

Engineering, politics and territorial planning of Madrid's river spaces. The historical transformation of the Manzanares River through great urban development operations

Ingénierie, politique et aménagement du territoire des espaces fluviaux de Madrid. La transformation historique du fleuve Manzanares à travers de grandes opérations de développement urbain

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RÉSUMÉ

La volonté historique de transformer le fleuve Manzanares à Madrid a été une itération de processus plus ou moins importants, qui ont évolué de manière inégale dans le temps depuis le XVI^e siècle. Plusieurs projets ont été menés avec l'objectif de tirer profit des ressources fluviales, depuis les premiers travaux stratégiques tels que la proposition de navigabilité sous le règne de Felipe II (1580) jusqu'au projet moderne de canalisation pendant l'après-guerre (1942) et l'opération de rénovation urbaine de *Madrid-Río* (2006-2011). Notre objectif principal dans cet article est identifier les principaux projets qui ont guidé le développement urbain des berges du Manzanares, afin d'analyser la politique de l'eau menée par les autorités locales et régionales et qui, finalement, a marqué la relation actuelle entre la capitale de l'Espagne et son fleuve.

ABSTRACT

The historical need to transform the Manzanares River on its passage through the city of Madrid has been an iteration of processes of varying importance that have evolved unevenly over time since the sixteenth century. Several projects have been implemented with the objective of taking advantage of the river's resources, from the earliest strategic works, including the proposal to build a navigable river during the reign of Felipe II (1580) to the modern project of canalization during the post-war period (1942) and the *Madrid-Río* urban renewal operation (2006-2011). Our primary goal in this paper is to describe the main projects that have guided the urban development of the Manzanares River in order to analyse the evolving water policy implemented by regional and local authorities, which have left their indelible mark on the present-day relationship between Spain's capital city and its river.

KEYWORDS

Water policy, Development operations, Urban renewal, Manzanares basin, Madrid

1 INTRODUCTION

1.1 Contextual background

The transformation of urban-river spaces into new axes of centrality, socialization and concentration of green spaces is an undeniable fact in many of Spain and Europe's river cities. The change in use of these spaces began to materialize in the 1980s, and involved the prior approval of plans and projects centred on the incorporation of riverfronts into the cities' park and garden systems. National and regional capitals throughout Europe, including Paris, Manchester, Amsterdam, Lisbon and Lyon, are just some of the model examples of this strategy of regeneration, renewal and urban revitalization of waterfronts and riverfronts. In Spain, cities like Zaragoza, Valencia, Bilbao and Vitoria have also played a leading role in this process of urban transformation of, in this case, Europe's medium-sized river cities. Similarly, Madrid, Spain's capital has taken an important part in this modern process of urban requalification, thanks in the main to the approval and implementation of the *Madrid-Río project* (2006-2011). Yet, this modern process of 'reconquering' riverfronts cannot be understood, globally or locally, without analysing the historical and sequential vision gradually adopted by urbanism and water policy. The evolution of the objectives of technical projects of urban transformation is, in fact, evidence of the discursive development of the planner, the technician, the architect, the administrator and the politician. By analysing the great urban development operations (planned and, in some cases, actually implemented), we can observe the evolution of this so-called *water culture*, which differs from city to city depending on their geography, history and politics.

1.2 Objectives and methods

Against this backdrop, the main objective of this study is to examine the evolution of the urban planning of the metropolitan section of the Manzanares River in Madrid, within the framework of an integrated understanding of the fluvial and urban facts. Specifically, we seek to critically analyse the main plans and projects that have guided the management of the fluvial environment in our area of study: from the first proposal to build a navigable river during the reign of Felipe II (1580) through to the modern project of canalisation during the post-war period (1942) and the *Madrid-Río* urban renewal project (2006-2011). The analysis comprises a historical review, describing and analysing the projects that have been approved to date – with a time horizon of more than 400 years. Moreover, the projects are geolocated and mapped using GIS techniques. Beyond their specific details, an analysis of historical plans and projects allows us to determine the dimensions of the impact of urban and territorial planning in a capital such as Madrid, with a clearly metropolitan profile and a historical use of its resources that have been modified over time.

2 MAJOR URBAN DEVELOPMENT OPERATIONS. PLANS, PROJECTS AND CULTURAL VISIONS OF WATER

Madrid society has never shown any great pride in its river, the Manzanares being a watercourse of scarce length and flow, prone to suffering prolonged periods of severely low water levels that leave it practically dry. This explains why the relationship between the *Madrileños* and their river has never been particularly strong until the twentieth century, and why all major decisions concerning river management were left to successive governments who, in keeping with the concerns of the time, showed greater or lesser interest. This relationship is crucial to our understanding of the way in which different decisions were taken in relation to its management – at times exploited as a resource, a linear park or as a highway axis – in successive processes of rapprochement and distancing of the *Madrileños* with the Manzanares and its surrounding area.

