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Water management in Spain: foundations, contradictions, and challenges within the framework of development models, from the tourism perspective

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[ENG] **Abstract:** This article examines the current state of water governance in Spain from a critical, multidisciplinary, and structural perspective. Its objective is to analyse the development models that have historically guided water planning, identify the contradictions that emerge from their practical application, and propose reforms that will allow us to move toward a more just, efficient, and sustainable paradigm. Starting from a comprehensive review of the physical, territorial, and climatic foundations that shape the availability of water resources in Spain, this paper examines the legal and institutional evolution of water policies, from the Water Law of 1866 to the incorporation of the Water Framework Directive into the national regulatory framework. This paper analyses the multilevel management that characterizes the Spanish system, characterized by the fragmentation of powers, the coexistence of divergent models, and the growing influence of the European Union. It also addresses the structural contradictions between official discourse and institutional practices, between the logic of supply and the need for demand-based management, and between economic interests and the principles of sustainability. Underscoring the importance of creating and implementing sustainability indicators, it allows us to interpret water management as a multidimensional phenomenon, facilitating the integration of water management into our country's territorial policies.
Keywords: Water; governance; Spain; contradictions; development models; tourism.

[ES] La gestión del agua en España: fundamentos, contradicciones y desafíos en el marco de los modelos de desarrollo, desde el ámbito turístico

Resumen: En el presente Artículo se estudia la realidad de la gobernanza del agua en España, desde una perspectiva crítica, multidisciplinar y estructural, con el objetivo de analizar los modelos de desarrollo que han orientado históricamente la planificación hídrica, identificar las contradicciones que emergen de su aplicación práctica y proponer reformas que permitan avanzar hacia un paradigma más justo, eficiente y sostenible. Partiendo de una revisión exhaustiva de los fundamentos físicos, territoriales y climáticos que configuran la disponibilidad del recurso hídrico en el territorio español, se examina la evolución jurídica e institucional de las políticas del agua, desde la Ley de Aguas de 1866 hasta la incorporación de la Directiva Marco del Agua en el marco normativo nacional. Se analiza la gestión multinivel, que caracteriza el sistema español, marcada por la fragmentación competencial, la coexistencia de modelos divergentes y la influencia creciente de la Unión Europea. Se trata, igualmente, de las contradicciones estructurales entre los discursos oficiales y las prácticas institucionales, entre la lógica de la oferta y la necesidad de una gestión basada en la demanda, y entre los intereses económicos y los principios de sostenibilidad, subrayando la importancia de la creación y puesta práctica de indicadores de sostenibilidad, permite interpretar la gestión del agua como fenómeno multidimensional, que facilitan la integración de la gestión hídrica en las políticas territoriales de nuestro país.
Palabras clave: Agua; gobernanza; España; contradicciones; modelos de desarrollo; turismo.

[FR] La Water management in Spain: foundations, contradictions, and challenges within the framework of development models, from the tourism perspective

Résumé: Cet article examine l'état actuel de la gouvernance de l'eau en Espagne d'un point de vue critique, multidisciplinaire et structurel. Son objectif est d'analyser les modèles de développement qui ont historiquement guidé la planification de l'eau, d'identifier les contradictions qui émergent de leur application pratique et de proposer des réformes permettant d'évoluer vers un paradigme plus juste, plus efficace et plus durable. À partir d'un examen approfondi des fondements physiques, territoriaux et climatiques qui façonnent la disponibilité des ressources en eau en Espagne, il examine l'évolution juridique et institutionnelle des politiques de l'eau, depuis la loi sur l'eau de 1866 jusqu'à l'intégration de la directive-cadre sur l'eau dans le cadre réglementaire national. Il analyse la gestion multiniveaux qui caractérise le système espagnol, caractérisée par la fragmentation des pouvoirs, la coexistence de modèles divergents et l'influence croissante de l'Union européenne. Il aborde également les contradictions structurelles entre le discours officiel et les pratiques institutionnelles, entre la logique de l'offre et la nécessité d'une gestion axée sur la demande, et entre les intérêts économiques et les principes de durabilité. Soulignant l'importance de créer et de mettre en œuvre des indicateurs de durabilité, cela nous permet d'interpréter la gestion de l'eau comme un phénomène multidimensionnel, facilitant l'intégration de la gestion de l'eau dans les politiques territoriales de notre pays.
Mots-clés: Eau; gouvernance; Espagne; contradictions; modèles de développement; tourisme.

