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The controlling of water is complex, because it deals with a resource that is political in nature, subject to many varied uses and indispensable for human life and the maintaining of ecosystems. The mission of the water law is to protect and guarantee this resource, as well as to distribute it among the multiple users and establish responsible bodies and the tools for their management.

The objective of the Course on Water Law in the light of Water Governance is to promote the dissemination of the legal knowledge that guides water policy and identify the challenges that need to be overcome. The legislation is one aspect of the governance of water resources and understanding it is essential to enhancing the management. Therefore, the intention is to present the legal platform that regulates the water law in Brazil and to demonstrate how it influences the development of governance, allocates the responsibilities for water management, delimits the responsible bodies and determines the management principles and tools, as well as demanding the building of an integrated and participative management format.

The diffusion of legal knowledge among the key participants is fundamental to improving the workings of the bodies responsible for the management and to their control by society, as well as helping to protect the water resources and negotiate conflicts over water usage.

The course is entirely in the distance learning format and is organized in four units:

Unit 1: The Law in the Development of Fresh Water Governance (8 classroom hours);

Unit 2: General Overview of the National Water Resources Policy (18 classroom hours);

Unit 3: The Legal Treatment of Groundwaters in Brazilian Law (13 classroom hours)

Unit 4: Water Governance and Management Integration: Building a Nexus (13 classroom hours).

The total course workload is 52 hours, comprising 44 hours of text and 8 hours of videos. The content of the didactic material was specially developed for the course, including obligatory and supplementary reading and a glossary, as well as activities to facilitate assimilation. The content of the video materials comprises institutional videos on related subjects, documentaries and video classes given by the collaborators. This material is devoted to deepening the subjects covered in the didactic material and relating successful management experiences.

The target audience is the professionals involved in the management of fresh water, notably the members of the National System for the Management of Water Resources, whether they be from the public authorities, the private sector or civil society. The course aims to train these professionals to enable them to understand and deepen the legal platform for the management of fresh water. It is not necessary to have legal training to participate in the course.

At the end of the training course, comprising those four units, the participant is expected to be able to: understand the legal aspects of water management; incorporate within their professional practice the analytical approaches to the law and recognize the principal rights and obligations imposed by the law governing fresh water.

Pilar Carolina Villar
Professor at the Federal University of São Paulo (UNIFESP)
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LIST OF ABBREVIATIONS

AEB – Brazilian Space Agency
ANA – National Water Agency
ANEEL- National Electricity Sector Regulatory Agency
ANM – National Mining Agency
ANVISA – Brazilian Health Regulatory Agency
APP – Permanent Preservation Area
CAR – Rural Environmental Register
CEREGAS – Regional Centre for Groundwater
CNRH – National Water Resources Council
CONAMA – National Environment Council
CPRM – Geological Survey of Brazil
DNPM – National Department for Mineral Production
EIA/RIMA – Environmental Impact Study / Environmental Impact Report
GEF – Global Environmental Facility
IBAMA – Brazilian Institute for the Environment and Renewable Natural Resources
ICMBIO – Chico Mendes Institute for the Conservation of Biodiversity
INPE – National Institute for Space Research
MERCOSUL – Southern Common Market
MMA – Ministry of the Environment
OAS – Organization of American States
PNMC – National Policy on Climate Change
SINGREH – National System for Water Resources Management
SISNAMA – National Environmental System
SNIS – National System for Information about Sanitation
SNUC – National System of Conservation Areas
UNIT 1

THE LAW IN THE DEVELOPMENT OF FRESH WATER GOVERNANCE

Organization
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1. THE LAW IN THE DEVELOPMENT OF FRESH WATER GOVERNANCE

The Water Law is gradually being recognized as an autonomous branch of Legal Science, as it complies with the scientific, normative and didactic requirements (Commetti, Vendramini and Guerra, 2008; D’Isep, 2010; Dalla-Corte and Portanova, 2013). The scientific requirement refers to the existence of principles and institutes that are distinct to the Water Law; the normative requirement is based on the development of the Brazilian norms, demonstrating a paradigm shift in the relationship between the law and water; and the didactic requirement is related to the existence of subjects on Water Law in universities and specialized technical literature (Commetti, Vendramini and Guerra, 2008).

The Federal Constitution, the National Policy on Water Resources (Law No. 9.433/1997) and its regulations are the primary bases of this law, and were evaluated by Granziera (2003) and Pompeu (2006) as follows:

**Water Law:** “a set of principles and legal standards that govern the domain, use, jurisdictions and management of water intended to plan for the uses and the preservation, as well as the defense of their harmful effects, whether or not they are caused by human activity” (Granziera, 2003, p. 34).

**Water Law:** “a set of principles and legal standards that govern the domain, use, benefit, conservation and preservation of water, as well as protection from its harmful effects” (Pompeu, 2006, p. 39).

This law has a set of principles and independent institutes that make it distinct from other areas of the law. Efforts made to consolidate its guiding principles include the approval, by judges and prosecutors from Brazil and abroad, of the Brasilia Declaration of Judges on Water Justice, during the 8th World Water Forum held in 2018, in Brasilia (DF). This document consolidates the commitment made by those enforcing the Water Law, to guide their work through the following principles:

- Principle 1 – Water as a public asset
- Principle 2 – Water Justice, Land Use, and the Environmental Functions of Property
- Principle 3 – Water Justice and Indigenous, Tribal, and Mountain Peoples, and other peoples in river basins
- Principle 4 – Water Justice and Prevention
- Principle 5 – Water Justice and Precaution
- Principle 6 – *In Dubio Pro Aqua*
- Principle 7 – Polluter-payer, user-payer and the internalization of environmental costs.
- Principle 8 – Water Justice and Good Water Governance
- Principle 9 – Water Justice and Environmental Integration
- Principle 10 – Procedural Justice on Water

**Mandatory Reading:**
*Brasilia Declaration by Judges on Water Justice.*

This new branch of law has its set of guidelines, institutions, and instruments. Its guidelines point out the need for integrated and participatory management, while the National Water Resources Management System (SINGREH) was equipped with agencies and entities composed of several actors (State, civil society and users) to build a negotiated management of water. The instruments for the water policy – Water Resources Plans, categorization of water bodies into classes, granting rights of use of water resources, charging for water use, and Information System on Water Resources – also attempt to promote this integrated, participatory and decentralized water management.

The current Brazilian Water Law has established a system of water governance because its formulation and application transcend the technical view of legal
experts, engineers, and technocrats. The Brazilian legal system has assembled a management system that establishes and legitimizes a political process characterized by strategies, debates, conflicts, and coalitions between the various actors that utilize water in some form (Sehring 2009). As such, the Law is not only an instrument linked to governability but water governance as well.

The idea of governance emerged as an alternative to the governance crisis that was reflected in the Public Authority’s difficulty in resolving contemporary issues (Merrien, 1998). In Law, this phenomenon is reflected by the establishment of regulations that are not effective in practice because they either lack social adhesion, an institutional capacity to promote them, regulation or oversight. Diniz (1999, p. 196) distinguished the concepts of governability and governance, as follows:

Governability refers to the more general systemic conditions under which the exercise of power takes place in a given society, such as characteristics of the political regime (whether democratic or authoritarian), the form of government (whether parliamentary or presidential), the relations between the powers (greater or lesser asymmetry, for example); the party systems (whether multiparty or bipartisan), among others.

