

## Learning from the past. The loss of vernacular heritage in the interest of hydropower development in Spain

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### **Abstract**

*The fact that water stored in reservoirs may be used for diverse purposes - hydroelectricity, irrigation or industrial use, human consumption, recreation, etc. - explains the widely spread policy of building these structures all over the world during the 20th century. However, dams and reservoirs building policies at those times in Spain led to the disappearance of many villages in rural regions due to the flooding of large areas and, as a result, the loss of vernacular architecture and local traditions was unavoidable. In this research, it is aimed to analyse the building of Ricobayo reservoir by the company Saltos del Duero together with its consequences for the affected communities and their heritage through the case of a particular village: La Pubblica, located in the province of Zamora in Castile and León, Spain. La Pubblica was a little and humble village, isolated from modern times, with 'unhygienic and meagre' facilities. During the land and housing expropriation process in La Pubblica, Fernando Lopez Heptener recorded some images of the village before its final devastation for the documentary called Por Tierras de España (1933). Due to the subsequent interest in spreading the film, nowadays it is possible for us to recover the lost image of La Pubblica, the vernacular architecture within as well as the traditions which were carried out in those spaces. If the future of dams is linked to sustainable energy resources and developing countries as thought nowadays, previous positive – but also negative – experiences must be considered, since, despite all the prior benefits linked to water utilisation, building these engineering structures undoubtedly implies a direct social effect on the communities and heritage elements connected to them, which could be decisive to manage our cultural heritage nowadays.*

**Keywords:** flooded heritage; reservoir building; Ricobayo; Zamora.

### **1. Introduction**

Spain is a country rich in water resources, since there is a significant amount of water in its rivers compared to the countries around it (Fernández Rodríguez, 2021) and this fact explains that water utilisation in Spain dates back to the Romanization of Hispania (Molina Sánchez, 2015). However, fossil fuels were the most used supplies to produce electric energy in thermal power stations, from where energy was conveyed using direct current (Cayón García, 2002) until 1884. This year meant a change since it was when

a new method to generate and transfer vast quantities of electricity to further distances (Espejo Marín, 2010) due to the use of hydroelectric plants, which could make the most of waterfalls and transfer the obtained energy through alternating current (Cayón García, 2002).

In addition, in terms of emerging state intervention, the 19<sup>th</sup> century was also a relevant period, especially due to the publication of two Water Laws in 1866 and 1879, where it was specified that the flowing waters in the country, except from the maritime, were under state

control (Fernández Rodríguez, 2021). During the 1880s, particularly in 1883, another law that complemented the above mentioned was approved: the Irrigation Law, which meant a step forward for the government to control the building of diverse hydraulic works (Fernández Rodríguez, 2021).



Fig. 1. Caricature of Rafael Gasset published in the satirical magazine 'Gedeón' (Source: Joaquín Moya, 1900, Wikimedia Commons).

From this moment onwards, hydropower development in Spain was enabled and remarkably fostered by diverse state policies, being the most relevant: the National Plan of Hydraulic Exploitation or Gasset Plan (1902), the Law on hydraulic buildings for irrigation (1911) (Fernández Rodríguez, 2021), the creation of the Hydrographic Union Confederations (1926-1931) and the National Plan of Hydraulic Works (1933) (Mateu González, 2002).

Although all these points have already been studied, for instance from the Engineering or the Economic History perspectives, in this paper – related to the R+I National Project 'Nuevos paisajes olvidados. Agua, patrimonio y territorio

cultural' (Ref. PID2019-108932GBB-I00) and funded by the Spanish Ministry of Science and Innovation, 2020-2024 –, it is aimed to delve into how the building of Esla dam and Ricobayo reservoir affected the cultural heritage linked to the flooded rural areas and the displaced communities.

To this end, it is intended to present the contrast between the actions carried out to preserve monuments in the area, such as San Pedro de la Nave, and the deliberate devastation of vernacular architecture, as happened in La Pubblica, on the assumption that the forced expropriation and consequent displacement to a new village was going to mean an improvement for its inhabitants. In addition, it is possible for us to 'recover' the vernacular architecture in La Pubblica and the traditional crafts connected to it due to the documentary 'Por tierras de Zamora', recorded by Fernando López Heptener, which preserves somehow the memory of the lost community and the lost village.

## **2. Saltos del Duero and the building of Esla Dam and Ricobayo reservoir in Zamora, Spain**

River Duero is one of the mightiest rivers in Spain, and this fact together with the land slants, turned it into a key resource for hydropower development, and the first person who became aware of this potential was Federico Cantero Villamil (Fernández Rodríguez, 2021).

Cantero Villamil was the first engineer that contemplated the possibility of taking advantage of the water resources of the Duero and presented a project for building a dam in order to provide different cities and villages in Castile and León with electricity already in 1898 (Redondo Quintela et al., 2011). This project was finally carried out and led to the building of San Román de los Infantes Dam, which started to work in 1902 (Redondo Quintela et al., 2011). A few years later, specifically in 1918, Cantero Villamil signed an agreement with Horacio Echevarrieta

after which the company Saltos del Duero owned all the licenses for dam building granted to Cantero, except from the one regarding to San Román de los Infantes (Redondo Quintela et al., 2011).