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1. Introduction

There are many news stories that deal with Spanish tourism with metaphors, since, so far in 2025, even in the financial reality of our country, one of the main centres of interest is the tourism sector (a prominence that is not always positive, in economic news, because sometimes, not many at the moment, when August is spoken of as a month in which almost two hundred thousand jobs were lost, weighed down by the hospitality industry). However, we rarely pause to connect the extraordinary reality of tourism with the factors that promote, or, if absent, hinder, the achievement of such a magnificent phenomenon (climate change, the energy transition, etc.), and, specifically, water. Today, this once liquid element is treated and analysed as a natural resource, essential for life and, naturally, for economic development and, consequently, for ecological balance. It is well known that it has historically occupied a central place in shaping public policies, territorial planning, and the institutional construction of modern states; Spain is no exception, as the use and management of water has been, and continues to be, marked by a series of physical, climatic, and geographical factors that have required far-reaching technical, regulatory, and political responses. Estas respuestas no siempre han sido coherentes con los principios de sostenibilidad, de equidad y de racionalidad ecológica que deberían orientar la acción pública en la segunda década del siglo XXI. The persistence of development models based on the expansion of supply, institutional fragmentation, the lack of legal recognition of the right to water, and the dissonance between official discourse and actual practices create a scenario of structural contradictions that compromise the effectiveness, legitimacy, and fairness of water management in Spain.

This research aims to address this scenario from a critical, interdisciplinary and proactive perspective. The hypothesis is that water management in Spain requires a profound transformation, one that is not limited to technical or administrative adjustments, but rather involves a review of the regulatory, institutional, and

cultural foundations that support it. This transformation must be oriented toward building a water model based on environmental justice, territorial equity, and intergenerational sustainability. To this end, a methodological framework has been designed that combines theoretical analysis with empirical observation, documentary review with case studies, and regulatory reflection with the formulation of reform proposals. General and specific objectives have been defined to structure the research, and an analytical framework has been constructed that integrates the regulatory, institutional, and territorial dimensions of the water phenomenon.

2. Methodology and analytical framework

The methodological design and analytical framework adopted in this research allow us to approach water management in Spain from a comprehensive, critical, and proactive perspective. By combining methods, sources, scales, and disciplines, a solid foundation is built for the analysis of development models, structural contradictions, and possible alternatives. This approach not only allows us to understand the present, but also to imagine more just, more sustainable, and more democratic futures in water management. The study of water management in Spain requires a rigorous, interdisciplinary, and adaptive methodological approach, capable of capturing the structural complexity of the water phenomenon in its multiple dimensions: legal, economic, territorial, ecological, and sociopolitical. This chapter presents the methodological design that supports the research, as well as the analytical framework that allows for the interpretation of data, policies, and discourses surrounding water as a strategic resource and common good. The methodological choice responds to the need to overcome sectoral or fragmented approaches that, while useful in specific contexts, are insufficient to address water management as a systemic problem. Therefore, a combination of qualitative and quantitative methods was chosen, articulated around a mixed approach that integrates empirical observation with theoretical reflection, modelling with normative analysis, and contextual interpretation with comparative evaluation. The central axis of the methodological design is based on the hypothetical-deductive method, understood in Karl Popper's terms as a knowledge-building strategy based on falsifiable hypotheses, subject to empirical testing and critical review.

Additionally, the generalized empirical method has been incorporated, which allows for the collection, systematization, and analysis of data from a variety of sources: official statistics, technical reports, current legislation, case law, hydrological plans, citizen surveys, and academic studies. This plurality of data allows for a solid foundation for interpreting water phenomena, avoiding bias and expanding the explanatory capacity of the analysis. The analytical framework is structured around three main dimensions: the normative dimension, the institutional dimension, and the territorial dimension. The normative dimension refers to the set of rules, principles, and values that guide water management, both legally and ethically. It includes an analysis of national, regional, and European legislation, as well as international instruments that recognize the right to water and the protection of aquatic ecosystems. The institutional dimension addresses the configuration of actors, responsibilities, and governance mechanisms involved in water management. It analyses the relationships between the State, autonomous communities, municipalities, hydrographic confederations, management companies, and civil society, as well as the decision-making, inter-administrative coordination, and citizen participation processes.

The territorial dimension examines the spatial distribution of the resource, the location of demand, hydrological planning, and the relationship between land use and water availability. Particular attention is paid to regional imbalances, conflicts over access to water, and the dynamics of urbanization, intensive agriculture, and tourism that influence pressure on the resource. To address these dimensions, a series of variables and indicators have been defined that allow the different aspects of water management to be measured and compared. These include volume of water available per basin, percentage of population served, degree of compliance with the environmental objectives of the Water Framework Directive, level of cost recovery, participation in planning processes, water quality, efficiency of agricultural use, and degree of vulnerability to climate change.

3. Results

The application of the above methodology shows us that the analysis and interpretation of water management in Spain cannot be understood without a rigorous approach to the physical, territorial, and climatic factors that shape the availability and distribution of water resources. Unlike other European countries with more homogeneous rainfall patterns, Spain shows marked irregularity in both the amount and the temporal and spatial location of precipitation. This uniqueness has historically influenced water policies, territorial development models, and water planning strategies. From a territorial perspective, Spain's geographical area is characterized by orographic diversity that directly influences runoff, infiltration, and water accumulation patterns. The mountain ranges that crisscross the peninsula act as natural barriers that fragment watersheds and generate distinct microclimates. This fragmentation has given rise to a complex hydrological structure, in which watersheds with surplus water coexist with others with a clear deficit.

