

Lanzarote: The Landscape and the History Behind the Volcano

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Abstract

In general, the geological aspects of a territory, despite being a determining factor in its own physical constitution, are perceived far from the human reality, distant from historical events that have occurred. This makes sense for territories whose physical support was formed dozens, hundreds of thousands or millions of years ago and whose transformations have undergone a slow process in temporary terms, especially when erosive agents are involved, as a result of various factors, chemical, mechanical, climatic, etc. In those cases, the geology is there, more or less perceptible, but it is however quite alien to us. Another case is that of territories where geological formations, more or less ancient, have been related to important human factors. In those cases, the geological singularities that result from human interaction with them in order to survive, lead to cultural features. In some cases, these factors can have an important historical dimension. We mean, among many other things, the formation of more or less productive soils or wastelands, areas with greater or lesser hydric capacities, the formation of plains or mountain ranges, the greater or lesser exposure to natural disasters (volcanoes, floods, landslides, ...), the possibilities for a permanent habitat (tufa or calcareous formations, easy to build caves), or displacements (unevenness, hydrological basins, ...). In these circumstances, these geological singularities are due more to their relationship with human development, mainly seen as resources, than their own physical constitution. This fact has led to much of what we understand by culture not only material (agricultural landscapes, habitat, infrastructure, works of art, crafts, ...), but also immaterial, linked to the set of beliefs and collective imagination (the affection to a landscape, the coexistence with volcanoes, the sacralisation of mountains, etc.). The enormous wealth and diversity that geology provides the planet with, contributes to a great

extent to the enormous richness and variability of cultures. It is true that other factors are equal or more determinant when it comes to the formation of cultures, socio-economic, political or ideological aspects, but these areas are also exposed to those resources, where the geological peculiarities are hidden (mines, strategic places, fertile soils, are usually behind empires, wars or happiness). Nowadays, the revaluation of geology, the socialisation of knowledge that until a few decades ago interested merely solitary characters carrying a hammer, travelling to unusual places, has also turned geology into a not only cultural, but also economic resource. But let's talk about some much more explicit cases, about the important role that geology can play in culture and even in historical processes, as an example that is very close to home. We're talking about the island of Lanzarote and how a geological event, a significant volcanic eruption can, not only, profoundly transform its physical reality, but also its historical and cultural reality (De León Hernández in Lanzarote bajo el Volcán. Los pueblos y el patrimonio edificado sepultados por las erupciones del siglo XVIII. Servicio de Publicaciones Cabildo de Lanzarote. Serie Casa de los Volcanes, Las Palmas, 2008). This can still be seen nowadays in the collective religiosity of the island which revolves around Virgen de los Volcanes, which replaced the founding saint after the conquest, San Marcial, talks about the relevance that an important geological short-time phenomenon has had on this island. Not only was much of the island buried by lava and ash from the eruptions of the eighteenth and nineteenth centuries (Rumeu and Araña 1982), but also another important part of it was buried by flying sands at different times in history. Between the late 18th Century and first quarter of the 19th, it covered villages, agricultural land and infrastructures shaping a new landscape that, just like areas covered by volcanic sand, is cleverly reused (De León Hernández and Robayna Fernández in El Jable, poblamiento y aprovechamiento en el mundo de los antiguos mahos de Lanzarote y Fuerteventura. III Jornadas de Historia de Lanzarote y Fuerteventura, Tomo II. Puerto del

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Rosario, pp 11–107, 1989). Hence how we understand that such circumstances and their consequences on the population, could lead to differentiated and unique types of culture. These new territories, would contribute to generate what we call volcano culture and Jable culture. But in the case of Lanzarote, the emergence of these new territories, not only make up new ecosystems and new cultural patterns, but those changes also had an important historical footprint, in just a few decades. The volcanic eruptions change the social, demographic, economic and political reorganisation of the island, with the emergence of new productive zones, new agricultural systems, new populations and parishes that led to the current political administrative organisation and the development of a new local bourgeoisie, closely linked to the benefits derived from the volcano, especially with the exploitation of the Geria area. But, in addition, the Jable invasions at the beginning of the 19th Century, are also connected to the process of usurpation of lands on the Famara coast, by the new economic sector linked to the barrel and the brandy industry, that strives, at the same time, to be the Capital, finally leading to Arrecife, at the expense of Villa de Teguisse (Quintana and De León 2004). The latter case of Jable, seems to have predicted the current situation we are living, how human action can also generate important geological changes, or even climatic, in the short term, with highly significant historical long-term consequences. We can therefore see how, for an island like Lanzarote, geology, culture and history are not that different, they are in fact essential factors to rebuild the past and present of this island. We will now briefly explain the impact volcanic eruptions of the eighteenth century had on the future of Lanzarote, taking a deeper look at the physical and cultural reality that the lavas and ashes covered and at the same time providing information, unknown to date, not only about the people and the land that disappeared, but also the geological reality that was also erased from the map and from people's memories.

Keywords

Timanfaya • Eruption • Villages • Archives • Virgin

Abbreviations

AMC	Archivo del Museo Canario
AHPLP	Archivo Histórico Provincial de Las Palmas
AML	Archivo Municipal de La Laguna
PN	Protocolos Notariales
CD	Conventos Desamortizados
LFIMT	Libro de Fábrica de la Iglesia Matriz de Teguisse
FJMA	Fondo José Miguel Alzola

1 The Natural and Cultural Heritage Destroyed by the Volcano

In the eighteenth century the island of Lanzarote experienced one of the most important volcanic events in the recent history of the planet (Carracedo and Rodríguez 1991: 29). For 6 years, almost non-stop, this small island of about 800 km², was subject to ongoing volcanic eruptions that began on September 1, 1730 (between 9 and 10 at night) and seemed to culminate in April 1736.