On its part, Saltos del Duero was a hydroelectric company founded, precisely in 1918, by Eugenio Grasset and José Orbegazo, both engineers like Cantero Villamil, in collaboration with the entrepreneur Horacio Echevarrieta and the financial support of Bilbao Bank in 1918 (Díaz Morlán, 1998).

However, this company could not start its dam building works until 1929, when the first dam on river Esla, tributary of river Duero, and Ricobayo reservoir were promoted. The importance of this project is corroborated by the investments made between 1929 – with an investment of eight million *pesetas* (48.080,97€)–, and 1930, when the estimate was increased until reaching twenty-seven million *pesetas* (162.273,27€) (Díaz Morlán, 1998).

However, the expenses funded by Saltos del Duero were set aside not only for building works but also to compensate people whose properties were expropriated in order to be flooded. In fact, due to the company report for 1932, it is possible to know that a significant 75% of the owners accepted the compensations offered by the company and more than the 50% of required expropriations had been carried out by the same year (Saltos del Duero, 1933).



Fig. 2. Building works in Esla Dam, 1932 (Source: Saltos del Duero, 1933).

### 3. Monument vs. vernacular heritage preservation in the building of Ricobayo reservoir

The building of Ricobayo reservoir implied the complete flooding of three villages – Nave, La Pubblica and Palacios del Pan – and also affected other settlements, such as Losacino, Vide, Montamarta, San Vicente del Barco, Ricobayo, Muelas del Pan, Almendra and Carbajales partially (Fernández Rodríguez, 2021).

As it is widely known, at first, Heritage Theory was narrowly connected to monuments and ancient remains, but not to vernacular heritage (García Cuetos, 2011). In fact, it was not until 1989 that the ‘Recommendation on the Safeguarding of Traditional Culture and Folklore’ was confirmed in Paris (García Cuetos, 2011). Regarding vernacular architecture in particular, it was in 1999 when a specific document on this matter was devised, including its definition as well as its significance for humanity (García Cuetos, 2011).

This situation explains how, as described below, the the value attached to monuments and vernacular heritage was so different in the 1930s that, on the one hand, a new method of dismantling and remounting buildings was developed in order to preserve a monument, while rural villages and their vernacular architecture were completely devastated.



Fig. 3. The village of Nave prior to the flooding (Source: IPCE, Ministry of Culture and Sport of Spain. Archive Ruiz Vernacci. Signature: VN-38433).

### **3.1. A new method for safeguarding *San Pedro de la Nave***

The Visigoth church San Pedro de la Nave, considered National Monument since 1912, was located in a village called Nave, one of the villages that disappeared after the building of Ricobayo. Before the works started, a debate was established between those who argued that the church should be relocated – for instance, José Ramón Mérida and the Spanish Royal Academy of History – and those who thought that the reservoir should prevail (García Cuetos, 2019).

Finally, in the concession agreement for the works it was stipulated that San Pedro de la Nave had to be relocated in order to avoid the flooding and be preserved (Fernández Rodríguez, 2021).

The dismantling, relocation and remounting of this temple in El Campillo were managed by the architect Alejandro Ferrant, Manuel Gómez-Moreno, who was the Directorate of Fine Arts, and the archeologist Emilio Camps (Esteban and García, 2007) and meant one of the most relevant preservation highlights in Spain at the beginning of the 20<sup>th</sup> century. In addition, this situation was also considered a magnificent opportunity to study the building in depth – its constructive phases were analysed, and a proposal of its historical stratification and possible original layout was established (García Cuetos, 2019). – and also to restore it (Esteban & García).

To fulfil this complex and unprecedented endeavour a systematic method was developed. It consisted of elaborating preliminary studies in which every stone block was drawn and also numbered, so that it was possible to know their exact location depending on the building area, course and orientation variables (García Cuetos, 2019). Then, the dismantling, stone by stone, was carried out in two different stages from August 1930 to April 1931 (Esteban & García, 2007) and, after the relocation of the blocks in El Campillo, it was finally remounted and restored.

As aboved mentioned, this achievement was so remarkable that it was included in a documentary sponsored by Saltos del Duero, as

the company was highly interested in documenting and registering the progress of the dam and the reservoir building and the actions related to it.

Fernando López Heptener, in charge of recording the images for the documentary *Por tierras de Zamora*, worked for Saltos del Duero while the company was building the reservoir. In fact, he had been hired in 1929 as draughtsman and topographer (Casquero, 2014) and he even oversaw expropriations of lands and housing located in areas to be flooded for the company (Cebrián, 1994).

However, *Por tierras de Zamora* does not only include images of the works in the dam and the reservoir, or pictures of noteworthy engineering structures, such as the bridge near Manzanal del Barco. López Heptener was also able to record how people lived in La Pùblica, one of the flooded villages before its disappearance.