In climatological terms, Spain is located at a latitude that exposes it to the influence of Atlantic, Mediterranean, and continental air masses. This interaction generates pronounced seasonal variability, with wet winters in the north and dry summers in the south. Rainfall is concentrated in short periods of the year, making sustained water accumulation difficult and requiring the use of regulation infrastructure to ensure a continuous supply. The spatial distribution of rainfall is equally uneven. The northern regions -Galicia, Cantabria, the Basque Country, and the Pyrenees-, receive abundant and regular rainfall, while the southeastern peninsula -Murcia, Almería, and Alicante-, face extremely arid conditions. This disparity has generated structural tension between territories, resulting in conflicts over access to resources, demands for water transfers, and disputes over hydrological planning. The temporal dimension of the Spanish water regime also presents significant challenges. Rainfall, when it occurs, tends to be intense and concentrated, which favors surface runoff and limits infiltration into aquifers. Furthermore, the seasonality of rainfall does not coincide with peak demand, especially in tourist areas along the Mediterranean coast, where the population doubles in summer, precisely when resources are most scarce.

These physical constraints have forced the Spanish state to develop a water policy based on the construction of reservoirs, canals, and water transfer systems. Since the 19th century, hydraulic engineering has been viewed as the technical solution to natural imbalances, with significant public investment in infrastructure to redistribute water from watersheds with surpluses to those with deficits. However, this approach has generated environmental externalities, territorial tensions, and a structural dependence on centralized management models. Hydrological planning in Spain is structured around river basin districts, which do not necessarily coincide with administrative boundaries. This configuration responds to the logic of the natural water cycle, but poses challenges of coordination between autonomous communities, especially when decisions regarding infrastructure, land use, or environmental protection affect several regions. Water governance, therefore, is conditioned by the need for inter-territorial cooperation and the existence of divergent interests between public and private actors.

In this context, water management cannot be limited to a technical or engineering perspective. It requires a deep understanding of the physical factors that determine the availability of the resource, but also of the social, economic, and political dynamics that shape its use. The interaction between nature and society is particularly pronounced in the water sector, where planning, investment, and regulatory decisions have direct implications for territorial development, social equity, and environmental sustainability. Pressure on water resources has intensified in recent decades due to urban growth, the expansion of irrigation, increased tourism, and climate change. These factors have altered demand patterns, increased competition between uses, and called into question the viability of traditional management models. In particular, climate change has introduced a new dimension of uncertainty, with extreme events -prolonged droughts, torrential rains-, challenging the adaptive capacity of existing infrastructure. Water management in Spain must therefore address a dual challenge: on the one hand, ensuring a safe, high-quality, and continuous supply; and on the other, preserving aquatic ecosystems and ensuring the sustainability of the hydrological cycle. This tension between human uses and ecological needs requires an integrated approach that combines technical knowledge, environmental awareness, and institutional capacity.

Furthermore, it should be noted that the diachronic reality of water management in Spain is closely linked

to the institutional development of the State, the evolution of its territorial structures, and the transformation of its production models. Water, as a strategic resource, has been the focus of priority attention by public authorities since the 19th century, becoming a central element in the construction of the modern state, in the structuring of the territory, and in the promotion of economic development. However, this attention has not been free of contradictions, omissions, and tensions that have profoundly influenced the design and implementation of water policies. The first major codification of water in Spain dates back to the Water Law of 1866, which established the basis for state intervention in regulating the use of the resource. This law, pioneering for its time, recognized the public nature of water and assigned the State the responsibility of regulating its use. However, its approach was eminently technical and administrative, centered on the channelling of water flows, the construction of infrastructure, and the allocation of concessions. Water was conceived as a means of production, not as an environmental good or a social right.

The Water Law of 1879 deepened this logic, consolidating the supply-side model as the dominant paradigm. Under this framework, the State assumed the role of promoter of large-scale hydraulic works, aimed at increasing the availability of the resource through reservoirs, canals, and water transfer systems. Hydrological planning was based on the idea that economic development required a constant expansion of water supply, without considering the environmental costs or social dynamics associated with water use. During the 20th century, this model remained virtually unchanged, with successive hydrological plans reinforcing the centrality of hydraulic engineering as a solution to territorial imbalances. Water policy became a state policy, with heavy public investment and limited citizen participation. The resource was treated as an abundant good, whose price had to be kept low to promote agricultural and industrial growth. This concept excluded any consideration of scarcity, efficiency, or sustainability.

