unsuitable areas using unsustainable techniques and materials that ignored the know-how applied for millennia by generations of salt workers.

The recovery of sustainability, driven by the salt workers in the late twentieth century, marked a turning point in the history of the Añana salt works. The institutions became involved in the project through the Valle Salado de Añana Foundation. The marketing and sale of the salt is based on quality and not quantity. The ancient techniques and know-how have been recovered regarding the maintenance and repair of the platforms and the production of salt. In addition, the salt-making activity has been complemented with other tourist, cultural and healthcare services available to all citizens.

All this is contributing to the recovery of the sustainability of Valle Salado de Añana and is ensuring the social and economic future of a unique cultural landscape in the world. We are also respecting its heritage and environmental values.

SALT

Origin

During the Triassic - which began about 251 million years ago and ended about 200 million years ago - in an era when the continents were joined together forming a single continent called Pangea, Salinas de Añana was submerged under a large ocean. The evaporation of the waters caused the deposition of large layers of evaporites on the seabed that, over time, were covered by more layers.

The existence of salt at Añana can be explained by a geological phenomenon known as diapir. Generally speaking, it consists of the emergence on the Earth's surface of older materials due to their lower density, just like a bubble of air immersed in a liquid will move to the surface.

This particular process began about 220 million years ago, when Triassic evaporitic rocks in the Keuper facies - located about 5 kilometres underground - began to ascend to the surface, dragging other materials that characterise the landscape: carniola, ophites, limestone, marls, clay, etc. This process is still active.

When rainwater falls on the diapir it first filters through the upper strata of rock and then the reaches the salt layers and finally comes to the surface once again in the shape of hypersaline springs. The springs at Añana provide an average flow of about 2 litres per second, with a salt concentration around 210 grams per litre.

The hydrological system related to the diapir is completed with Lake Arreo, whose waters, due to its location in a closed basin above evaporites, are also salty. The lake and the salt deposits contain important paleoenvironmental and paleoclimatic information, as well as a typical biodiversity of saline environments.

For this reason and in order to preserve them, both areas have been included in the RAMSAR list of wetlands of international importance.

Production

The salt production season varies annually depending on weather conditions. It usually begins in May and ends in September. After September, the long nights delay the evaporation process and the constant rain spoils the small amount of salt obtained.

During the rest of the year, the salt workers perform recovery and maintenance work on the salt farms, preparing them for the next season. However, the packaging section works all year round, cleaning, packing and labelling the salt.

The salt production process involves several steps:

1.- FILLING THE SALT-PANS
This consists in pouring two to four centimetres of brine on the horizontal platforms to expose it to the sun and the wind. This filling process can be performed in several ways, depending on the particular features of the storage wells in each farm. These systems include a device similar to a crane that is known as a "trabuquete" in Añana (a scoop).

2.- CRYSTALLISATION
Over the next four hours, the salt crystallises. This commences when a thin film covers the surface of the brine placed in the salt-pans. Over time, the film breaks up into smaller parts known as *Fleur de Sel* (Salt Flower). If the salt workers want to obtain *fleur de sel* (salt flower), they collect it from the surface of the salt-pans using some specific tools that do not break up the flakes. However, if they want to obtain mineral salt, they stir the *fleur de sel* to sink it to the bottom of the salt-pan and allow all the brine to crystallise evenly.

3.- IRRIGATION
This consists in speeding up the crystallisation process by stirring the brine with a roller. In those salt-pans where dry areas have appeared due to surface irregularities, preheated brine is added to avoid interrupting the evaporation process. A tool known as a "regadera" (watering can) is used. This is a bowl with a wooden handle. The brine is heated in small wells where the liquid increases its temperature more quickly.

4.- COLLECTING THE SALT
Contrary to what one might think, the product is not collected when the brine has evaporated completely; it is gathered when there is still some water in the salt-pans. This is done to wash the salt one last time. The harvesting process consists in forming one or two piles of salt in the centre of the salt-pans. Then it is placed inside baskets made of chestnut wood, where it is left for a while to drain off any excess liquid.

5.- STORAGE
Once the salt has been drained in the basket, it is placed in the storage areas in the farms. These areas are mainly located underneath the salt-pans, on the surface of which there are some small holes called "boqueras" through which the salt is poured.

6.- PACKAGING
In October, the salt from the Valle Salado storage areas is moved to warehouses in an operation known as "entroje". In the packaging unit, the salt is cleaned of minor impurities, packaged and labelled.

Types of salt

Four types of salt are produced in Valle Salado using natural and ecological systems

Mineral salt from the springs
Extremely pure salt crystals due to the natural origin and evaporation of the raw material. The brine flows from underground veins of solid salt that are over 200 million years old.

Rich in minerals and trace elements, it enhances the flavour of all foods.

Salt Flower Flakes
Crunchy flakes that form on the surface of the salt-pans during the brine evaporation process. They are collected by hand before they sink.

Recommended for a final touch of luxury to meat and fish dishes.

Liquid salt from the springs
Liquid gold that flows from the springs. The salt-workers concentrate the water in a natural manner, achieving a concentration of 280 grams of salt per litre.

Specially designed to dress salads and spray on meat and fish.

Chuzo (Salt Stalactites)
Fine, pure and high-quality salt stalactites that form due to the leakage of brine from the salt-pans, structures and channels.

Ground on finished dishes, it provides a fine salt that dissolves quickly in the mouth.

Information of interest

Valle Salado Foundation

NON-PROFIT PROJECT

GUIDED TOURS ALL YEAR ROUND
SALT FOR SALE

This complicated recovery project of one of the most important salt-related cultural landscapes in the world has been ongoing since the 1990s and can be divided into three stages:

- The first phase was conducted by a team of professionals between the years 2000 and 2004 and resulted in the "Master Plan for the Comprehensive Recovery of Valle Salado" which documented and investigated the tangible and intangible assets of the property and established guidelines that would ensure the future of Valle Salado.

- During the second phase (2005-2008), many of the actions prescribed in the Master Plan were implemented; however, the main aspect was to establish the bases for the future management of the salt works.

- The third phase began in 2009 when the Valle Salado de Añana Foundation was established. This is the entity in charge of managing, recovering and enhancing the property.

The Foundation, as the single owner of Valle Salado, has three main objectives:

- Recover and preserve the material and environmental culture of the landscape to ensure its sustainability.

- Produce top quality salt products using traditional techniques and in a sustainable manner, respecting the ancient "know how" of the salt workers. The sale of this salt is already contributing to the self-financing of the project.

- Develop and recover, under an approach open to the public, cultural and tourism initiatives that are becoming the driving force of the social, economic and tourist development of the region.

Since its inception, the Foundation has been aware that its goal could not focus solely on Valle Salado but had to encompass much more. After years of work, we are proving that by following the roadmap established in the Management Plan, Valle Salado is becoming a key element in the tourist, cultural, economic and social enhancement of Alava and the Basque Country.

With a long-term action programme, the Valle Salado de Añana Foundation is also promoting a number of social, functional and landscape actions open to citizens. At the same time, it is also conducting research work and promoting respect and the dissemination of traditional construction and production systems, as well as the encouragement of other resources that, functioning in a coordinated manner, will enhance this unique Cultural Landscape in the world.

Website:
www.vallesalado.eus

On-line Store:
http://vallesalado.com/Tienda-on-line

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