Governance, on the other hand, concerns governing ability in the broad sense, involving the capacity for state action in implementing policies and achieving collective goals. It touches on the set of mechanisms and a procedure to deal with the participatory and plural dimension of society, which entails expanding and improving the means of communication and managing interests. [...] they presuppose a State that has greater flexibility, capable of decentralizing functions, transferring responsibilities and widening, rather than narrowing, the universe of participating actors without giving up any instruments of control and supervision.

Hence, governability refers to the “state scope in the exercise of power” (Gonçalves, 2005, p.3) and focuses on the attributes of the government’s exercise of power; on the other and, governance is broader because it includes other actors and new institutional arrangements. Governability is a part of the governance process and is directly influenced by it. Viewed as an instrument of governance, the Law allows other actors, in addition to the Public Authority, to participate in this process in which decisions are made, and public policies are implemented (Villar, 2015).

The governance of water is made up of a range of political, social, economic and administrative systems that directly or indirectly affect its use, benefit, management and providing water services at different levels of society. Governance systems determine who receives what type of water, when and how, making decisions on who has the right to water, its services and related benefits (UNESCO, 2006).

The law is a fundamental part of governance, since it is responsible for defining the political-administrative systems, outlining the responsibilities of institutions, establishing the rules for the use, utilization and provision of water services, as well as being responsible for guaranteeing the quality parameters of water and supply services, ecosystem protection standards, restrictions on the use and utilization of resources, and defining mechanisms to promote social and environmental justice.

This task becomes hard due to three specific attributes of water: its mobility, its variability and its multiplicity (Sehring, 2009). The rivers cut through the land with no regard to borders or administrative limits, and the same occurs with the aquifers that spread invisibly through this territory. The waters are neither static nor are they subject to municipal, state or federal limits, consequently requiring the cooperation of multiple scales and actors. The law faces the challenge of structuring this cooperation, whether through international agreements, paradiplomatic initiatives, institutional coordination mechanisms, norms, conventions, or others. To get a better understanding of the complexity of the water, we suggest the documentary The Waters’ Path, which deals with various problems related to water and water security. The documentary takes a closer look at the relationship between...
THE LAW IN THE DEVELOPMENT OF FRESH WATER GOVERNANCE

The amount of water available in an area varies by time and space, and depending on weather conditions, for this reason, a region can withstand droughts and floods according to the cycle of precipitation. As such, the law must establish guidelines for water allocation as well as adaptation and mitigation mechanisms to deal with climatic variability, which tends to worsen against the phenomenon of climate change.

Finally, water is used for a wide range of applications, such as economic, technical, cultural and social usage, taking on completely different material and symbolic dimensions by the group that appropriates this substance. This characteristic requires the law to define spaces for negotiation and conflict resolution between the multiple perspectives and uses of water, as well as determine parameters to reduce the risk of disputes. Further, there is a demand to create spaces to bring actors and institutions together that are not necessarily directly linked to water but play an essential role in its availability or quality.

The law and water relationship goes way beyond protecting and controlling the use of this vital resource for humans and ecosystems. It is so because it requires the creation of coordination mechanisms with other fields of policies linked to multiple applications of water (irrigation, hydroelectric power generation, sanitation, and water supply, industrial needs for water, fishing, shipping and transportation, recreation and tourism, among others.)

To this end, the following sessions and units will attempt to reasonably demonstrate how this Law has dealt with regulating the use, benefit, management and protection of water to guarantee reasonable and equitable access to water and to construct connections with other policies to promote good water governance.

1.1 The Waters Act and the centralized management model

The Waters Act went into effect through Decree No. 24.643/1934. This legal instrument incorporates a preamble and 205 articles organized in three books: Book I – Waters in general and their properties; Book II – Use of Water; and Book III – Water Forces – Hydroelectric Industry Legislation. This Legal Act was the first to regulate the industrial use of water and, as stated in the preamble, its purpose was to modernize water resources legislation and to allow the Public Authority to control and encourage the industrial utilization of water and its energy potential. The first two books address water in a general way, while the third book specifically covers water used for power generation (Milaré, 2015).

Waters were classified into three categories: public, common and private. Public waters were divided into common and proprietary use. Public waters for common use are listed in Article 2 and correspond to a) the territorial seas; (b) navigable currents, canals, lakes and lagoons; c) the currents from which these waters are made; d) public streams and reservoirs; e) springs; and f) the sea arms of any public current, provided that they influence the navigability. This article was amended by art. 3 of Decree-Law No. 852/1938. These waters may belong to the Union, the States or the Municipalities, according to the criteria specified in Article 29. Dominical public waters were classified by an exclusion criterion, being defined as “all waters located on land that is also classified as such, when they are not in the public domain of common use, or when they are not common” (art. 6). Common

Watch:
Video 1: The Waters’ Path
waters have been classified as “currents that are not navigable or buoyant and that are not made” (Art. 7). Private water corresponds “to the springs and all waters on land that are also private when they are not classified among the common waters for everyone, public waters or common waters” (art. 8).

This categorization of waters became incompatible with the Federal Constitution of 1988 and the enactment of Law No. 9.433/1997, which consolidated the understanding that all waters are in the public domain shared between the States and the Union. Given this interpretation, the municipal and private waters were dissolved. This issue will be detailed in the next chapter “The new environmental constitutional order and water protection,”

The Waters Act had an innovative approach for the time (Pompey, 2006), but its application left something to be desired. Although it was intended to regulate the different types of water utilization, its focus turned towards energy uses. The applicability of the Waters Act depended on the regulation of several articles. Book III was regulated by several laws and other provisions, but unfortunately, we can not say the same regarding the contents of Books I and II (Pompeu, 2006).

At the time of the Act’s approval, there was not any environmental or water resources management system. The entire administration was centered in the federal or state agencies, according to the waters’ classification. Under the federal realm, the management was initially carried out by the Water Service of the National Department of Mineral Production of the Ministry of Agriculture. In this respect, Law 9.433/1997 not only transformed the management concept but also created an institutional apparatus focused on water.

The environmental bias of water management was not a priority. On the contrary, its focus was “essentially privatizing and protecting the economic activity, with little or no preservationist or humanist concern” (Milaré, 2015, p.917). The administrative control of the uses was quite precarious. Management was restricted to the quantitative aspect. Everyone had the right to use public waters, as long as they obeyed the administrative regulations (arts. 36 and 43 to 52). Only in cases of derivation was the concession or administrative authorization required (Milaré, 2015).

The concern with quality was primarily addressed in articles 109 to 116 and focused on the duty not to cause harm to third parties. Pollution was tolerated given the relevant interest for agriculture and industry as long as administrative authorization was requested. Another point that incompatible with the new water regime was the treatment of wetlands that, if declared unhealthy, should be desiccated by the owners or the administration (art. 113).

