

HEADING REPORT(H)A: Environmental Stories

Waters of Change: Progress, Environmental Well-being and Public Utility in a North-Eastern Portuguese Municipality (1856-1859)

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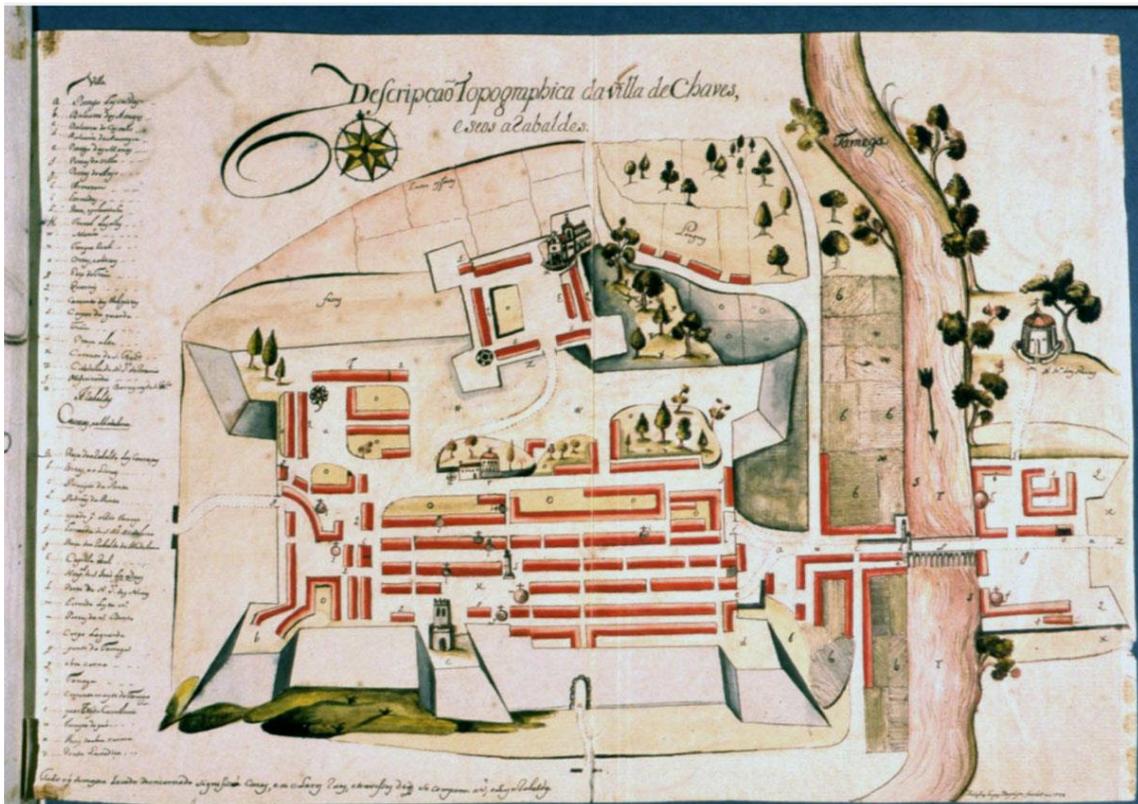


Figure 1: *Descripção Topographica da villa de Chaves e seus arabaldes*, Josephus Lopes Baptista, 1755. Public domain. Courtesy of Arquivo Nacional da Torre do Tombo.

For centuries, the population of Chaves, located in Trás-os-Montes, north-eastern Portugal, depended on water from the River Tâmega (on the right-hand side of the map) and a limited supply from the Castle cistern (at the bottom left of the map). These and other elements are represented on a map of Chaves in the mid-18th century. In this

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period before the one we will examine, some fountains also had water that was said to be of dubious quality and was advised against by doctors.

In the neighboring municipality of Ervededo - still in the district of Vila Real, but on the northern border between Trás-os-Montes and Spain - the use of water was only regulated between 1837 and 1841, including the prohibition of contaminating the river and watercourses with poisonous compounds, the control of water springs, the opening of wells filled with water to prevent fires and the private use of water on certain days. The municipality of Ervededo was later extinguished in 1853 and incorporated into Chaves.

Only in the mid-19th century did the municipal authorities consider the possibility of supplying Chaves with water from Bustelo, in the former municipality of Ervededo, by channeling it inside the walls represented on the map with the topographical description of the village of Chaves in 1755. However, it took several years to discuss and decide on the project. The execution began in 1856-1857, with the unanimous support of the population of Chaves. On May 5, 1858, the completion of the construction was announced.

On December 30, 1859, the municipality of Chaves referred to water extraction in Prainas, within the mountains of Bustelo. The mines were opened in poorly consistent terrain. These mines were then cobbled from the water reservoir to the end of the mines, forming a gallery covered with slabs to prevent the water from rising.

Later, the municipality recognized that the water extracted in Prainas needed to be increased to supply Chaves. It demanded that new mines be opened in Bustelo, improving the water pipelines where necessary. Mines were then opened in Estalagem, where a new gallery was built with a large sink for depositing sand, which was then cobbled and covered.

The water extracted in Estalagem increased the capacity of the Prainas mines. Conducted by a stone aqueduct, it passed through seven sinks for depositing sand, marked to facilitate cleaning. Later, the municipality of Chaves also acquired a spring in Talhas and committed to improving the channeling of this water when necessary, as well as all the other extracted water to the main aqueduct.

All the water extracted in Bustelo was carried by an aqueduct made of stone to the meadows of Sanjurge and then across several fields to Cocanha. A solid wall had to be built to support it, continuing to the village of Santa Cruz, where a similar one was built. Then, it crossed the road to Outeiro Seco, following the Trém wall until it ended in front of the chapel of Nossa Senhora da Lapa.

This aqueduct had thirty-five sinks for depositing sand, the location of which has been marked by stones, not only so that they could be cleaned whenever necessary but also so that the direction of the aqueduct could be known. The gallery that runs through the square of Nossa Senhora da Lapa was also covered so that the water could come with the "greatest possible purity".

Two fountains were built to bring water to the center of Chaves - in Praça do Anjo and Largo do Arrabalde - to which stoneware pots carried the water. The water did not reach the Arrabalde fountain in the first two tests. The pipeline, which could not withstand the water pressure and caused the stoneware pots to burst, was abandoned as a project and replaced with a lead pipeline to take the water to the fountains. This historic event shows the evolution of water management and the development of infrastructures in Chaves, to which several residents contributed with donations, thus recognizing the public utility of this construction to improve the water supply and promote social and environmental well-being.

Reading suggestions:

Capela, José Viriato et al. *As freguesias do Distrito de Vila Real nas memórias paroquiais de 1758: memórias, história e património*. Braga: J.V.C., 2006.

Costa, José Inácio da. "Memória Agronómica relativa ao concelho de Chaves." *Memórias Económicas da Academia Real das Ciências de Lisboa*. Lisboa: Banco de Portugal, 1990 [1789], tomo I, 351–398.

Mendes, José Maria Amado. *Trás-os-Montes nos finais do século XVIII, segundo um manuscrito de 1796*. 2nd ed. Lisboa: Fundação Calouste Gulbenkian, 1995.

Link, Heinrich Friedrich. *Voyage en Portugal, fait depuis 1797 jusqu'en 1799, contenant une foule de détails neufs et intéressans sur la situation actuelle de ce royaume, sur l'histoire*

naturelle et civile, la géographie, le gouvernement, les habitants, les moeurs, usages, productions, commerce et colonies du Portugal, spécialement le Brésil. Paris: Dentu, Imprimeur-Libraire, 1808.
3 vols.

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