..., which lasted two days and two nights the first time, suffering the fury and rage of a volcano that erupted in a place called Chimanfaya on September 1st of this year between nine and ten at night ... (AMC. LFIMT, s/f 1730.)

The consequences of this fact, although not catastrophic in terms of human lives (however undoubtedly did have psychological effects on the population) were tragic in terms of material damage. The “volcano”, as the area that today covers a quarter of the island surface is popularly known, before the eruptions, used to be the physical support of a great human, economic, cultural activities, etc.

In a provisional assessment, we can say that it affected more than 2000 people directly (almost half the population of the island), it destroyed and buried about 14 villages and 8 small towns; destroying some 700 houses, more than 1500 cisterns, 3 chapels (such as the still unknown chapel of Our Lady of Candelaria), two prayer rooms, a granary, tahonas, maretas (used to gather rain) and several corrals, bird sheds, eras, etc. It also destroyed some of the best agricultural land, such as Boiajo, Las Vegas de Iseo or Santa Catalina; large cattle meadows like the ones in Fuego Macher and Tegurame, and the Real de Janubio port, as well as numerous paths.

The largest number of villages were located in the centre of the island. If we exclude mountains, some low hills, numerous aa lava flows and some important ravines, what stands out the most were the relatively flat and fertile spaces that constituted rich meadows associated with the most important villages. The most mentioned towns were Tíngafa, Santa Catalina, Mancha Blanca, Chimanfaya, Chupadero, Peña Palomas, El Rodeo, Maso, Jarretas, Buen Lugar, Masdache (Verneau 1981: 46), Gerias, Guatisea and Testeyna. Other enclaves sometimes mentioned, with a few houses were Maretas, Tenemozana, Masintafe, Iniguadén, Conil, Candelaria, Guimón and El Miradero.

This dramatic event was going to affect powerful families that were part of the clergy, such as the family of the author who wrote the Journal about the eruptions, the priest from Yaiza, Andrés Lorenzo Curbelo, as well as other wealthy people such as Bernabé Gutiérrez de Mancha Blanca, Francisco González Guerra de Santa Catalina, Captain

Roque Luis, Ensign Lucas Gutiérrez. Also, the descendants of Captain D. Luis de Betancur Ayala, who died shortly before the eruptions, they owned several houses, farmhouses and a large amount of land and property in the areas affected.

The consequences on the humble population were even more tragic. They saw their few possessions destroyed. The names of some places refer to marginalised ethnic groups, such as the numerous slaves who lived in that area, like the sallow man named Antón, bought by Bartolomé de Medina, a neighbour of Santa Catalina. Several examples of land that these groups refer to, are: Cueva del Negro in Tíngafa or La Vegueta de la Negra in Mancha Blanca.

The island depopulated, people migrated to other islands, especially to Fuerteventura (De León 2000: 133) and in some cases, to Caracas, Buenos Aires and even the Philippines. (AHPLP, PN, file 2805. Folio 135. 1733)

After the eruptions, some villages grew, like Los Valles, Tajaste and Uga and others were set up, which later became the centre of municipalities, such as Tías, etc. In a few years, the cultivation of large areas of land covered by volcanic sand led to spectacular productive results, doubling the population of the island in about 40 years and the production of wines reached international prestige.

On the other hand, this economic boom promoted a build-up of capital process with large families from the island pushing for the introduction of *barilla* harvesting, resulting in the growth of Puerto de Arrecife. Thus, encouraging a series of political transformations that resulted in the change of capital. Such is the economic impact produced by the eruptions, as the great historian José de Viera y Clavijo says:

... the horrible volcano ... changed the agriculture and commerce on the island. ... This result, so feared by locals who saw how the most plentiful part of the island went up in fire, including their cattle and granaries. However, the resulting usury provided by nature compensated for that loss. (Viera 1967: I. 788)

Although we have carried out a broad and thorough study of the physical reality of that land, and what the population did before 1730 (De León y Perera 1996; De León Hernández 2008, 2010) in this article, we will provide a summary of the most important factors of the Historic and Natural Heritage that was lost after the 18th Century volcanoes, like for instance, the significant impact that a recent geological phenomenon has had.

2 The Destroyed Land and Natural Resources

Although the previous idea about the area covered by lava and volcanic sand was the existence of numerous good quality land for cultivation. Notwithstanding the truth of this,

we would need to top it up with broader and more detailed knowledge that we have about this land.

In terms of suitable land for cultivation, in this area there were some well-known meadows before the eruptions, like the Vegas de Chimanfaya, Santa Catalina, De Iseo, Del Pueblo, Iniguaden, Guagaro, Tingafa, Buen Lugar and Chichirigauso. In the East, the Vegas de Tomaren, Candelaria, Masdache and Testeyna stood out. In the West, there was Boiajo, near Montañas del Fuego, and Vega Nueva de Villaflor. Sometimes, flat areas stood out for their productivity: El Llano de Iniguaden or Llano de las Jarretas. Other times, the name itself refers to that potential productivity, like La Esmeralda, Aguaclara and La Vega Nueva (Fig. 1).