In general, the majority of the provisions in the Waters Act have been repealed. However, some of its provisions are still valid; this is the case of articles 102 to 108 that deals with the utilization of rainwaters, which were not addressed by Law No. 9,433/1997. But the articles that are still enforced should be interpreted in light of the current water regime.

This legal act presented distinct measures of ownership and categorization of waters. Its focus was a developmental and economic perspective of water resources, with no concerns over resource scarcity or environmental issues. Management was concentrated in the Public Authority, highlighted by the use of hydraulic energy potential (Commetti, Vendramini and Guerra, 2008). The Federal Constitution of 1988 and the National Water Resources Policy completely shifted this management, as will be revealed in the upcoming sessions.

1.2 The new environmental constitutional order and the protection of waters

The Federal Constitution is the supreme law of a State and encompasses the set of norms and principles relating to the form of government, organization of the public authorities, the distribution of responsibilities, rights, and duties of the State and citizens. The 1988 Constitution laid
the main foundations for water and environmental management.

The Magna Carta innovated by dedicating a specific chapter to the environment, as per article 225 of the Constitution. This article enshrines the principle of an ecologically balanced environment, which is incumbent on all, State and community, the duty to care for the environmental heritage and the right to a healthy environment. This principle arises as a result of the right to life and human dignity. Additionally, this article assigned to the Government several obligations that are directly related to water management, which are:

- preserve and restore essential ecological processes and provide for the management of the ecosystem (section I);
- define protected territorial spaces (item II);
- require prior environmental impact studies for the implementation of works or activities which could potentially cause significant degradation of the environment, to which publicity will be given (item IV);
- control the production, marketing and use of techniques, methods, and substances that pose a risk to life, the quality of life and the environment (section V);
- promote environmental education (item VI);
- protect flora and fauna (item VII);
- duty of the mining industry to recover any degraded environment (§ 2);
- hold those responsible for violating environmental standards or causing damage (§ 3); and
- condition the use of the Brazilian Amazon Forest, the Atlantic Forest, the Serra do Mar, the Mato Grosso Pantanal and the Coastal Zone to preserve the environment (§ 4).

Article 225 influences the interpretation of all constitutional articles related to water and other environmental resources defined in article 3, item V, of Law 6.938/1981. The Federal Constitution of 1988 maintained the idea of the division of waters between the Union and States, which was first provided for in the Federal Constitution of 1946. If the Union’s domain has remained virtually unchanged, the same cannot be said of the States. The state water domain was broadened considerably because it incorporated the surface waters and groundwaters terminology.

In this respect, Articles 34, 1 and 35 of the Federal Constitution of 1946, whose wording was maintained by the 1967 Constitution (Arts. 4, item II, and 5) divided the waters as follows.

Article 34 – the Union’s assets include:

I – lakes and any watercourses on lands under its dominion or that bathe more than one State, serve as a limit with other countries or extend to foreign territory, as well as the fluvial and lacustrine islands in the bordering zones with other countries;

Art 35 – this includes assets of the State, the lakes and rivers in lands of its domain, and the ones that have spring and mouth in the state territory.

The Federal Constitution of 1988 brought minor changes to this wording concerning waters under federal control, through the inclusion of the noun “rivers”, the expression “or originates from it”, and the creation of a specific clause for the fluvial and lake islands. Thus, the federal water domain was established in article 20, item III as follows:

Art. 20. The following are the property of the Union:

III – lakes, rivers and any watercourses on land under their domain, or bathing more than one State, serving as boundaries with other countries, or extending to or from foreign territory, as well as marginal land and river beaches;

As it can be seen, the changes are not very significant, because the expression rivers was already included in the idea of any water streams, and the words “or that come from it” just gave clarity to discussing cross-border rivers. On the other hand, in the case of state domain, the
transformations were representative, as seen in the wording of article 26, item I:

Art. 26. The states’ assets include:

I – surface or underground waters, flowing, emerging or in deposit, with the exception, in this case, of those resulting from work carried out by the Union, as provided by law.”

As can be seen, the expression “lakes and rivers in lands under its domain” or the criterion of the source and mouth in the state territory has been removed. At the same time, the terms “surface water” were included, which is much more comprehensive than the concept of rivers and lakes, and innovation was introduced by subjecting “groundwaters” to state supervision, as well as adopting a much broader criterion than that of spring and mouth in the state territory, by inserting the term “flowing, emerging and in deposit”. The wording of article 26, item I, indicates that excluding federal waters, provided for in article 20, III, or resulting from works of the Union, all other waters become state waters, since this entity will be responsible for surface and groundwaters, flowing, emerging, and in deposit. Hence, the state domain seized for themselves all the waters that were not a federal domain. Thus, the possibility of municipal and private waters provided for in the Water Code was tacitly revoked. Possible doubts about the constitutional non-reception of private waters were eliminated with the enactment of Law No. 9.433/1997, which declared the waters as public assets.

The Federal Constitution also provided a new focus to the nature of water by classifying the environment and, as a result, its integrating elements, as a common use property of the people. In this way, the domain does not mean that the Public Authority possesses its assets, but rather has the duty to manage them. Finally, this law regulated the administrative and legislative water and environmental responsibilities and management rights of federal entities. Given the complexity of these issues, they will be addressed individually in forthcoming chapters, namely: Legal nature of fresh waters: environmental asset, social asset, and economic asset; Constitutional Domain of fresh waters and Constitutional Jurisdiction in matters of fresh waters, which is subdivided into Administrative and Legislative Jurisdiction in Matters of Waters.

1.3 Legal nature of fresh water: environmental asset, social asset, and economic asset

Articles 20, III, and 26, I, of the Constitution, in conjunction with art. 1, I, of Law No. 9.433/1997 determined that water is a public domain asset. However, the interpretation of public domain should be broadened in light of Article 225 of the Magna Carta, which established the following:

Art. 225 – Everyone has the right to an ecologically balanced environment, which is an asset of common use and essential to a healthy quality of life, and both the Government and the community shall have the duty to defend and preserve it for present and future generations.

In this way, the environment and the components that integrate it, as is the case with water, were classified as assets of common use for the people. This concept does not remove but broadens the perception of a public asset, as it creates a new asset category that goes beyond the classical division of public or private asset, provided for in article 98 of the Civil Code. Therefore, a reading of article 99 of the Civil Code, that classifies public assets should be broadened according to article 225 of the Federal Constitution and the Consumer Defense Code, which clearly defined the legal nature of common assets. Below are the legal provisions related to this issue:

Civil Code

Art. 99. Public assets are:

I – those of common use for the people, such as rivers, seas, roads, streets, and squares;

II – those of special use, such as buildings or land for
service or federal government, state, territorial and municipal establishments, including their federal parastatal agencies;

III – those of dominium nature, which constitute the assets of legal entities under public law, as the object of personal or real right of each of these entities.

Consumer Protection Code

Art. 81. The defense of the interests and rights of consumers and victims may be exercised in court individually or collectively.