### **4. *Por tierras de Zamora*: recovering la Pùblica**

The above mentioned documentary together with the comparison between the filmed buildings and the already studied features of traditional architecture in Zamora can provide us with some information for recovering la Pùblica in some way. Of course, this method is not original. It has already been used for similar purposes, for instance, in the dissertation by Ana María Villanueva about the lost heritage after the building of Luna reservoir, also in Castile and León (Villanueva, 2013).

The already mentioned *Por tierras de Zamora*, which was publicly released in 1933, constitutes a source that provides us with visual information regarding la Pùblica, but it also contains narrated statements that turn it into a rather biased document. In this sense, it is impossible to forget that, at first, *Por tierras de Zamora* was conceived to be presented to investors, and that is the reason why every activity carried out by the company was praised in order to supposedly improve Spain and Spaniards lives.



In fact, it is interesting to compare the opposing statements regarding the safeguarding of San Pedro de la Nave and the description of La Pùblica. Although the venture to dismantle and remount the church built in the 7<sup>th</sup> century was praised – and maybe that is the reason why some images of the temple, already remounted and restored, are shown –, the images of la Pùblica are presented while the village is defined by the narrator as a settlement which was ‘isolated from modern times’, since it is said that it had not evolved with the times and technological advances. The houses and their rooms were defined as ‘unhygienic’ and ‘meagre’, while the lives of their inhabitants were described as ‘miserable’ and ‘pitiful’ (Fernández García, 2021).

In this way, and without being aware of the values of vernacular architecture, the subsequent devastation of the town after the flooding and the forced move of its inhabitants to a new village built by the company in Campeán meadow was justified in the film. This new settlement was named after the lost village and the new location, trying to preserve, in a certain way and through the toponymy, the identity of the neighbours who had agreed to move to the new and modern village.

Again on the question referred to the vernacular architecture registered in the documentary, the images taken before the flooding partially show a village where the architecture followed the traditional features in the area, the region of Aliste.

In the first place, it is possible to identify different buildings fitted in with those characteristics: two-floor houses, that maybe combined livestock and agriculture tasks (Morán & Rodríguez, 1992), as well as one-floor houses, which could be identified as the most humble (Jiménez Arqués, 1980). According to the characteristics of the popular housing in the region, we could venture that, next to the room for people and separated by a partition wall, there could have been another one, which would have had the function of stable (Jiménez Arqués, 1980).



Fig. 4. Vernacular architecture built in La Pùblica (Source: Caption from *Por tierras de Zamora* by Fernando López Heptener, min. 7:27. Restored version uploaded to YouTube platform).

Regarding the building materials, it is also possible to appreciate the use of wood, stone – possibly quartzite which is common in the area – and adobe in some cases (Morán and Rodríguez, 1992).

To roof the spaces, we are able to identify slate slabs and tiles for housing as well as vegetable roofs, which could let us identify auxiliary buildings, such as the stables, since this kind of roof is still used currently (González et al., 2012).



Fig. 5. One-floor masonry buildings in la Pùblica (Source: Caption from *Por tierras de Zamora* by Fernando López Heptener, min. 7:51. Restored version uploaded to YouTube platform).

Furthermore, it is also feasible to recover the use of outer spaces, such as courtyards, or facilities like the well, which were narrowly linked to the community, their way of life, and the traditional trades and crafts in the village.

For instance, some of the pictures in the documentary portray the inhabitants, especially women, in their daily lives. In this sense, it is interesting to get to know how women used to gather in courtyards, spaces that were also connected to intangible heritage, such as the relevance of wool and linen culture in Castile and León (Fernández García, 2021).



Fig. 6. Women gathering in the courtyard preceding the house (Source: Caption from *Por tierras de Zamora* by Fernando López Heptener, min. 8:07. Restored version uploaded to YouTube platform).

## 5. Conclusions

The building of Esla dam and Ricobayo reservoir is one of the first and most interesting experiences in Spain regarding the impact caused by hydropower policies on our cultural heritage in the 20th century.

Nevertheless, except from the outstanding case of San Pedro de la Nave and the development of a pioneer and also rigorous methodology, the devastation caused by the flooding meant the loss of many villages and the vernacular architectures built in them, since the relevance of these cultural manifestations and their values had not been established by those times.

Currently, the context we live in is not the same, as the importance of traditional and popular heritage in general, as well as vernacular architecture – together with the trades and techniques connected to it – have been taken into account since the 1980s and the 1990s, when this matter was specifically included in international recommendations and,

consequently, affected the way this heritage is understood.

Nevertheless, in the 21<sup>st</sup> century, we are facing diverse challenges regarding, for example, the use of sustainable energy resources, and hydropower industry could be considered an appropriate way of obtaining that green energy.

That is the reason why getting to know previous experiences is important for future projects, no matter the country or area they are designed for. Dams and reservoirs do not only impact on the physical environment. Their building also implies a direct and strong social effect on cultural heritage and, as a result, on the communities that may lose their memory and identity, materialised in their cultural heritage and traditions, that should be preserved as far as possible.

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