There is an interesting description given by E. Hdez. Pacheco on this area, made in 1909 and found in documents that no longer exist:

The name of Timanfaya was also used for the plateau on both sides of the old landscape, that is now covered by a sea of lava and that used to be the meadows of Timanfaya, with small villages and houses well-known as the most fertile and productive on the island (Hernández Pacheco 1909: 177; Hernández Pacheco 2002)

There are testimonies that were passed down orally, like Tito Rivera's, a late neighbour from the Tajaste area, talking about the land that was hidden by the lava near the small town of Tíngafa: *That plain used to be called Vega de las Flores, because it was very fertile before the eruptions.*

However, as we have already pointed out, despite the existence of good land for agricultural activity, many parts of the territory covered by the volcanoes of the 18th century were formed by relatively recent aa lava flows landscape. We have found several quotes about that type of land in this area: Malpaís de Santa Catalina, Malpaisito de Luis Cabrera, Malpaís de Mancha Blanca, Malpaís de Las Vacas, Joan Gante, Malpaís de Inaguaden, Guagaro, Las Casas and La Jorqueta.

Despite the predominantly flat nature of this area, it should be noted that in the interior or on the edge of this territory there were numerous mountains, among which were Montaña Blanca de Perdomo, El Rodeo, Ortiz, Mazo, El Miradero, Santa Catalina, Podemosana (Tremesana), Pedro Perico, Bermeja, the Montaña Las Vegas, the current Montaña Negra, the Diama and El Chupadero. Thanks to the toponymy prior to the eruptions, we know some elevations not currently identified or that are known by a different name, such the Montaña de Blas, Lomo de Carlos, near Tíngafa, and Lomo de Pajitos, near Chimanfaya. Many of these mountains played a very important role in the development, advancement and distribution of the lava flows, since they sometimes formed natural obstacles that prevented certain areas and even villages from being covered. We have been able to make a spatial reconstruction of the land prior to the eruptions thanks to these elevations (Fig. 2).