Single paragraph. The collective defense will be exercised when it comes to:

I - diffuse interests or rights, thus understood, for this code, the trans-individual rights, of indivisible nature, which are held by indeterminate persons and linked by factual circumstances;

II – collective interests or rights, thus understood, for this code, the trans-individual rights of an indivisible nature, in which an involved party is a group, category or class of people connected amongst each other or with the defending party through a judicial relationship;

III – similar individual interests or rights, thus understood, those resulting from a common origin.

Environmental assets, which include water, are diffuse assets of common use by the people. They do not integrate public assets like traditional public assets (dominium or special-use assets). However, they are under the administration of public entities, who become their managers (Yoshida, 2007). This relation will be discussed in more detail in the Fresh Waters Constitutional Domain section.

Water, assumed as an environmental asset, has a legal nature of diffuse interest, understood as those rights that are trans-individual (that is, they transcend the individual and exceed the limit of the sphere of rights and obligations of an individual nature) and indivisible (it is not possible to identify its holders. Therefore the satisfaction of a subject implies the satisfaction of all). Water belongs to everyone, but at the same time, it does not belong to anyone specifically, given its trans-individuality. Given these characteristics, the Public Authority assumes the role of the manager in the interests of the community.

As Viegas (2005) clearly explains, when analyzed within an environmental perspective, water falls under the category of a diffuse asset and constitutes a fundamental third-generation right, incorporated into the idea of the right to an ecologically balanced environment outlined in article 225 of the Federal Constitution. However, access to water is also a first-generation individual right because this substance is vital for meeting basic human needs that are presupposed for the right to life, human dignity, and freedom. It is also configured as a social right in the sense that without water there is no health, economic development, work or social assistance.

It is, therefore, necessary to distinguish between water and water resource. Granziera (2006) and Pompey (2006) clarify that the term water refers to the natural element, without connection to any use or specific utilization. It is a global vision of water, within the environmental perspective, understood as a macro asset.

In turn, the water resource is conceived as the portion of water that is subject to the specific allocation for use or utilization by an individual or legal entity. Law No. 9.433/1997, art. 1, II, recognizes that “water is a limited natural resource with economic value.” As such, the water resource constitutes the economic and utilitarian dimension of water (Pompeu, 2006). An economic asset is defined considering its scarcity or of its ability to contribute to the creation of value (Neutzling, 2004). Thus, in the water resource perspective, water becomes an economic asset because it is a scarce resource and functions as a basic raw material for productive processes, whose utilization must be paid for by the user.

The water resource use presumes a private appropriation of the water for a certain purpose (Caubet, 2004), however, this does not imply the property transfer, but the granting of a certain
amount for a specific period, provided that the public interest is served.

Therefore, the water resource use does not imply ownership over water, but the granting of a temporary right of use, which can be suspended. Conversely, the recognition of the economic value of the water resource allows the attribution of a price for the individual use of a collective good (Caubet, 2004). Despite some criticisms over this economic component of water (Caubet, 2004; Viegas, 2008), this consideration for the use of a water resource contributes to better management.

Law No. 9.433/1997, in art. 1, items III and IV, acknowledge the social component of water and its appropriation because it establishes that human consumption and watering of animals are priority uses in case of scarcity, as well as determining that the management of water resources must offer multiple uses of water. The idea of the social dimension in water is valued to the extent that the law requires a participatory and decentralized management of water.

Given this legal nature, it is concluded that:

- Water is an asset of common use with a legal characteristic of diffuse interest.
- Water is not the property of the Public Authority, which has the role of manager.
- A single person (individual or entity) can not benefit from the distribution of water in a way that deprives other users of the right to have access to water.
- The social component of waters requires that they serve multiple uses.
- The water resources correspond to the economic and utilitarian components of water. However, it maintains its character as common use, while allowing temporary private appropriation that is conditioned by Law 9.433/1997.
- Private appropriation of water through a grant may subject the beneficiary to the payment of economic value as a consideration for the use of an asset that belongs to the community.
- Except for human and animal watering in the event of scarcity, there is no priority established by law among the various uses.

1.4 Constitutional Domain of Fresh Waters

Articles 20, III and 26 (1) have divided the domain of waters between the Union and States as follows:

Art. 20. The following are the property of the Union:

III – lakes, rivers and any watercourses on land under their domain, or bathing more than one State, serving as boundaries with other countries, or extending to or from foreign territory, as well as marginal land and river beaches;

Art. 26. The states’ assets include:

I – surface waters or underground, flowing, emerging or in-deposit waters, with the exception, in this case, of those resulting from works carried out by the Union, as provided by law."

In parallel, article 225 of the Federal Constitution classified the environment as an asset of common use to the people. Water as an integral element of the environment eventually assumed this characteristic, becoming a public asset.

As defined in art. 98 of the Civil Code, public assets are those belonging to the legal entities Public Right or are related to the provision of public service (Camargo and Ribeiro, 2009). As already seen in the previous item, the Civil Code, in article 99, divides public goods into three categories: those of common use by the people, those of special use and those of property concession. Given this new nature of water, it would no longer be possible to defend the existence of private waters in the Brazilian legal system. However, this issue was only resolved with art. 1, item I, of Law No. 9.433/1997, which declares the public status of waters (Granziera, 2003).

Article 225 of the Federal Constitution, together with the enactment of the Consumer Defense Code, defined the legal nature of assets for the common use of the people, to understand
them as a diffuse, trans-individual, indivisible right, to which the entire community is entitled. When the Federal Constitution classified the waters as the property of the Union or the States, it did not establish a state property right itself (because the environment belongs to everyone), but rather, the responsibility of these entities to manage the resource.

Thus, the classic definition of public domain understood as “set of movable and immovable assets held by the administration, affected to its own use, either to the direct or indirect use of the community, subject to public law regime” (Cretella JR, 1984, p.29) gains a new clothing to incorporate the power relationship that the State exercises over the environmental assets under its jurisdiction (Camargo and Ribeiro, 2009). This type of authority, known as imminent domain, is defined as the “political power by which the State submits to its will all the things that are found in its territory. Its limits are established by law” (Fiuza, 2003, p. 643).

Therefore, the domination of the waters divided between the Union and the States is therefore not linked to the notion of ownership, but the manifestation of internal sovereignty. In this way, the Union and the States will be the managers of the waters that are under their guardianship, and their actions should be guided by constitutional principles, of which the idea of participation and citizenship stands out.

Surface waters are subject to two systems: the federal and the state; while underground waters are always subject to the states. Controversies over the domain of underground waters will be discussed in the 3rd module. However, it is already clear that, regardless of their boundaries, underground waters are considered as state assets by managers. Figure 1 illustrates the shared domain between the Union and States for state and federal rivers.
Figure 1: Surface Water Resources Domain
Source: ANA, s/d, p. 4.

