TITLE OF THE RESEARCH PROJECT

Watermills in Navarra and Béarn: the trans-Pyrenean history of a landscape heritage

SUPERVISORS

	First name	LAST NAME	University	Research Unit
Supervisor	Loic	ARTIAGA	UPPA	ITEM
Co-Supervisor	Jose Miguel	LANA	UPNA	Department of Economics

Fields of study

History

Requirements (academic background, languages...) needed to apply for this research topic

Master degree in history, fluent in English, French and Spanish

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5 main KEYWORDS

Mills, heritage, history, environment, Pyrenees

ABSTRACT *(250 words max.)*

Watermills, with their typical paddlewheel or bucket wheel, are an emblematic feature of mountain landscapes. This ancient technology was the backbone of the agrarian, craft and then industrial economy until the 19th century. Yet mills are at the crossroads of several issues dear to the UNITA alliance. Mills are part of our material heritage, bearing witness to an economic, technical and social history, as well as being part of our typical landscape, dotted along the banks of developed watercourses. They also bear witness to the economic and social organization of mountain communities.

The 19th century was the golden age of mills; the invention of the turbine enabled them to be converted into hydroelectric power stations. Then, in the 20th century, the centralization of production led to the abandonment of many micro-power stations. Today, however, there is renewed interest in microhydropower plants as part of the energy transition. Small hydroelectric installations offer several advantages (free resource, decarbonized, controllable energy, local dissemination, local development tool, etc).

Today, many watermill renovation projects are underway, promising to meet ecological and heritage preservation objectives. However, the relationship between heritage and the environment is not self-evident. Mills with the best energy profiles are not necessarily those of greatest historical interest.

By adopting a microhistorical approach to these projects, the research seeks to highlight the tensions and negotiations between economic uses, environmental constraints, and cultural values, thereby situating the patrimonialization of mills at the intersection of economic, environmental, and cultural history.

Research aims and methodology

The main aim of this thesis is to offer a critical analysis of the relationship between the environment and landscape heritage, drawing on a sound synthesis of scientific literature and a comparative study of the landscape heritage of watermills in Béarn and Navarra.

The approach to be adopted will take into account the multiple applications of this ancient technology, given that its versatility made it widely present in the processing of raw materials such as cereals (flour mills), olives and seeds (oil mills), iron (hammer mills) and wool (fulling mills).

The thesis will have to answer a series of questions:

- What types of mills can be found in rural and urban areas, and how have they been distributed spatially?

- What is the state of this landscape heritage in the two areas studied?

- What are the main threats to its preservation and what policies are being implemented to achieve this? Who are the players involved?

- What other experiences have been carried out in other regions and countries to conserve, protect, or revitalize this heritage?

- In more general and theoretical terms, how can the environment and heritage be reconciled?

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To achieve this, the PhD student will have to implement an appropriate methodology:

-Create a database to serve as an inventory and catalog.

-Carry out a comparative analysis of public policies and the players involved on both sides of the Pyrenees, as well as in other countries that may serve as reference.

-Ability to carry out landscape analysis.

-Mastery of field survey techniques to gather testimonies.

Of particular interest are traditional industrial enclaves with a long history in the textile sector, such as Oloron-St. Marie in Bearn and Estella-Lizarra in Navarre, where fulling mills were once a prominent feature of the urban landscape.

Certain personal skills will be very helpful in the process. Written fluency in French and Spanish is essential. Solid experience of archival work at Master's level is expected. Good command of photography and GIS software would be a plus. The host teams will be happy to provide technical training on any point that the PhD student may lack.

Relevance and added-value of the proposed research in relation to the current state of knowledge

Since Marc Bloch's pioneering work ("Avènement et conquêtes du moulin a eau," *Annales*, 1935), a large amount of academic literature has accumulated, focusing on their architecture and the craft techniques used to build them, but they remain a discreet subject in the scientific research landscape. It is true that a specific term has been coined to designate the study of these artifacts: molinology. An international association known as TIMS (The International Molinological Society) has been holding symposiums every four years since 1965 (Lisbon), bringing together specialists from various disciplines. However, they have tended to focus more on the objects themselves than on the set of relationships in which they are inscribed.