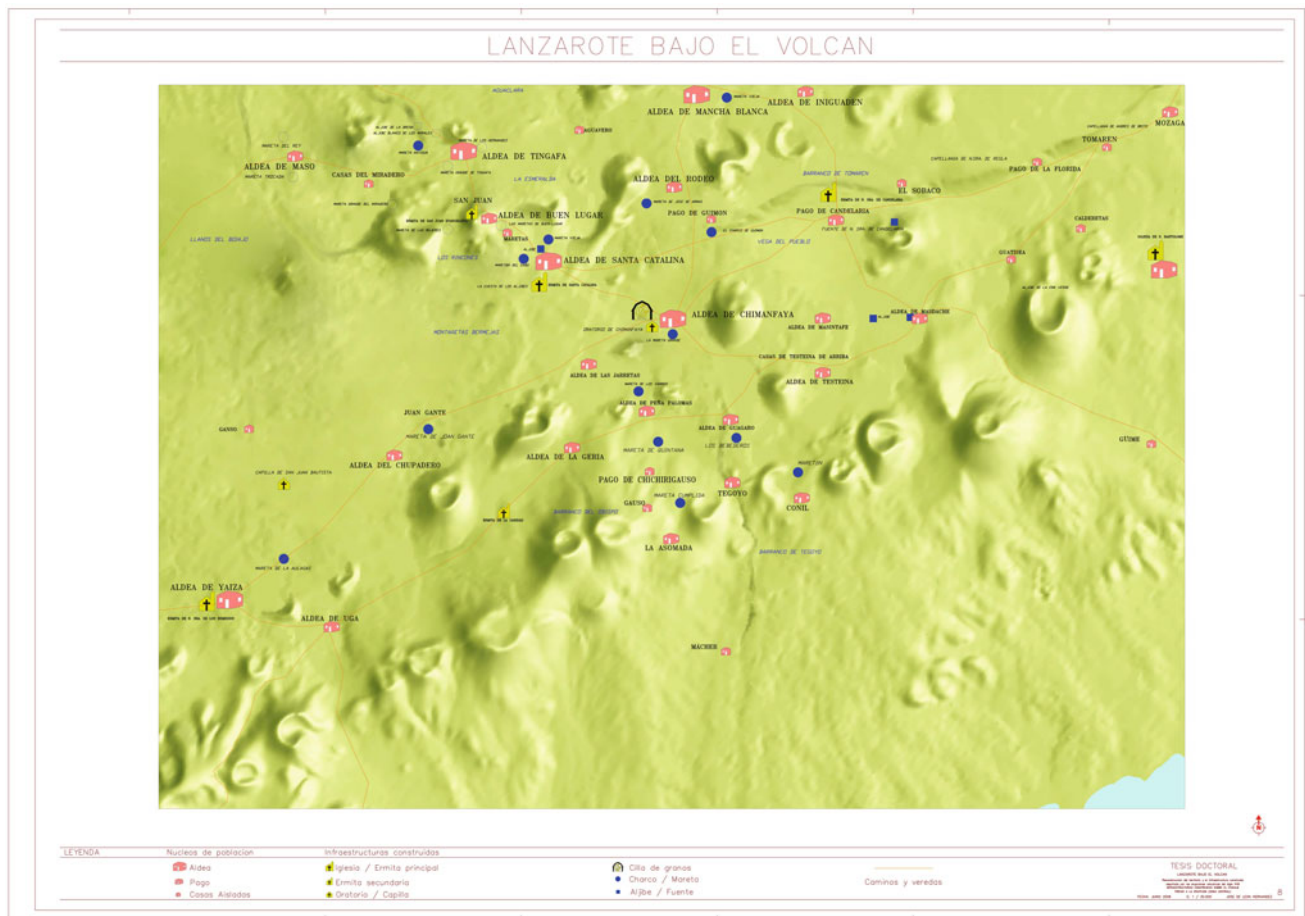


Fig. 1 Map of shadows of villages buried by eruptions of the volcano

It is necessary to emphasise the existence of some ravines that no longer exist. Sometimes they are associated with villages that nowadays have disappeared, such as Tingafa, La Geria or Tomaren. Sometimes these ravines are mentioned by some elements that stood out in them or in their surroundings, such as the Negro cave near the ravine in front of Tingafa, or the ravine called Las Cuevas, bordering on the Vega de Tomaren. Another document mentions the *ravine in a large reservoir in Tingafa* (AHPLP, CD Legajo 44. Fol 448. July 9, 1664). But undoubtedly, we must highlight an important ravine that crossed much of the central area of Lanzarote which played an important role before the eruptions, the ravine of Tomaren. This great ravine which possibly started near the current Rodeo Mountain, crossed between the current Montaña Colorada and Montaña Ortiz, and now crosses where Cueva de las Palomas or Naturalistas is today, and passes where nowadays there is a set of volcanic tubes that reach Mozaga, from there it went to the Jable, dividing into two, to the northeast of Lomo de San Andrés, on one side which is known as the Jable ravine, heading towards Famara and which nowadays is perceptible

in the lava language from the 18th century that runs along the old channel, and the Arena ravine, which kept going down Llanos de Maneje to Ubigue, reaching the sea through the current Puerto de los Mármoles.

Several rocks also stood out in that area, such as Peña de los Pastores, which may correspond to small islets next to Peña de Santa Catalina north of Diamas, or Las Peñas, near Candelaria before the eruptions. There would also be old coastal cliffs that have now disappeared, old volcanic tubes and Jameos.

From the point of view of strategic resources, we may notice that this area, as it happens with the rest of the island, had very few water resources. These issues were solved with an impressive and specialised human adaptation to extreme arid conditions and with the construction of a large number of artificial deposits or working on seasonal natural pools (tides). In any case, what the documents highlight is the lack of water:

This Island is small and it lacks water. To such an extent, that water saved from rainfall, in cisterns, tanks and puddles, is used by people and cattle to drink during the year (López de Ulloa, in Morales Padrón 1993: 250)



Fig. 2 Small islets north of Montaña Diama, which were probably the Peñas of the Pastores

Although there are some inaccurate references to sources in the area, one for Candelaria and another near Tígafa, we believe that there were no natural conditions favourable to the existence of natural water springs. The sources that today exist in this new area, such as Tínga, Ortiz, Montaña Negra, Diama or Los Miraderos (Fuente de Crisanto), would have been formed precisely by the accumulation of volcanic ash after the eruptions on old mountains. The humidity and occasionally the rain, would be absorbed by the deposits of volcanic rock retaining the water and sliding it down some old slopes.

The theory of engineer, Carlos Soler, has recently gone public. There are important accumulations of water under the historical flows, precisely thanks to the existence of old impermeable land, by the action of the incandescent flows on brown floors (flushing), which allowed for the water to accumulate under the lava flows, which would in turn help to avoid fast evaporation. From our research work we have located many areas with a certain impermeability, where seasonal water deposits (puddles and tide puddles) were

formed, as well as ravines, pits and depressions of the land, in some very abundant areas, which could support this theory.

The Coast was another area that although practically uninhabited, it could offer important resources, especially for fishermen and farmers, when locating the best meadows for breeding animals. This was a sector of the old territory that was transformed almost in its entirety. When exposed to strong northern sea waves, there were no important ports, except in the south-western sector, the Puerto Real de Janubio, covered by lava and a small one on the north coast, that no longer exists, which is called Cala de Lovos (Torriani 1978). Other economic activities took place in this area, such as salt mines, collecting *orchillas*, etc.

In terms of plant, animal or mineral resources in this area, the document sources provide us with some references:

On the island of Lanzarote there is a lack of trees, there are only a few small bushes they call *tabaibas*, ... (Abreu Galindo 1977: 58).

There were possibly areas with seasonal pastures, badlands colonised by *tabaibas*, (such as the Malpaís de la

Corona or El Mojón), some types of isolated trees such as wild olive trees, and perhaps a palm grove. The domestic fauna includes goats and sheep. There are many mentions made to corrals, flocks, folds, especially in the coastal areas, which attest to the abundance of goats. (AHPLP, PN L.2801 (II), Fol. 1. 1723).

Although this may seem surprising today, cattle were also abundant, especially in years of good harvests, due to the large cereal production and surplus straw. There were place names such as Malpaís de las Vacas, located near the village of Jarretas or Dehesa de Maso, which was used to graze cows (AHPLP, PN 2797. S/f, September 11 1618). There are numerous mentions of camels. This tenant on the island, arrived with the first Moorish slaves, and was going to revolutionise the concept of space and production. Due to their great resistance, they were an important resource in transportation, communications and in the driving force for land clearing. The horses of the island stood out: *They also have good breeds of Berber horses, and many cheap donkeys.* (Torriani 1978: 46).

Other animals are mentioned in various documents of the sixteenth and seventeenth centuries, such as plenty of chickens, rabbits and shearwaters ... (Torriani 1978: 46).

It is necessary to look back at the times we are studying, to see part of the current fauna of the island: black-eye, Egyptian vulture, bustards, various rodents, *corujas*, crows, shrikes, hoopoes, shearwaters, among others. Many of these animals have been an important human resource. There were place names which have now disappeared under the lava flows, such as Hoya de las Lechuzas, Cueva del Gato or Peña Palomas.

Techniques and traditional knowledge related to food resources would also be present in that area, such as fishing with spurge milk, making *gofio de cosco* (slender-leaved ice plant toasted cornmeal), harvesting baby potatoes and locks or hunting shearwaters. Also, in the documents and in the names used prior to the eruptions, mention is made of a certain mineral exploitation: the Tingafa calera, the Toscas loin by Masdache, the Cantos de Guagaro, the La Arena gully or the tide called Los Barros in the Miradero (AHPLP, PN 2798. March 23, 1721).