One of the first great utilitarian works to be undertaken on the river was the creation of the Manzanares Canal (*Canal del Manzanares*). Following the coronation of Felipe II, who acceded to the Spanish throne in 1556 and who would later be crowned king of Portugal, the idea of connecting Madrid via interfluvial navigable waterways with the Atlantic developed. The project, designed by the Italian military engineer Juan Bautista Antonelli, was to link up Madrid and Lisbon and involved creating a 20-kilometer long canal parallel to the Manzanares in the municipality of Vaciamadrid, where a port of longboats was to be set up connecting the river with its tributary, the Jarama River to the east of Madrid. From there the Jarama River was to be used to reach Aranjuez and from there the navigable waterway would reach Toledo via the Tagus, the longest river in the peninsula. The waterway would eventually reach the Atlantic Ocean in Lisbon following the Tagus River. However, the

inordinate size of Felipe II's military empire meant that the Public Treasury could not afford the great investment that the *Canal del Manzanares* would have required. The project was resurrected in 1770, when King Carlos III, with the financing of the Crown, set the costly navigability project in motion. In this first stage, engineers managed to build a canal from the pier under the Toledo Bridge to the eighth lock, near the Galiana Royal Cattle Route, comprising a channel that reached a width of 14 meters and a depth of 3 meters. Following the French invasion, between 1818 and 1830, King Fernando VII continued to construct locks as far as Vaciamadrid, where the river jetty began. However, a lack of funds and the inauguration of the Madrid-Aranjuez Railway in 1851, which quickly showed itself to be more economically efficient than the canal, led to various river sections being cancelled. Eventually, in 1862, this led the City Council of Madrid to initiate the stagnation of the first section of the Real Canal from the Toledo Bridge to the Santa Isabel Bridge.

It was not until 1908 that the Courts passed the Manzanares River Act (*Ley Básica del Manzanares*) in which the State decided to canalize the Manzanares through Madrid's urban section and to give the riverfront a facelift. When the call for proposals was declared void, the more modest plan, proposed by the Headquarters of the Canal of Castille, for the canalization of the Manzanares was carried out between 1914 and 1925. After the civil war, in 1943, a new project sought to resuscitate the intentions of the 1908 plan. These works meant confining the river between concrete walls within a section that was 40 meters wide and 4 meters high, thus reducing the area occupied by the floodplain and the first terrace. In this new space, the 110-meter wide Manzanares Grand Avenue was designed to be a rapid urban highway for cars, complete with side service roads, and a tree-lined promenade along the riverbank. The plan was to incorporate almost half of the old alluvial plain, and the whole of the river's first terrace. Despite its obvious good intentions, in 1970, in response to the requirements of the 1929 Zuazo-Jansen Plan (*Plan Zuazo-Jansen*), and the General Urban Plan of Madrid (*Plan Bidagor*), of 1946, the city's first ring road (the M-30) was eventually built on both banks of the river. The new M-30 motorway, however, was to act as a barrier, impeding direct access to the river and so it became isolated and eventually invisible.

The Urban Renewal Plan for the Banks of the River Manzanares (*Plan de Renovación Urbana del entorno del río Manzanares en Madrid*), which, between 2003 and 2007, saw the M-30 covered over and the drawing up of renovation strategies for the city's riverbanks, led to the building of the *Madrid-Río Park*, between 2006 and 2011. The *Madrid-Río Park* has ushered in a social and cultural transformation of the relationship between the *Madrileños* and the Manzanares River. *Madrid-Río* works both as an urban linear park and as an environmental and social corridor, integrating its natural conditions and heritage including historical infrastructure, such as the Bridges of Segovia (1582) and Toledo (1732) to the city. However, the plan could have gone further and recovered more of the city's historical heritage, such as the remains of the original Manzanares Canal that were unearthed and then buried when constructing the M-30. Although the concept of a north-south running ecological corridor prevails, *Madrid-Río* still has problems of connectivity with the lower river course, in the municipalities of Getafe and Rivas-Vaciamadrid, where the environmental quality needs to be improved and where the integration between natural resources and heritage has yet to be completed.

3 CONCLUSIONS

By studying the main historical plans and projects drawn up for the Manzanares River in Madrid, we can observe the evolving relationship between the city's society and its river at a range of scales. This evolution presents different phases of rapprochement and distancing between both parties throughout history, culminating in the present-day *Madrid-Río* project. The plans and projects that have been imagined represent a veritable 'body of reflection' on the current *culture of water* at the engineering, technical, administrative, economic and political levels – a culture of water that manifests itself as an 'urban palimpsest' with stretches that have undergone social and ecological recovery, but others that still present significant shortcoming in their heritage management.

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