The 1978 Spanish Constitution introduced a new legal framework based on territorial decentralization and the recognition of fundamental rights. However, the constitutional text did not include an explicit reference to the right to water, creating a regulatory gap that persists to this day. Article 45 recognizes the right to an adequate environment but does not mention water as an essential component of this right. This omission has hampered the construction of a robust legal framework that guarantees access to this resource as a human right. However, despite this, the Constitution does establish a distribution of powers that has had profound implications for water management. The State retains jurisdiction over inter-community waters, while the autonomous communities can legislate on intra-community waters. This distinction has generated regulatory and administrative fragmentation that complicates integrated resource planning. Furthermore, municipalities have jurisdiction over urban water supplies, which adds an additional layer of institutional complexity.

The 1985 Water Law, approved within the constitutional context, attempted to adapt the management model to the new territorial reality. It introduced the concept of river basin districts as a planning unit, recognized the need to protect the aquatic environment, and established mechanisms for public participation. However, it maintained the logic of supply as the central axis, without making significant progress in incorporating efficiency, equity, or sustainability criteria. The true turning point came with Spain's accession to the European Union and the subsequent adoption of the Water Framework Directive, in 2000. This EU regulation represented a paradigm shift, establishing that water management should be geared toward sustainability, cost recovery, and the protection of aquatic ecosystems. The Water Framework Directive introduced the “polluter pays” and “user pays” principles, requiring Member States to internalize environmental costs and establish tariffs that reflect the true value of the resource. The transposition of the Water Framework Directive into Spanish law has been slow and partial. Although hydrological plans have been approved in accordance with its guidelines, the effective implementation of its principles has encountered political, economic, and social resistance. Cost recovery, in particular, has been a source of controversy due to the widespread perception that water should be cheap or free. This perception, rooted in Spanish political culture, hinders the implementation of tariff policies that incentivize savings and efficiency.

The legal evolution of water policies in Spain reveals a constant tension between continuity and change. On the one hand, the legacy of the supply-side model persists, with a heavy dependence on infrastructure and a productivist view of the resource. On the other, new regulatory demands are emerging, derived from environmental law, European law, and international human rights commitments. This tension is manifested

in the coexistence of contradictory regulations, institutional fragmentation, and a lack of coherence between stated objectives and applied instruments. Thus, we can affirm that one of the most problematic aspects is the absence of a law that explicitly recognizes the right to water as a fundamental right. Although various international texts -such as United Nations General Assembly Resolution 64/292-, have proclaimed this right, its incorporation into Spanish law remains pending. This legal loophole limits the State's ability to guarantee universal access to the resource, especially in contexts of social vulnerability or water stress.

Constitutional jurisprudence has also failed to clearly address the issue of the right to water. Although it has recognized the importance of the environment as a protected legal asset, it has not developed a specific doctrine on water as an essential component of human dignity. This lack of judicial interpretation has contributed to keeping water in a gray area of the rights system, without effective protection or a precise normative definition. In this context, the legal evolution of water policies must be understood as an unfinished process, marked by partial progress and structural resistance. The transition toward a sustainable management model requires not only technical reforms but also profound regulatory transformations that recognize water as a right, articulate multilevel governance, and promote coherence across different planning levels. So much so that the historical and legal reality of water in Spain is, ultimately, a history of contradictions: contradictions between perceived abundance and real scarcity, between administrative centralization and territorial decentralization, between hydraulic engineering and environmental protection, between the symbolic price and the economic value of the resource. These contradictions must be addressed from a critical perspective, allowing us to identify structural obstacles and propose viable alternatives for more just, efficient, and sustainable management.

At this point, it should be noted that water management in the 21st century cannot be conceived without a profound reflection on the governance mechanisms that underpin it. In the Spanish case, this governance is structured within a multilevel system that includes local, regional, national, and supranational actors, each with distinct responsibilities, interests, and capabilities. This structure, far from being merely administrative, shapes the way in which water policy is defined, implemented, and evaluated, and ultimately determines the effectiveness, equity, and sustainability of water use. The notion of water governance has evolved significantly in recent decades. Initially conceived as an extension of technical management, it is now understood as a set of normative, institutional, and deliberative processes that regulate access to, use of, and conservation of water. This conceptual transformation responds to the growing complexity of water systems, the multiplicity of actors involved, and the need to integrate ecological, economic, social, and cultural dimensions into decision-making.

In the European context, it should be noted that water governance has acquired a strategic dimension, particularly since the adoption of the Water Framework Directive, in 2000. This EU regulation not only establishes binding environmental objectives but also redefines the role of Member States in hydrological planning, introducing principles such as public participation, cost recovery, and management by river basin districts. The Water Framework Directive is therefore a milestone in the construction of a European water policy based on sustainability, transparency, and interterritorial cooperation. As a Member State of the European Union, Spain has formally incorporated the Water Framework Directive principles into its legal system. However, the effective implementation of these principles has been uneven, fragmented, and sometimes contradictory. The territorial structure of the State, with powers shared between the central government and the autonomous communities, has hampered regulatory harmonization and institutional coordination. Furthermore, the existence of diverging interests between regions -particularly with regard to water transfers and agricultural use-, has generated conflicts that hinder the consistent implementation of EU policy.