<table>
<thead>
<tr>
<th>Legenda</th>
<th>Legend</th>
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</thead>
<tbody>
<tr>
<td>Rios de domínio da União</td>
<td>Rivers under Union’s domain</td>
</tr>
<tr>
<td>Rios de domínio dos estados</td>
<td>Rivers under States’ domain</td>
</tr>
</tbody>
</table>

See ANA’s interactive map of federal and state domain rivers that are shown in Figure 1.
The National Water Agency (ANA) shall be responsible for managing the rivers under the Union's domain, while this task will be done for state rivers and underground waters by the state agencies responsible for water resources.

1.5 Constitutional Jurisdiction in Water Issues

The 1988 Federal Constitution adopted the Federal State, which is based on the idea of the principle of autonomy and political participation. The Brazilian Federation is composed by the Federal Union, the States, the Municipalities and Federal District (article 18, CF). This composition is divided into three scales of power – national, state and local – and each of them has own responsibilities. The Brazilian Constitution instituted a system based on a division of powers (administrative, legislative, tax and jurisdictional), through which it stipulated political power and guaranteed the autonomy of each of the states (Moraes, 2004).

Jurisdiction: “jurisdiction legally assigned to an entity, body, agent from the Public Authority to issue decisions [...] they are the various forms of power that serve the state agencies or entities to perform their roles (Silva, 1996, p.455)

The Federal Constitution distributes to the federative entities their jurisdictions, recognizing their powers and responsibilities. Thus, multiple centers of political decision-making have been established, in which each entity has specific autonomy, attributions, and specific powers to act on certain issues (Moraes, 2004). This system of division of powers directly influences environmental and water resources management, since the law will define, through administrative and legislative powers, the role of each of these entities in water management.

1.6 Administrative Jurisdiction in Water Matters

The administrative or material responsibility refers to the performance of administrative actions inherent to the public administration’s varied entities. The Public Administration's power and duty are to take responsibility for the roles assigned to it.

These responsibilities give specific powers to each of the federative entities and are divided into three categories: exclusive, remaining and common. Table 1 summarizes these roles concerning federal entities and their impact on water resources.
Table 1 – Summary of administrative jurisdictions for the federal entities and their impact on water resources

<table>
<thead>
<tr>
<th>Competência Administrativa</th>
<th>Administrative Jurisdiction</th>
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<tbody>
<tr>
<td>Competência exclusiva</td>
<td>Exclusive jurisdiction</td>
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<tr>
<td>Competência remanescente</td>
<td>Remaining jurisdiction</td>
</tr>
<tr>
<td>Competência comum</td>
<td>Common jurisdiction</td>
</tr>
<tr>
<td>União (Art. 21 CF)</td>
<td>Union (Art. 21 CF)</td>
</tr>
<tr>
<td>Municípios (art. 30 CF)</td>
<td>Municipalities (Art. 30 CF)</td>
</tr>
<tr>
<td>Estados (Art. 25, § 1º)</td>
<td>States (Art. 25, § 1)</td>
</tr>
<tr>
<td>União, Estados, Distrito Federal e Municípios (art. 23 da CF e LC 140/2011)</td>
<td>Union, States, Federal District, and Municipalities (art. 23 of the CF and CL 140/2011)</td>
</tr>
</tbody>
</table>

| Art. 21, XIX - instruir sistema nacional de gerenciamento de recursos hídricos e definir critérios de outorga de direitos de seu uso; Vide também: art. 21, inciso XII, alíneas b, c, f; XVIII; e XX. | Art. 21, XIX - establish a national water resources management system, and define criteria for the concession of the right to their use; See also: art. 21, section XII lines b, c, f; XVIII; and XX. |
| Art. 30 - V - organizar e prestar [...] os serviços públicos de interesse local [...]; VIII - promover [...] ordenamento territorial, mediante planejamento e controle do uso, do parcelamento e da ocupação do solo urbano; IX - promover a proteção do patrimônio histórico-cultural local [...] | Art. 30 - V - organize and render [...] the public services of local interest [...]; VIII - promote [...] land-use regulation, by means of planning, and use control, apportionment and occupation of the urban soil; IX - promote the protection of the local historical and cultural heritage [...] |

Source: Federal Constitution
1.6.1 Exclusive Material Jurisdiction of the Union

The Federal Constitution, in article 21, attributed exclusive jurisdiction to the Union to practice the following acts directly related to water: to institute the national water resources management system; and to define the criteria for granting rights of its use.

In addition to these specific obligations, Article 21 brought in attributions that have a connection with water management or its uses, such as: establishing relations with foreign states (transboundary dimension of waters); organize land use planning; explore the services of electrical energy installation and energy use of waterways; water transportation; river and lake ports; propose programs to combat drought and floods; guidelines for urban development and sanitation, and determine the conditions for the exercise of mining in associative form. Article 21 of the Federal Constitution and its primary obligations directly or indirectly related to waters is presented below:

Art. 21. It is the responsibility of the Union:

I – maintain relations with foreign States and participate in international organizations;

IX – prepare and implement national and regional plans for territorial planning and economic and social development;

XII – to operate, directly or by permission, concession or permission:

b) the services and installations of electric energy and the energetic use of watercourses, in articulation with the states where the hydro-energetic potential is located;

d) rail and waterway transport services between Brazilian ports and national borders, or that cross the limits of the State or Territory;

f) sea, river and lake ports;

XVIII – plan and promote permanent defense against public disasters, especially droughts and floods;

XX – establish directives for urban development, including housing, basic sanitation, and urban transportation;

XXV - to establish the areas and conditions for the exercise of the mining activity, in associative form.

The role of the Union in the management of transboundary water resources stands out, as it will be responsible for organizing international cooperation initiatives with countries bordering on or in the aquifer. In the case of the operation of electrical energy services and installations and the energy utilization of watercourses, a restrictive measure is imposed on the exercise of that competence, which is the negotiation with the States at the place where the energy installation or use is implemented. Also, the Federal Constitution guarantees participation to the states, the Federal District and municipalities in the revenues from harvesting water resources to generate electric energy in their territory or financial compensation for this type of exploitation (article 20, § 1). The Union also plays a strategic role in preventing droughts and floods, as well as in regional planning and economic, and social development.

Law No. 9.433/1997 defined the National Water Resources Management System (SINGREH) and
management tools, in which the granting of use rights was included. The National Council on Water Resources, a collegiate and deliberative body of SINGREH, is responsible for establishing the general criteria for granting the right of use of water resources.

1.6.2 Exclusive Material Jurisdiction of Municipalities

Article 30 of the Federal Constitution, defines the exclusive material jurisdictions of municipalities in sections III to IX. In the specific case of waters, items V and VIII, which attributed to this entity the responsibility for services of local interest (V), in which the sanitation service is included (art. 8-A of Law nº 11.445/2007), and the responsibility for territorial planning, which when determining the configuration of land use and occupation impacts directly on the vulnerability of water resources. For example, the lack of control of territorial planning allowed the occupation of spring areas, generating their degradation. Also, it will be the municipalities' responsibility to include the recommendations of land use and occupation in their territorial planning that are established in the water basin plans.