3 The Disappeared Cultural Heritage

There are many archaeological remains of Majos, inhabitants of the islands of Lanzarote and Fuerteventura before the European Conquest, who were buried by the eruptions (Le Canarien 1980: 169). Those populations occupied this area significantly and the deposits located under the volcanic sands in Masdache, El Taro, Uga and Ortíz are evidence of this. In this last area, we discovered an interesting station of rock inscriptions belonging to two different, and probably

connected, alphabets, the Libico-Berber or Amazigh, and another one that we related to some North African variant of Latin. Both inscriptions were made around the beginning of the era (between the 1st century B.C. and the 1st century A. D.). It was in the borders of this area, Castillejo in Montaña de Tenésera, where we first found this type of writing, in 1985.

Also, the names used for the volcanoes refer to aboriginal settlements with names of villages, such as Tíngafa, Chimanfaya, Podemosana, Chichirigauso and Masintafe.

But perhaps the most important references to the population from the area that disappeared, unpublished data up until now, are those related to the villages and homes of the aboriginal population. We have located numerous houses of the *majorera* population of Lanzarote (also known as vault houses), destroyed by lava flows or ash: Casas Hondas de Chimanfaya, Maso, Gauso, Guimón and Tíngafa. Some of them provide us with details about aspects related to the construction of those houses, now covered by lava, like a vault house that was in the village of Maso, called casa jonda, which could be used as a corral. (AHPLP, PN, Leg 2744. F.30r/32v, April 15, 1646).

After the Conquest, the oldest mention made to some of these towns was in 1455 referring to the village (later buried) of Tizalae (Tislaya), when Alfonso de Cabrera, who became governor of the island under the Portuguese flag, went around the island. It also mentions the villages of Eque and Guihafuso. (Aznar Vallejo 1990: 132).

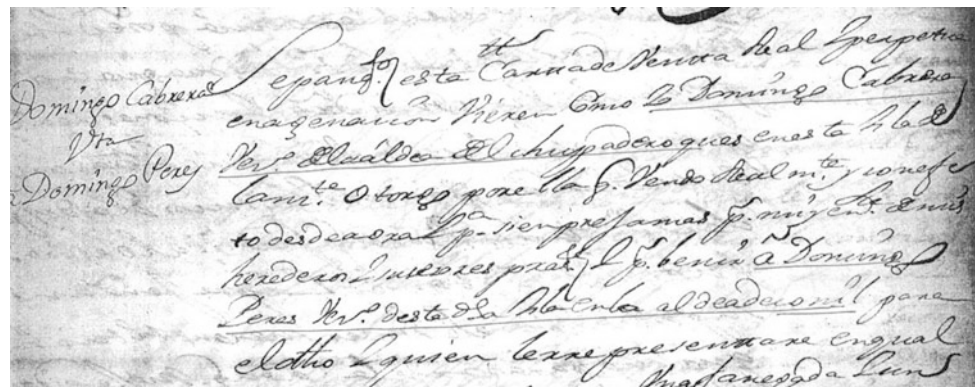
At the end of the sixteenth and early seventeenth centuries, the village of Iniguadén, later buried, is mentioned. There was an important farmhouse and the temporary residence of the Marquise there (AMC, FBL, Maiorasgo de Lanzarote, 1,568). This farm was owned by different people, until it was acquired and developed by the aforementioned Luís de Betancor Ayala (AHPLP PN 2799. 1722. Date of the testament: 30-1-1772). This important and wealthy area got destroyed in two phases, first by the ashes in the first two years of the eruption and from 1733, it got covered by lava flows.

We must bear in mind the almost complete loss of all written documents prior to that date, due to the fact that most of them were burnt and destroyed by pirate attacks. The first map of the island dates back to this period (Torriani 1978), and it mentions the villages of Hainaguadén and Tenemosana, later buried (Fig. 3).

After the Conquest and throughout the 15th and 16th Centuries and the first third of the 17th Century, the life of the inhabitants on the island was quite tough. Added to the economic hardships due to chronic drought, sporadic plagues and unfair and bloody relations of production and power, were the constant pirate attacks, plundering villages and kidnapping and abducting many inhabitants, leading to constant insecurity.

It was also then when the ethnic base of the local society was set up, composed of some surviving Majos,

Fig. 3 Document about the villages that were buried by the lavas



Sub-Saharan slave populations and, above all, Moorish that became a majority in some areas, as well as diverse settlements from European countries (Norman, Castilian, Basque or Portuguese). It is possible that many cultural practices of these communities survived in this area, some related to persecuted activities, such as witchcraft. In the area destroyed by the lava flows, there were places related to witchcraft such as the Revolcadero in Tingafa, and others that are still remembered in Muñique, Soo and El Monte, associated with witches mud holes.

The island made it to the 17th Century with an economy that was based on the production of grains, which were exported to the central islands and Madeira. This activity was to be complemented with some crops for local consumption and especially with livestock. In addition salt and orchilla were to play a key role. This lichen was going to represent one of the most profitable trades of Lanzarote in the 15th and 16th Centuries.

In the early seventeenth century, the first documents that were not destroyed by pirate attacks, began to appear (testaments, buying and selling contracts, ...). They mentioned the history of these villages and areas and give us a pretty good idea of what the economy, demography, landscape, infrastructure, political, social and religious aspects of these areas were like.