This thesis project stands out for its desire to combine two fields of study (history of heritage and history of the environment). This approach is relatively recent and has attracted the attention of public decision-makers (creation of the Joint Programming Initiative on Cultural Heritage and Global Change). The ITEM laboratory is already involved in the study of the relationship between heritage and the environment, with a particular focus on the adaptation of pastures to climate change. In the case of Navarre, there is the advantage of previous research carried out in 2018 within INARBE entitled "Database development, digitization, and mapping of the inventory of mini-hydroelectric power plants in Navarre," which led to a monographic publication (*Hydroelectric power plants in Navarre 1898-2018*. Pamplona, Government of Navarre, 2020. ISBN 978-84-235-3564-4). This publication provides a good basis for further research and setting more ambitious goals.

Studying watermills through the lens of microhistory makes it possible to analyze how practices of patrimonialization emerged, unfolded, and intersected with local economies, environmental management, and cultural representations.

Interdisciplinary nature of the research together with the alignment with the CHORAL programme and complementarity expertise of the teams

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This thesis project is rooted in the historical discipline. However, given the nature of the object studied (mills) and the angle of study (landscape heritage and environment), the project can only be interdisciplinary. Art history, architecture, ethnography and geography will obviously be essential resources, as will the study of public policy.

This project is fully in line with the concerns of the CHORAL program, in particular the study and preservation of material heritage, local cultures and identities, and public policies in marginal regions.

The two co-directors, one French, the other Spanish, will provide the PhD student with their expertise in their respective geographical areas. Loïc Artiaga is Full Professor of History at the University of Pau, specialist in popular culture, cultural policy and history of representations. He has been part of various European projects, focusing on cultural transfers (AHRC, H2020 Detect, etc.). José-Miguel Lana is a Full Professor of Economic History and Institutions at the Public University of Navarre. His research has focused on common pool resources, rural communities and craft guilds. He has a large experience in leading research projects and as a supervisor, and has been Editor of the indexed journal *Historia Agraria* (JCR Q1 History).

The PhD student will be integrated into ITEM and INARBE research teams. The ITEM laboratory has a long tradition of studying rural and mountain heritage. At UPNA, research group 315 History and Economy, included in INARBE, brings together a strong team of specialists in natural resources, energy, and economic institutions, and has been rated by the Spanish Agency for Quality Assessment and Accreditation (ANECA) as a group of international excellence.

The doctoral student will benefit from a three-month training secondment in an international research center to be defined. A shorter visit is also planned to the Museu de Lanificios da Universidade de Beira Interior, also member of the UNITA Alliance, in order to study the museological project and its integration in the environmental and social context.

Output plan including publication and dissemination activities

The main achievement will be the thesis, which will include an inventory and catalog. This will lead to publication by a university publisher.

The doctoral student will also be able to design and carry out an exhibition.

During the three-year contract, opportunities to publicize the progress of the project will be taken advantage of in scientific dissemination events (European Researchers' Night, 3-minute thesis Unita, study day, seminars). Efforts will be made to arrange a 3-month training stay at a high-level university in the subject area, which will also facilitate the obtaining of a thesis with international recognition.

The doctoral student will also be encouraged to defend their progress at top-level international conferences and to submit their research progress to an indexed journal. The 17th TIMS Symposium in Poznan (Poland) in May 2027, the 14th ESEH Conference in Salzburg (Austria) in September 2027, the ESSHC (European Social Science History Conference) to be held in Lyon (2027), and the XV Congreso AEHE at Pamplona-Iruña (September 2028) are among the conferences that could serve to discuss the first fruits of the research.

Efforts will also be made to communicate the research results to the general public through face-to-face activities on both sides of the Pyrenees, as well as through the many channels offered by the Internet, as part of a science with and for society approach to the general public.

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Estimated schedule

Although some of the activities will be parallel and complementary in practice, ideally the first year should be devoted to studying the bibliography, conducting fieldwork and visiting archives. During the second year, field and archival work will continue, allowing the first research results to be shared at internal seminars and international conferences, as well as collaborating with other research teams during a three-month training stay at a recognized international center. The writing of the thesis will begin in the second year and will be completed during the third year. The experience of submitting a manuscript to the demanding criteria of an indexed journal will be addressed at the beginning of the third year. During this year, the thesis, which will have been drafted during the second year, will be completed. The process will conclude with the public defense of the thesis.

For illustrative purposes, the distribution of tasks is summarized in the following diagram:

Semester	1st	2nd	3rd	4th	5th	6th
Study of bibliography	X	X	X			
Archive work		X	X	X	X	
Fieldwork	X	X	X	X		
Training period at third university				X		
Attendance to an international conference			X	X	X	X
Submission of a paper to an indexed journal					X	
Seminars		X		X		
Drafting			X	X		
Writing				X	X	X
Defense						X

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