Among the municipal jurisdictions was the protection of the local cultural heritage, which can be related to waters, since the existence of rivers was one of the fundamental aspects for the choice of human settlement sites. Traditionally, sites that feature cultural value are found close to rivers, and this substance is linked to various cultural traditions. Article 30 and items V, VIII, and IX, which have a closer relationship with water issues, are presented below.

Art. 30. The municipalities have the power to:

V – organize and provide, directly or by concession or permission regime, public services of local interest, including public transportation, which is of essential nature;

VIII – promote, wherever pertinent, adequate territorial ordering, using planning and control of use, apportionment, and occupation of the urban soil;

IX – promote the protection of the local historical and cultural heritage, in compliance with federal and state legislation and supervision.

1.6.3 Remaining Material Jurisdiction of States

The remaining material jurisdiction of the States is provided for in article 25, § 1 of the Federal Constitution and determines that it is the State's responsibility to have all material jurisdictions that do not fall under the Union (Art. 21) or municipalities (Art. 30). Consequently, if not expressly assigned to these two entities, the State will be the responsible agent.

1.6.4 Common Material Jurisdiction

Finally, the common material jurisdiction provided for in article 23 of the Federal Constitution assigns joint duties to all entities in the federation. Common jurisdiction is directly related to environmental protection, either in the creation of environmental policies or in the supervision exercised by environmental agencies. This article was regulated by Complementary Law 140/2011, which defined the guidelines for this simultaneous action. The following are Article 23 of the Federal Constitution and the main items related to waters and their uses or environmental dimension:

Art. 23. It is a common jurisdiction of the Union, the States, the Federal District, and the Municipalities:

III – to protect the documents, works and other assets of historical, artistic or cultural value, as well as monuments, remarkable landscapes, and archaeological sites;

V – to provide the means of access to culture, education, science, technology, research, and innovation;

VI - to protect the environment and combat pollution in any of its forms;

VII – to preserve the forests, fauna, and flora;

VIII – to promote agricultural production and organize food supply;

IX – to promote housing construction programs and the improvement of housing conditions and basic sanitation;
X - combat the causes of poverty and marginalization factors, promoting the social integration of disadvantaged sectors;

XI - to register, monitor and supervise the granting of research rights and the exploitation of water and mineral resources in their territories;

The common jurisdiction ensures that the Union, States, Municipalities and Federal District can establish programs for environmental protection and conservation, as well as permitting environmental agencies from the three spheres to oversee compliance with legislation on environmental and water resources. But, the collective exercise of common jurisdiction may lead to conflicts to determine which administrative rule is most appropriate for a given issue. Complementary Law No. 140/2011 brought several contributions to harmonize the cooperative performance of federal entities, with specific criteria for determining the relevant authority for environmental licensing and for determining the direct responsibility for supervision. The definition of a direct responsible for supervisory guardianship does not prevent the action of other entities; it only resolves the conflict if conduct generates the same assessment by more than one environmental agency.

1.7 Legislative Jurisdiction on Fresh Water Issues

Legislative jurisdiction allows “to establish legal standards, edit rules and establish dominant principles, governing political and administrative activities” (Ferreira, 1990, p.1). Table 2 presents a summary of the main legislative jurisdictions related to waters.

Table 2 – Summary of water-related legislative powers for the federal entities

<table>
<thead>
<tr>
<th>Competência</th>
<th>União (Art. 22 CF)</th>
<th>Art. 22 - Águas e Energia (IX) Jazidas, minas, outros recursos minerais (XII)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Privativa</td>
<td>Delegação aos Estados (art. 22, parágrafo único, CF)</td>
<td></td>
</tr>
<tr>
<td>Concorrente</td>
<td>Estados (Art. 24, § 1º CF)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>União</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Art. 24 - VI - florestas, caça, pesca, fauna, conservação da natureza, defesa do solo e dos recursos naturais, proteção do meio ambiente e controle da poluição; VII - proteção ao patrimônio histórico, cultural, artístico, turístico e paisagístico; VIII - responsabilidade por dano ao meio ambiente, ao consumidor, a bens e direitos de valor artístico, estético, histórico, turístico e paisagístico;</td>
<td></td>
</tr>
<tr>
<td>suletiva</td>
<td>Art. 24, § 2º e 3º CF</td>
<td></td>
</tr>
<tr>
<td>Complementar</td>
<td>Municípios (Art. 30, § 1º CF)</td>
<td></td>
</tr>
<tr>
<td>Remanescente</td>
<td>Art. 25, § 1º CF</td>
<td>Art. 25 § 1º competências que não lhes sejam vedadas pela CF</td>
</tr>
<tr>
<td>Exclusiva do Município</td>
<td>Municípios (art. 30, I CF)</td>
<td></td>
</tr>
<tr>
<td>Supletiva do Município</td>
<td>Art. 30, II - suplementar a legislação federal e estadual.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Federal Constitution
1.7.1 Union’s Reserved Power

Article 22 of the Federal Constitution regulates the reserved power of the Union to legislate. Contrary to exclusive material jurisdiction, which does not permit delegation to the States, reserved power gives the Union the ability to authorize States to legislate on the matters provided for in article 22 employing a complementary law. The following are the items of article 22 that have a direct and indirect relationship with water and environmental protection:

Art. 22. The Union has the private jurisdiction to legislate on:

I – civil, commercial, criminal, procedural, electoral, agrarian, maritime, aeronautical, space, and labor law;

IV – water, energy, IT, telecommunications and broadcasting;

X – a regime of ports, lake, river, maritime, air, and aerospace navigation;

XII – beds of ore, mines, other mineral resources, and metallurgy;

A reading of item IV could convey the false idea that only the Union can legislate on matters related to waters and, therefore, the States could not establish any type of legal norm on the watercourses under their dominion. This understanding is not correct, so much so that the Brazilian states have established their water resources policies based on the remaining, concurrent, and common jurisdictions. This particular issue will be explained in detail in item 1.7.5 – “If the jurisdiction to legislate on waters is exclusive to the Union, why do the states have state laws on the subject?”

By establishing the Union's reserved power for civil and criminal law, Article 22 restricted the definition of environmental civil and criminal liability to rules issued by the Union. Similarly, mineral waters belonging to the category of mineral deposits are subject to federal laws, but this does not deprive the States of their power to regulate groundwaters. Mineral waters are a category of
underground water, which has its special legal treatment. This topic will be addressed in more detail in Unit 3. Finally, issues related to energy use, and navigation will also be regulated by federal laws.

1.7.2 Concurrent Jurisdiction

Article 24 establishes the rules of concurrent jurisdiction among the federal government, states, municipalities, and the Federal District. The focus of this type of jurisdiction is to promote a vertical division in legislative activity (Moraes, 2007). As such, the Union’s jurisdiction is restricted to the establishment of general provisions, whereas the States and the Federal District specify them through laws according to their local characteristics.