One of the central elements of the Water Framework Directive is management by river basin districts, which breaks with traditional administrative logic and proposes planning based on natural units. This approach allows for a more integrated view of the hydrological cycle, but poses governance challenges, especially when the districts cross several autonomous communities. The need to establish interregional cooperation mechanisms thus becomes a sine qua non for the effectiveness of water policy. Public participation is another pillar of the Water Framework Directive. The Directive requires that citizens and social organizations have access to information and can participate in the development of river basin management

plans. This democratizing principle seeks to legitimize decisions, improve the quality of planning, and foster a more conscious and responsible water culture. However, in practice, participation has been limited, formalistic, and non-binding, which has limited its impact on policymaking. Cost recovery is probably the most controversial aspect of the Water Framework Directive. The "user pays" principle implies that users must bear the true costs of supply, including environmental and opportunity costs. This requirement clashes with the Spanish tradition of symbolic pricing, cross-subsidies, and public infrastructure financing. Social resistance to full water pricing has been intense, especially in the agricultural sector, where the resource is perceived as an essential productive input. Water governance is thus strained between the regulatory demands of the European Union and the political, economic, and cultural realities of the state. This tension is manifested in the coexistence of divergent management models, institutional fragmentation, and a lack of coherence between stated objectives and the instruments applied. The need for a profound reform of the governance system is becoming evident, not only to meet European commitments but also to ensure fair, efficient, and sustainable water management.

From an analytical perspective, water governance can be broken down into four interrelated dimensions: environmental, economic, political, and social. The environmental dimension refers to the protection of aquatic ecosystems, the conservation of the hydrological cycle, and the prevention of pollution. The economic dimension involves the efficient allocation of resources, the internalization of costs, and the financial sustainability of the system. The political dimension encompasses the distribution of responsibilities, institutional coordination, and the legitimacy of decisions. Finally, the social dimension includes equitable access to water, citizen participation, and distributive justice.

These four dimensions are present in the Water Framework Directive and should be present in national policies. However, their effective integration requires an institutional architecture capable of articulating interests, coordinating actions, and resolving conflicts. In the Spanish case, this architecture is still under construction, with significant progress but also significant gaps. The lack of a water governance framework law, the weakness of inter-territorial cooperation mechanisms, and the limited citizen participation are obstacles that must be overcome. Multi-level water governance also requires a reflection on subsidiarity, that is, on the most appropriate level for decision-making. The Water Framework Directive proposes decentralized planning but requires consistency with EU objectives. This poses the challenge of balancing regional autonomy with national and European responsibility. In this sense, water governance becomes a laboratory for functional federalism, in which new forms of cooperation, coordination, and deliberation are experimented with.

The European Union's role in water governance is not limited to regulation. The European Commission has also promoted research, funding, and cross-border cooperation initiatives, such as the LIFE and Horizon programmes, and the ERDF funds. These initiatives have enabled the development of innovative projects, improved the technical capacity of public administrations, and fostered the exchange of good practices. However, their impact depends on the political will of Member States and the absorption capacity of local stakeholders. Water governance must be understood as a dynamic, adaptive, and relational process. It is not a fixed set of rules, but rather a network of interactions between stakeholders, institutions, and contexts. This relational perspective allows us to analyse how consensus is built, how conflicts are managed, and how resources are distributed. In the case of water, this network includes not only governments but also users, social organizations, businesses, and ecosystems. The transition toward sustainable water governance requires a cultural as well as an institutional transformation. It is necessary to move beyond the instrumental view of water as an unlimited resource and adopt an ecological, social, and ethical understanding of the hydrological cycle. This transformation involves educating citizens, reforming institutions, and redefining the values that guide public policy. The European Union has taken steps in this direction, but its success depends on the ability of Member States to embrace change.