There are two main sources that tell us about the population centres in that area before the eruptions, Las Sinodales del Obispo Dávila and Cárdenas (Dávila 1737) and the documents of the Archivo de Simancas (Romero Ruiz 1991a; Romero 1997). According to the data provided by the Sinodales, we know that the main population centres that disappeared with the volcanoes were Tingafa with 64 people, Chimanfaya with 24, Mancha Blanca with 44, Santa Catalina with 42 and Peña Palomas with 18. We have already mentioned that wealthy families lived in those areas before the eruptions. In a study of the economic situation on the island in the first quarter of the eighteenth century, Pedro Quintana Andrés, located a large part of the buyers or sellers on the island in these villages. This can be seen in a growing

real estate industry, with plenty of houses, reservoirs, *tahonas*, etc. (Quintana Andrés 1993). Shortly after, almost all those were destroyed by lava and volcanic sand.

The Church had significant property in the area, judging by the taxes on numerous tenants such as the property of La Florida, from the *mareta* of the Church near Montaña Blanca de Perdomo. We have located a significant number of places linked to the Church, such as Montañeta de la Inquisicion, Las Monjas, near Testeina, the land of the Santísimo Sacramento, Candelaria and San Juan.

Many members of the Island's militia were neighbours of these villages, such as Ensign Julio Perdomo de Chimanfaya, Captain Francisco Perdomo de Buen Lugar, Captain Baltasar de Samarín and Captain Roque Luis, of Santa Catalina.

Given the historical information available to us, there is no doubt that this region was witnessing a process of progressive economic predominance when the eruptions started. We can see that there was a concentration of villages in the centre of the island, which would end up totally destroyed years later. This process meant that the most significant buildings on the island and most of the recently set up economic infrastructure, gathered in that area. We can be sure that the eruptions didn't merely cause enormous material losses, but also immaterial ones, especially cultural and emotional, as almost half the population of the island lost practically all their possessions. Take the following description of the state the neighbours of Tingafa were in, after having lost everything, as an example (AHPLP, PN, Leg 2,805, 147–150, December 1733).

Below, we will make a brief review of the buildings and the most important infrastructure destroyed by the eruptions. First of all, we will take a look at religious buildings.

Up until now, in the different chronicles about the eruptions, three chapels were mentioned as affected by the volcanoes. Santa Catalina and San Juan Evangelista, disappeared under the lava in the first days of the volcanic activity and Caridad in Geria, was buried by tephra and shortly after the eruptions, was *cleared of sand* and it can

nowadays be visited in said locality (AHPLP, CD, Leg 45, Expte, 5. S/f, 1736). Our investigation led to the finding of another very important chapel before the eruptions, Nuestra Señora de Candelaria (De León Hernández 1996).

As for the chapel of Santa Catalina, one of the most important ones back then, we do not know when and how it was built. In the documents we work with, the reservoirs of the chapel of Santa Catalina are mentioned, as well as the conflict between neighbours of that area, requesting the creation of the Parish Aid for the Remedios chapel in Yaiza.

Oral tradition helped maintain the memory of the chapel of Santa Catalina alive. Although most of it has been lost, it is striking to see that the town of Santa Catalina and its chapel have remained in the collective memory. We believe that one of the reasons behind this, besides the economic relevance of that village, was its fast and unexpected destruction, due to a sudden change in the direction of the lava flow. According to popular tradition, remains of the chapel covered by lava flows can be seen, although, so far, we have not been able to confirm this fact with our research. There are references to one of the doors of the chapels of San Roque in Tinajo and the beams of a house in Yaiza, which were taken from the old chapel, before being burned and then dragged away by camels.

As for the chapel of San Juan Evangelista, we know exactly when it was built, the people who promoted it and also some furniture and construction elements that it had:

... We, Juan Gutiérrez Nuñez and María de los Reyes, his lawful wife, neighbours of this island of Lanzarote, confirm, as loyal devotees of the glorious San Juan Evangelista, that we have arranged for a chapel to be built for the glorious San Juan, in our home, where our houses are, ... Said chapel has been built and its walls are whitewashed ... (AHPLP. PN. Leg. 2728. Fol. 241 v.-246r. 2nd August 1625)

But in addition to these two chapels, we have already mentioned that we located a third one, which was not known to have been buried by the lava flows. This was the chapel of Our Lady of Candelaria, some of the most important villages in the area belonged to its jurisdiction (Chimanfaya, Mancha Blanca, Guagaro, Geria, etc.).

The most striking feature of this discovery is that until recently, its location was unknown, or it was taken for granted that it was unknown, from the beginning, in the town of Tías, since that is the patron of that town. Since the end of the 18th Century, it has been the Parish and Municipality of that town. Nowadays, the town of Tías is one of the most important ones on the island, however, it did not exist before the eruptions and its creation and development took place as a consequence of the volcanoes. Some residents of the affected towns founded and built the new chapel of Candelaria in this new place, some 15 km away from the original site of Nuestra Señora de Candelaria.

The importance of this sanctuary is clear as there is a reference that tells us that it was the first place that people headed towards, a few hours after the eruptions started:

... of white sebada that were taken out of those that were sawed in Chimanfaya in the house of Ensign Julio Perdomo, ... by the fire of the volcano and the turbulence that still ... hastily they got out of the risk and put themselves in front of the Hermitage of Our Lady of Candelaria and from there they took to saw the village of Masdache (AMC, LFIMT, Year: 1730. S/f.)