The concurrent jurisdiction guarantees the States the complementary jurisdiction, that is, to detail a federal law that already exists (art. 24, § 1). The Union is restricted to the issuance of general laws, and may not provide any details, which will be the prerogative of each state and the Federal District. Besides, the Union’s inertia in enacting general rules gives rise to the supplementary jurisdiction of the States (art. 24, § 2 and § 3), which will have, temporarily (until the general federal law is enacted), full jurisdiction to enact general and specific rules. Moraes (2007) summarizes the main features of concurrent jurisdiction:

- The Union's jurisdiction is solely restricted to the general rules;
- The jurisdiction of the States and the Federal District is designed to complement the general provisions to make them more specific or detailed;
- There is no possibility to delegate jurisdiction on matters provided for in article 24 of the Federal Constitution;
- The states can broadly legislate if the Union has not regulated the matters provided for in art. 24 of the Federal Constitution.

Concurrent jurisdiction deals with various water-related issues, such as urban law (the production of urban space significantly modifies the characteristics of river basins); production and consumption (encouraging water reuse and rationing water use); nature conservation, soil and natural resource protection, environment protection and pollution control; protection of cultural and landscape heritage; responsibility for environmental damage and health protection.

The list of matters in Article 24 is rather broad, allowing States to legislate on various water-related aspects and mitigating the idea of the Union’s reserved power to legislate on water issues. Concurrent jurisdiction enables States to legislate...
comprehensively on the environmental dimension of water.

1.7.3 Remaining Legislative Jurisdiction of States

Article 25, § 1, protects not only the remaining material jurisdiction but also legislative authority. States may legislate on all matters that are not prohibited by the Federal Constitution (see arts. 22 and 30 of the Federal Constitution, which define the jurisdictions: private for the Union and exclusive for the Municipalities). It should be pointed out that a complementary federal law may authorize states to legislate on the matters listed in art. 22, which includes waters (art. 22, single paragraph).

1.7.4 Exclusive and Supplementary Legislative Jurisdiction of the Municipality.

The exclusive legislative jurisdiction of municipalities is found in Article 30, I and the supplementary in Article 30, II of the Federal Constitution.

Art. 30. The municipalities have the power to:
I – legislate upon matters of local interest;
II – supplement federal and state law where pertinent;

The exclusive jurisdiction is characterized by the predominance of local interest, which can be understood as those interests directly related to the demands of the municipality, even if they can generate repercussions at the regional or general level (Moraes, 2004). The judiciary was called on in several cases to judge the constitutionality of municipal laws given the need to verify whether the municipal rule meets the local interest in environmental matters or extrapolated it. The Municipality is competent to legislate on the environment, at the limit of its local interest and provided that its regulation is aligned with state and federal norms (Mendes; Branco, 2011). Based on local interest and the jurisdiction to establish land use planning, the municipality is responsible for enacting the master plan and the soil use and occupation laws, which are fundamental for water protection.

The municipalities also have supplementary jurisdiction, i.e., in the absence of national and state norms, can fill these gaps, as long as it is necessary to meet the local interest (Mendes; Branco, 2011).

1.7.5 If the jurisdiction to legislate on waters is private to the Union, why do the States have state laws on the subject?

Article 22, IV of the Federal Constitution attributes the Union's reserved power to legislate on water. But, keep in mind that the Constitution still provides for concurrent jurisdiction and common jurisdiction, as well as placing part of the water resources under the control of States.

In this sense, this reserved power refers to the creation of water rights that may relate to:

Control of river beds, silt, avulsion, abandoned river bed, water returning to the river bed, change of course, riparian rights, guaranteed free use, right to access to water, inalienability of waters, mandatory conditions of the lower buildings receiving waters flowing from above, diverted currents, course of springs, hierarchy of use for public waters and fines and penalties for infringements to many of these provisions (Pompeu, 2006, p. 47).

If the analysis focus is the ability to legislate on waters on the environmental side or the power to issue administrative rules for assets that are under the control of a particular entity, Article 22, IV is not used as a reference, but rather the idea (Article 20 and 26) which gives the holder the obligation to manage their assets, as well as articles 23 and 24 of the Federal Constitution that detail the common and concurrent jurisdiction, respectively.

The Federal Constitution, when it gave states control of surface water and groundwater following Article 26(I), gave them the right to issue administrative rules to manage these resources. Because the Union did not possess these resources, it could not issue specific provisions to manage them. The concurrent jurisdiction of States arises out of this situation.
Article 24, VI, prescribes that the Federal Government, the States, and the Federal District must concurrently elaborate laws on forests, hunting, fishing, fauna, nature conservation, soil and natural resources protection, environmental protection and pollution control, which includes the safeguarding of waters from the perspective of environmental quality. In this manner, based on the general rules issued by the Federal Government (emphasized by Federal Law 9.433/1997), the States are authorized by concurrent jurisdiction to establish specific provisions for the water resources that are under their control.

Also, Article 23, sections VI and XI of the Federal Constitution confers common jurisdiction to the Union, States, Federal District and Municipality “to protect the environment and to fight pollution in any of its form” and “to register, monitor and control the concessions of rights to research and exploit water and mineral resources within their territories.” To carry out this power-duty about water resources, States and Municipalities must enact provisions that will support their free operation, especially in the case of States related to waters under their control.

The reading of article 22, IV of the Federal Constitution should be taken collectively with the other types of jurisdictions and about article 225. In environmental matters, the legislator opted for the multiplicity and overlapping of spheres of action, which is demonstrated not only in the regime of jurisdictions but also in the reading of article 225 that imposes on the Public Authority and the entire community the duty to defend and preserve the ecologically balanced environment.

As a result, the States can lay down administrative rules on the management of water under their control, by the criteria laid down in the general rules issued by the Union, and they can also establish environmental standards to protect waters. But they can not establish water rights provisions.

Municipalities can only issue environmental provisions for water resources, provided they are backed by the idea of local interest. There are no waters under local control so they cannot issue administrative provisions for their management.

1.8 Federal Law No. 9.433/1997: a new paradigm in the management of fresh waters

Federal Law No. 9.433/1997, which establishes the National Policy on Water Resources, was created to regulate Article 21, XIX, of the Federal Constitution. This rule established the new legal regime for water resources in Brazil. Altogether, there are 57 articles divided into four titles: Title I – National Policy on Water Resources; Title II – National Water Resources Management System; Title III – Violations and Penalties; and Title IV - General and Transitional Provisions.

This law is substantiated in a legal document of a political nature, since it determines the standards of water management, establishes the instruments for its use and the institutional jurisdictions of the entities and bodies that are part of this management system, organizes how the relationship with society will be and establishes violations and penalties for non-compliance with the prescribed conducts (Caubet, 2004). The National Water Resources Management System and the Management Instruments from this law will be addressed in Unit 2. The focus here will be to introduce the innovative management parameters brought by this law in its foundations, objectives, and guidelines for actions.

Watch:
video 2: Brazil’s Water Law.
Production: ANA.
1.8.1 Key Assumptions of the New Water Resources Policy

Article 1 reflects the fundamentals of the National Water Resources Policy, which are as follows:

I – water is a public domain asset;

II – water is a limited natural resource with economic value;

III – humans, and animals have the priority of consumption in case of scarcity;

IV – the management of water resources should always provide for multiple uses of water;

V – the river basin is the territorial unit for implementing the National Water Resources Policy and activities by the National Water Resources Management System;

VI – water resources management must be decentralized and rely on the participation of the Public Authority, users and communities.