4. Discussion

In addressing the topic under study, it is of considerable importance to present the conceptualization of water as a fundamental right, an issue that constitutes one of the most relevant and urgent debates in contemporary legal and social circles. In a global context marked by increasing water scarcity, the intensification of conflicts

over access to this resource, and the growing vulnerability of entire populations to extreme weather events, the recognition of the right to water as a prerogative inherent to human dignity emerges as an ethical, legal, and political imperative. However, in the Spanish case, this recognition has not yet been formalized in the constitutional text or in ordinary legislation, which raises a series of questions about regulatory coherence, institutional effectiveness, and distributive justice in water management. From a theoretical perspective, the right to water can be defined as the right of every person to have access to a sufficient, safe, accessible, and affordable amount of water for personal and domestic uses. This definition, adopted by international organizations such as the United Nations and the Human Rights Council, implies not only the physical availability of the resource, but also its quality, economic accessibility, and equitable distribution. In this sense, the right to water is closely linked to other fundamental rights, such as the right to life, health, food, and a healthy environment. International recognition of the right to water has advanced significantly in recent decades. United Nations General Assembly Resolution 64/292, adopted in 2010, explicitly declared that "the right to safe drinking water and sanitation is a human right essential for the full enjoyment of life and all human rights." This resolution, although not legally binding, has been interpreted as an expression of the global consensus on the need to guarantee universal access to water resources. Likewise, various international treaties, such as the International Covenant on Economic, Social and Cultural Rights, have been used by oversight bodies to derive state obligations regarding water.

At the European level, the right to water has been indirectly recognized through the case law of the European Court of Human Rights and Community regulations on environmental and health issues. The Water Framework Directive, although not explicitly formulating the right, establishes principles that underpin it, such as the protection of aquatic ecosystems, citizen participation in hydrological planning, and equitable cost recovery. Furthermore, initiatives such as the European Citizens' Initiative "Right2Water" have contributed to raising awareness of the social demand for formal recognition of the right to water within the EU legal framework. In contrast, the Spanish legal system is notably lacking in this area. The 1978 Constitution does not include water among the fundamental rights recognized in Title I, nor in the articles relating to the environment, health, or housing. Article 45, which establishes the right to an adequate environment, could be interpreted as a basis for deriving a right to water, but this interpretation has not been developed by either the legislature or the Constitutional Court. This regulatory gap creates uncertainty about the scope of state water obligations and limits citizens' ability to demand compliance.

Ordinary legislation has not remedied this omission either. The 1985 Water Law, amended several times, regulates the use, planning, and protection of the resource, but does not enshrine it as an enforceable subjective right. Water is treated as a public good, whose management corresponds to the State and the autonomous communities, but without establishing explicit guarantees of universal access or specific judicial protection mechanisms. This lack of legal recognition contrasts with the centrality of water in everyday life, public health, and economic development, and reveals a disconnect between social reality and the regulatory framework. Spanish jurisprudence has addressed water primarily from an administrative perspective, in cases related to concessions, tariffs, pollution, or hydrological planning. However, there is no consolidated doctrine that recognizes the right to water as a fundamental right. This lack of legal representation limits the possibility of invoking remedies before the courts in situations of violations and hinders the development of a legal culture that values water as an essential component of human dignity.

From a constitutional perspective, recognition of the right to water could be achieved through a reform of the fundamental text, explicitly incorporating it into the catalog of rights. This option, although legally viable, faces political and procedural obstacles, given the rigidity of the constitutional reform process in Spain. Alternatively, an evolutionary interpretation of Article 45 could be promoted, allowing the right to water to be derived as a manifestation of the right to the environment, in line with the Constitutional Court's doctrine on implicit rights. Another option would be the approval of an organic law that recognizes the right to water as a fundamental right, establishing its content, guarantees, and protection mechanisms. This law could be structured around the principles of availability, quality, accessibility, affordability, and sustainability, and establish specific obligations for public administrations in terms of supply, sanitation, environmental protection, and citizen participation. It could also provide judicial protection instruments, such as the amparo (a remedy for constitutional protection), to guarantee the effectiveness of this right.

Recognition of the right to water also requires institutional transformation; water-related powers are distributed among the State, autonomous communities, and municipalities, which generates fragmentation and inequality in access. A recognition law should establish inter-administrative coordination mechanisms, territorial equity criteria, and minimum standards of quality and coverage. Furthermore, it should incorporate a gender perspective, the protection of vulnerable groups, and adaptation to climate change as cross-cutting elements.

From an ethical perspective, the right to water is based on the idea of water justice, understood as the equitable distribution of the resource, democratic participation in its management, and the protection of the ecosystems that sustain it. This concept goes beyond the utilitarian view of water as an economic resource and integrates it into a logic of rights, duties, and shared responsibilities. Water justice entails recognizing that access to water cannot depend on purchasing power, place of residence, or legal status, but must be guaranteed as a universal prerogative. Water management as a fundamental right also has implications for economic policy. Water pricing must balance cost recovery with affordability, ensuring that prices do not exclude the most vulnerable sectors. It must also incorporate environmental and opportunity costs to reflect the true value of the resource and encourage its efficient use. A pricing policy based on the right to water must be progressive, transparent, and participatory, and must guarantee a free or subsidized minimum living wage.