According to another document, there is no doubt that the destruction of the above-mentioned chapel dates back to February 1736. That document mentions some of the assets that were contained in that chapel:

... we have produced and made at our own expense the hermitage of Our Lady of Candelaria paying for its ornaments, image and everything else that was in the mentioned hermit which was destroyed by the fire and the only thing to escape its havoc was the said holy image, the referred ornaments and wood ... (AHLP. PN. Leg. 2806. Fol. 215. 10th February 1736).

We have already mentioned the chapel of La Caridad, covered by a rain of volcanic ashes in the middle phase of the eruptions, although it could be recovered, as we can see in some documents from the following years after the eruptions were over.

In addition to these chapels, the priest of Yaiza, Don Andrés Lorenzo Curbelo, mentions a chapel in his Diary, called San Juan Bautista. We also know of a reference to another chapel in Chimanfaya,

With regard to buildings related to economic activities and linked to the church, the most outstanding one was the Cilla used to save and account for the grain, which was built in Chimanfaya on land that was sold in the year 1701 by Miguel López, a neighbour of Tiagua, to the Cabildo Catedralicio (Quintana Andrés 1993 and AHPLP, PN, Leg 1802. Fol. 57v, May 19, 1725). This fact proves the growing importance of the central area of the island in the production of cereals. There was only the Cilla de la Villa Capital and Haría that existed in the North.

This construction was possibly destroyed in the first hours of the eruptions, since reference is made to the burning hay lofts, as we saw in a previous mention, in the village of Chimanfaya and in the first moments of the catastrophe:

... to be able to distribute the grains of the Cilla de Chimanfaya burned in Lanzarote, and be able to say that her Coxedor wants to be completely satisfied with everything that she has done, having completed the recovery and that the burning of Cilla and other things were not his fault, (Hernández Rivero 1991: pp. 94–95)

One of the population's concerns was to save the food reserves. However, during the eruptions, some of the best fertile valleys and farms on the island were lost, as we can see in numerous documents related to the inability to pay fees and taxes:

... for 115 Reales with which it is discharged because they were burned by the fire of the volcano on the day ... of September one thousand seventy-five and thirty years at the place of Chimanfaya in pages of the Ensign Julio Perdomo ... (AMC. LFIMT. S/f. Year: 1730).

... it should be noticed that the two fanegas of land ... were lost with the malpais of the volcano that flowed over them ... (AHPLP-PN-L.2806-F.148-The document was issued in July 1734).

Other elements of the heritage had to do with housing. Sometimes it is specified that they were two-storey houses, which could be a surplus or an upper room, which on the island is called *troja*. Sometimes they mention rooms attached to the house and the attached kilns.

It should be noted that there was a type of construction that was very common in the centuries being researched, called *taro*. It was an enclosure with a circular and vaulted floor. The function of these *taros*, some of which still exist nowadays, was as a warehouse or pantry. In the areas covered by the sands, there are archaeological remains of this type of construction like El Taro, in Testeina. This Taro was located on the property of Domingo Hernández Fajardo, destroyed by the lavas and the sands, the father of Susana Fajardo, wife of the scribe Nicolás Clavijo Álvarez, parents of the famous erudite José Clavijo y Fajardo.

Other buildings highlighted in that territory for their important economic role, were the *tahonas*. We know of some of those buildings that had a large stone wheel to grind grain with. There were several *tahonas* in the most important villages, such as those owned by Bernabé Gutiérrez and Juana Perdomo, who lived in Mancha Blanca and had properties in Chimanfaya also:

... another tahona from his wife during the marriage bought 20 more fanegadas, the houses of his dwelling, another tahona, three cisterns, ... , another 2 and a cistern, ... (AHPLP. PN. Leg. 2800. Fol. 70v. March 1720)

Also, a large number of eras, fences and bird sheds were related to agricultural activity:

... among the real goods that belong to me are a house in this village of Tingafa with its kitchen, oven, and other belongings at the entrance of an orchard that has a water tank inside it ... (AHPLP. CD. Leg. 44. Date: 15 May 1693)

There is mention to handcrafted activities. The *blacksmith* from Chimanfaya and *carpenter* from Santa Catalina, are mentioned.

Another one of the infrastructures that were destroyed by the eruptions were those related to livestock activity. An enormous number of corrals are cited in all the affected villages, although, as we have said, there were numerous corrals in the coastal areas, some of which were large enough to handle livestock, called *Gambuesas*. Marks or stripes are also mentioned to delimit and isolate the agricultural grazing areas as well as flocks. "Sises" are often

mentioned, a term that has been lost nowadays, except for some names of places. It was small walls to prevent livestock from getting through. The livestock areas were mainly concentrated in coastal areas closest to the sea:

... Know that many see this letter ... such as Juan Gopar, neighbour of the Island ... I have sold to Sebero Ruiz neighbour of Ysla ... a house in Maso that is next to the big house that was owned by Juan de Bonilla the old man and also a corral and entrance and exit in the term of the burned one of Maso. (AHPLP, PN Leg.2724, Year: 1623)

As for communications, there were roads, trails and paths. We can see that Mancha Blanca played an important role as a link between towns in the area, such as Tingafa, Maso and the North and Northwest Coast with Tinajo, Iguadén, Candelaria, with the Villa in east direction and the Port. Also, Chimanfaya and Candelaria, located in the centre of the island, were very important crossroads.

With regard to water-related infrastructures, we must say that it represented one of the most important material and knowledge-related constructions in this area. Most of the water supplies, for both the inhabitants of the area and for the animals, were made through artificial collectors, huge and expensive hydraulic engineering. In the first historical accounts, the enormous scarcity of water on the island stands out.