In conclusion, the recognition of the right to water as a fundamental right in Spain constitutes a legal, social, and ethical necessity. Its absence in the current constitutional and legislative framework limits the effectiveness of water policy, perpetuates inequalities, and hinders the transition to sustainable management. Incorporating this right, whether through constitutional reform, organic law, or judicial interpretation, would allow for the construction of a more coherent, fairer, and more adapted regulatory system to the challenges of the 21st century. In the Spanish context, water justice is compromised by the existence of water-stressed territories, unequal water tariffs, precarious infrastructure in rural areas, and a lack of citizen participation in planning. Recognizing the right to water would address these inequalities from a regulatory perspective, establishing clear obligations for public authorities and empowering citizens to demand their fulfillment.

In the context of the discussion of results, water management takes on significant relevance, along with the development models that have historically guided public action, territorial planning, and economic organization. Water, as a limited and strategically distributed natural resource, has been the subject of policies that, in many cases, have responded more to productivist and short-term imperatives than to criteria of sustainability, equity, or ecological rationality. This tension between the stated goals and the means employed has generated a series of structural contradictions that compromise the effectiveness of water policies and the coherence of the national development model. From a historical perspective, the Spanish hydraulic development model has been marked by a technocratic vision of the territory, in which water was conceived as a basic input for agricultural modernization, industrialization, and urban expansion. This conception, inherited from Enlightenment thought and technical positivism, promoted the construction of large-scale infrastructure -reservoirs, canals, and water transfers-, as a solution to natural imbalances and as an instrument of territorial integration, as the State assumed the role of landscape engineer, intervening massively in aquatic ecosystems to adapt them to the needs of economic growth. This approach, although effective in certain contexts, generated significant environmental externalities: alteration of ecological flows, fragmentation of river habitats, loss of biodiversity, diffuse pollution, and overexploitation of aquifers. Furthermore, it consolidated a water culture based on artificial abundance, subsidized consumption, and the "invisibility" of the resource's true costs. Water was no longer perceived as a scarce and valuable commodity and was instead treated as a resource available on demand, without regard for its origin, quality, or environmental impact.

The most obvious contradiction of this model lies in its inability to adapt to the physical reality of Spanish territory. As explained in previous chapters, Spain has a highly uneven rainfall distribution, with some regions experiencing surpluses and others clearly experiencing deficits. This disparity, far from being corrected by the supply model, was exacerbated by the concentration of demand in arid areas, driven by migration dynamics, accelerated urbanization, and the expansion of tourism. The result has been increasing pressure on water

resources in the most vulnerable areas, with far-reaching ecological, social, and economic consequences. Another element of contradiction lies in the relationship between the development model and the institutional structure of the State. Political decentralization, enshrined in the 1978 Constitution, has granted significant powers to the autonomous communities in matters of the environment, land use planning, and water management. However, hydrological planning remains the responsibility of the State in inter-community basins, which generates conflicting responsibilities, regulatory duplication, and a lack of coordination. This institutional fragmentation hinders the implementation of integrated and coherent policies and favors the emergence of divergent, if not openly contradictory, territorial strategies. The economic logic of the development model has also contributed to the generation of tensions in water management. The growth of the intensive agricultural sector, especially in the southeast of the Iberian Peninsula, has increased the demand for water in areas with limited availability, generating conflicts between agricultural, urban, and industrial uses. The competitiveness of the agro-export model has been based on access to cheap and abundant water, which has encouraged practices of overexploitation, inefficient use, and contamination by nitrates and pesticides. This situation calls into question the sustainability of the production model and raises ethical dilemmas regarding the distribution of resources. Tourism, as another pillar of the Spanish economic model, has intensified pressure on water resources in coastal areas, especially during the summer months. Seasonal demand, spatial concentration, and the demand for high quality standards have necessitated significant investments in supply, treatment, and reuse infrastructure. However, these investments have not always been accompanied by savings policies, environmental education, or adequate pricing, which has perpetuated a culture of irresponsible water consumption. Rapid urbanization, especially along the Mediterranean coast, has generated new forms of pressure on the resource. The expansion of urban centers, the proliferation of dispersed housing developments, and the transformation of agricultural land into residential areas have altered demand patterns, modified local hydrological cycles, and increased vulnerability to extreme events. Urban planning, in many cases, has ignored water availability as a structural variable, prioritizing economic or speculative criteria over environmental considerations.

In this context, the "new water culture" emerges as a proposal for a profound transformation of the development model. This movement, driven by social, academic, and technical movements, proposes a vision of water as a common good, a human right, and a structural element of ecological balance. In contrast to the logic of supply, it proposes management based on demand, efficiency, equity, and citizen participation. In contrast to the technocratic vision, it proposes integrated, adaptive, and territorially sensitive planning. The implementation of this new culture requires a critical review of the foundations of the current development model. It is necessary to recognize that water cannot be treated as an unlimited resource or as a neutral input. Its management entails political, ethical, and social decisions that must be undertaken with responsibility and transparency. Hydrological planning must incorporate criteria of environmental justice, territorial equity, and intergenerational sustainability, overcoming the short-term and sectoral logic that has predominated until now. It should be noted that the contradiction between official discourse and institutional practice is another element that must be addressed. Although public policies have adopted the language of sustainability, participation, and efficiency, in many cases these notions do not translate into concrete actions or verifiable results. Environmental rhetoric coexists with consumer subsidy practices, high-impact infrastructure projects, and decisions that favor particular interests over the general interest. This dissonance weakens the legitimacy of water policies and generates distrust among citizens.

5. By way of open conclusions

Based on the above, it has been possible to confirm that water management in Spain, as analyzed throughout this research, is a highly complex phenomenon, encompassing multiple dimensions ranging from the physical and territorial to the legal and institutional, as well as the economic, ecological, and sociopolitical. Its treatment, analysis, and interpretation allow us to reach the following conclusions:

First conclusion: water governance in Spain is at a crossroads. On the one hand, it must fulfill European commitments, adapt to the principles of the Water Framework Directive, and respond to the challenges of climate change. On the other, it must confront internal resistance, overcome the contradictions of the supply model, and build a water culture based on equity, efficiency, and sustainability. This process will not be linear

or free of conflict, but it constitutes a historic opportunity to redefine the relationship between society, the state, and nature. Water governance in Spain is at a crossroads. On the one hand, it must fulfill European commitments, adapt to the principles of the Water Framework Directive, and respond to the challenges of climate change. On the other, it must confront internal resistance, overcome the contradictions of the supply model, and build a water culture based on equity, efficiency, and sustainability. This process will not be linear or free of conflict, but it represents a historic opportunity to redefine the relationship between society, the State, and nature.

Second conclusion: the development models applied to water management in Spain present a series of structural contradictions that urgently need to be addressed. These contradictions are not merely technical or administrative, but reflect deep tensions between different conceptions of territory, the economy, and society. Overcoming them requires a transformation of the development paradigm, institutional reform, and a reconfiguration of the values that guide public action. Only in this way will it be possible to build water management that is fair, efficient, and sustainable. Water management as a public policy must be understood as a process of collective construction, involving multiple actors with diverse interests, knowledge, and capabilities. This plurality requires inclusive, deliberative, and transparent governance mechanisms that allow for the articulation of social demands, technical knowledge, and ecological requirements. Citizen participation cannot be reduced to formal consultations but must become a structural pillar of planning, recognizing the population's right to decide on the use and protection of their resources.

The third fundamental conclusion is that the Spanish water development model has historically been conditioned by a technocratic, centralist, and productivist vision, which has prioritized the expansion of supply through large-scale infrastructure over the rationalization of demand and the protection of ecosystems. This logic, inherited from the 19th century and consolidated during the 20th century and the prelude to the 21st, has generated territorial imbalances, severe environmental impacts, and a water culture based on artificial abundance and structural subsidies. An issue that, for other reasons, is also evident in the physical reality of Spain—marked by uneven rainfall distribution, complex topography, and high climate variability—has not been adequately integrated into hydrological planning. The concentration of demand in arid areas, driven by urban, agricultural, and tourism dynamics, has exacerbated problems of scarcity, overexploitation, and pollution, compromising the sustainability of the resource in particularly vulnerable regions.

The fourth conclusion concerns the democratic deficit in water management. Citizen participation, although formally recognized, has not been structural or binding in planning processes. Decision-making continues to be dominated by technical, administrative, and economic actors, with little inclusion of affected communities, social movements, and local knowledge. This exclusion weakens the legitimacy of water policies and limits their ability to adapt to diverse contexts. Likewise, there is a lack of explicit recognition of the right to water as a fundamental right in the Spanish legal system. This omission, both in the Constitution and in ordinary legislation, prevents the construction of a robust regulatory framework that guarantees universal access, environmental protection, and water justice. The lack of specific judicial protection and enforcement mechanisms limits citizens' ability to defend their rights in the face of violations.

The fifth and final conclusion: highlights the need to incorporate climate change as a structural variable in water planning. Extreme events -prolonged droughts, torrential rains, rising temperatures-, are altering hydrological cycles, increasing uncertainty, and exacerbating risks. Water management must adapt to this new reality through resilience, anticipation, and mitigation strategies that integrate scientific knowledge with institutional action. In this regard, the importance of environmental education and cultural transformation as pillars of a new water culture must be highlighted. The perception of water as an unlimited, free resource subordinated to economic growth must be replaced by an ethical, ecological, and community-based vision that recognizes the intrinsic value of water, its ecosystem function, and its human right. This transformation requires educational policies, awareness campaigns, and spaces for public discussion. Without a doubt, tourism, its activities, and the complex reality in Spain can and should contribute to the beginning of a transition toward a more just, efficient, and sustainable water management model.

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