The island of Lanzarote has a lack of water, there is nothing except rain, collected in large pools or puddles made by hand or stones. They also collect in wells and keep it for sustenance, and their cattle. (Abreu Galindo 1977: 58)

We believe that there were one or several *maretas* in every town, possibly of communal use and care and in many cases with an outer wall or pavement. One of the most important tasks carried out by the Cabildo, was the maintenance and control of some of them. In addition, there were numerous cisterns and reservoirs: in this area, we have located plenty of these constructions: the Mareta Grande that was in the Cortijo de Chimanfaya, the mareta known as Fuego Mácher, in the northwest coast, the maretas and reservoirs in the Cortijo de Santa Catalina, the mareta of Las Mujeres, near Buen Lugar and Tingafa and the maretón de El Cabo by Santa Catalina. In some documents dating back then, reference is made to Las Maretas, as an inhabited place next to the village of Buen Lugar.

As for water deposits, cisterns, reservoirs, wells, piles, ... there are even more mentions made; often for individual sale. Among many others, the cistern of the heirs of Juana Perdomo in Santa Catalina is worth mentioning, the large cistern that was in Tingafa, a covered and mortar well in Masdache, the white cistern they called Los Morales near Tingafa. In the area that is now known as Los Islotes, is where most of the reservoirs were, such as those of Montaña Bermeja, north of Maso (Fig. 4).

Fig. 4 Remains of a cistern buried by volcanic ashes



One of the most important clues we have, from an archaeological point of view, to locate any building of the time, buried by the sands, is the location of water deposits. The existence of some semi-buried ones in the areas of Masdache, Geria, South of Diama, Guatisea, Peña Palomas and Chibusque is worth noting.

All this was to succumb to the apocalyptic event, which according to all written references began on September 1, 1730. To illustrate some aspects of life before the eruptions, when there was no suspicion of what was about to happen shortly after, the following quotations are striking, in which houses, water deposits or lands are sold and bought, and which were to disappear under the lava only a few days later:

... Beatriz de la Concepción, widow of Miguel Ruiz de Armas, neighbour of Tingafa, granted ... Juan de Betancor Reyes, neighbour of Mancha Blanca, for him and his, two fanegas (bushels) of worked land in the Pago de Tingafa, which they call Lomo de Carlos, I had them as a legacy from Balthasar de los Reyes Machin, my father ... I sold him another two fanegas (bushels) of land with its entrances and exits (AHPLP-PN-L.2804-October 1730)

More dramatic is another document, from August 20th, 1730, ten days before the Chimanfaya volcano exploded and about fifteen days before the lavas buried part of the land sold here

... like Joseph Calleros, a neighbour of the village of Santa Catalina ... I sold Sebastián Cabrera, a neighbour of the same village, honestly and forever ... namely a fanegada of Labradia land in the Llano del Boiaso (AHPLP. Leg.2804. Fol.85. 20 August 1730)

The situation could not be more dramatic, at first people migrated to other areas of the island, there are cases of

clandestine emigration to Fuerteventura, which alarmed the authorities of that island due to the lack of control and the passage of cattle without markings on them. Although they tried to control the exit of the population, as the magnitude and eruptions increased, more exceptional measures were proposed, such as the almost total evacuation of the island, leaving a reserve of 200 or 300 men to guarantee their safety against possible enemy attacks.

On the other hand, with the beginning of the volcanic activity, the church is mobilised with all kinds of masses, processions and prayers, which did not end until the volcanoes extinguished six years later. Some of these prayers and processions were ordered by the bishop for all the islands of the archipelago, to be celebrated on the same day and at the same time:

For a pound of wax that was used on March 25 of this year (1733) in the mass and general procession that was ordered by his Excellency so that his Majesty ... by the intersection of San Pedro de Alcántara extinguishes the volcano. (AMA, FJMA, LFIMT, 1733 and AML, Minutes from the Cabildo de Tenerife)

Not only did the volcanic eruptions destroy a rich and extensive constructed heritage, but they were the cause of the creation of both material and immaterial elements closely linked to the cultural heritage of the island, to the point that the Virgen de los Dolores, (also called Virgen of the Volcanoes), was associated with the “miracle” of the end of the eruptions and became patroness of the island. We have located a document that refers to the founding moment of this new devotion, although the chapel was built many years later:

In the place of Tinajo ... on April 1st, 1735 ... and in the name of the other neighbours of this place (de Tinajo) ... they said that

they choose and name as a special protector and Patroness of this place the everlasting Virgin Mother of God and Our Lady with the Most Venerable Title of Los Dolores under that protection and care are placed so that with her power, this most important intercession may reach our Lord God who frees us from this place and its districts from the ruins of the Volcano from which we are threatened (AHPLP-PN-Leg.2806-F.61. 1st de April 1735)

Remains of buildings destroyed by lava flows and tephra, and above all the new infrastructure that is built later, taking advantage of these large volcanic areas, for production on volcanic sands, as well as new settlements, roads, etc., bearing witness to the consequences of the catastrophe and the ingenious adaptation of our countrymen to this new ecosystem.

Rediscovering this part of the History of Lanzarote and all that human and natural landscape that was buried under the lava and volcanic sands, is what our efforts have consisted of since the middle of 1995 (De León 1998: 442). The written documents prior to the eruptions, the field surveys, and oral information have been, and continue to be, our most important resources to approach this objective and deepen our knowledge, much of it unpublished, which must be returned to the people of the island. In addition, we have considered of great interest, the immense culture that the people of the island have produced from the eruptions, with the reoccupation, uses, techniques and beliefs concerning this new land, what we call the culture of the volcano, that is largely fading away, with the disappearance of the people who made it possible. We are, therefore, faced with the urgency of undertaking and developing a new task based on this new perspective.

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