Each of these fundamentals will be broken down into topics.

1.8.1.1 Public Character of Water

Article 1, item I, reaffirmed the public character of water, which was defined in Articles 20, III, and 26, I, of the Constitution. Thus, the understanding of the full disclosure of water ownership was crystallized (Viegas, 2005, Granziera, 2006, Pompeu, 2006). There are no more doubts about the end of private waters.

Article 1.230 of the Civil Code states that “Land ownership does not encompass deposits, mines and other mineral resources, water power potentials, archaeological monuments, and other property referred to by special laws.” Although there was no specific mention of waters, they fell into the category of “other assets referred to by special laws,” so the water resources on a property do not belong to the owner, and if he wants to use them, he must comply with the necessary administrative procedures to legitimize their use.

1.8.1.2 A scarce asset with economic value

Article 1, item II, classifies water as a scarce asset. The quantity of water is limited on the planet, but the demand for its use increases, while there is the progressive deterioration of reserves through human activities. This reality demands a rational use of water, and one of the ways to encourage this behavior is to attribute an economic value to this resource.

This assumption is based on the idea that the misuse of water is linked to its free availability. Thus, by having a zero cost, users would not worry about setting limits and would abuse consumption. The attribution of economic value would contribute to generating the perception of scarcity and, consequently, more rational use of the resource that would meet the principles of the user-payer and the polluter-payer (Barros and Amin, 2007).

Payment for the use of water is a way of offering consideration to society for the use of a resource that belongs to everyone. This rationale is the basis for applying a billing mechanism, which has proven to be a key source of resources for improving management and environmental conditions of the river basin.

On the other hand, this provision stirred controversy because the recognition of an economic value did not take place at the same time as the recognition of its essential nature for life. Several authors argue the need to allow access to free water if it is provided to meet the basic needs of life, as well as to create instruments that ensure this right (Caubet, 2004). Moreover, turning water into an economic asset would not necessarily transform management, as those who have the financial means could continue to use the resource excessively.

Watch:

Video 3: Rational Use of Water Production: ANA.
1.8.1.3  Priority of human consumption and watering of animals

Article I, section III, assures the priority of human and animal consumption when the use of water is scarce. This assumption was intensely debated during the rationing imposed on the population due to the droughts that took place in 2014 and 2015. Except in cases of scarcity, water management is guided by the multiple uses. In this exceptional situation, it is possible to suspend or modify the concessions of grants, provided that the focus is on meeting the basic needs of the population and animals. However, this foundation faces two legal difficulties: the first refers to the lack of legal parameters to define what is a scenario of scarcity, depending on the discretionary action of the Public Authority, and the second refers to the amount of water that should be distributed to the population in this type of situation (Caubet, 2004).

1.8.1.4  Multiple Uses of Water

Article I, item IV, establishes the multiple uses of water so that no user sector should have privileges about other sectors (Milaré, 2015). The law did not establish an order of priorities among users. This choice will be negotiated through decentralized management conducted by the Water Basin Committees, which assess the circumstance and determine the best way to optimize water use to benefit the highest number of users.

Watch:

Video 4: Multiple Uses
Production: ANA

1.8.1.5  The River Basin as a Management Unit

Article I, item V, adopted the river basin as a territorial unit of water management. This regional scale had already been adopted by the Agricultural Policy (Law no. 8171/1991), which consolidated it in article 20 as the basic planning unit for the use, conservation, and recovery of natural resources. The river basin may be defined as a natural collection area of precipitation water from that converges the flows to a single exit point, its outlet (estuary or outflow) (Tucci, 1997). Figure 2 demonstrates how a river basin is formed, pointing out its major elements.
**Figure 2: The river basin and its elements.**
Produced by: Fernanda Bornancin Santos and Maristela Mitsuko Ono

<table>
<thead>
<tr>
<th>ELEMENTOS DA BACIA HIDROGRÁFICA</th>
<th>RIVER BASIN ELEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NASCENTE Local onde a água subterrânea brota para a superfície, iniciando a formação de um curso d’água.</td>
<td>SPRING Place where underground water flows to the surface, initiating the formation of a waterway.</td>
</tr>
<tr>
<td>AFLUENTES São águas que vem de diversas fontes, geralmente de chuvas, pequenos rios, e despejam suas águas em um rio maior.</td>
<td>TRIBUTARIES Formed by waters coming from various sources, such as rain, small rivers, and that empty their currents into a larger river.</td>
</tr>
<tr>
<td>LEITO PRINCIPAL</td>
<td>MAIN BED</td>
</tr>
<tr>
<td>LENÇOL FREÁTICO É o conjunto de águas que depositam naturalmente no subsolo.</td>
<td>WATERTABLE It is the collection of waters that deposit naturally in the subsoil.</td>
</tr>
<tr>
<td>DIVISOR DE ÁGUAS As linhas divisórias localizadas nas áreas mais elevadas do relevo, no encontro de planos que marcam a mudança de sentido no escoamento das águas da rede hidrográfica.</td>
<td>WATERSHED The dividing lines located in the highest areas of the relief, in the meeting of surfaces that mark the change of direction in the flow of waters in the river system.</td>
</tr>
<tr>
<td>FOZ</td>
<td>RIVER MOUTH</td>
</tr>
<tr>
<td>FUNDO DE VALES Áreas próximas aos rios e córregos que geralmente sofrem inundações.</td>
<td>VALLEY FLOORS Areas close to rivers and streams that usually go through flooding.</td>
</tr>
</tbody>
</table>
By observing Figure 2 we notice that the basin is composed of a set of sloping surfaces (inclined surfaces that allow the water to flow), of watersheds and inclinations in the ground, and a drainage network formed by the hierarchically interconnected waterways that flow up to the point that it becomes a single berth at the outflow. Thus, it can be said that the “river basin is the bio-geo-physiographic unit that drains into the river, lake, dam or ocean” (TUNDISI et al., 2008, p. 1). From a legal point of view, MMA Normative Instruction No. 4/2000 defined the river basin as the “drainage area of a watercourse or lake” (article 2, section IV).

Resolution CNRH No. 32/2003 instituted the National Hydrographic Division, which is made up of 12 hydrographic regions and defined as: “the Brazilian territorial space comprised of a basin, group of contiguous river basins or sub-basins with homogeneous natural or social, and economic characteristics or similar features, designed to guide the planning and management of water resources” (article 1, sole paragraph). Figure 3 shows the national hydrological division.

Figure 3 - Brazilian Hydrographic Regions
These river basins can be spread out in smaller management units, which will be provided with management structures (river basin committees and agencies). The States must also define their management units based on river basins. This managerial cut-out does not need to correspond exactly to the boundaries of the entire basin and may comprise part of it or specific sub-basins.

The river basin area corresponds to a physical unit that can span multiple spatial, local, regional, national or transboundary scales (TUNDISI, 2003). Often, due to its extension or socioeconomic characteristics, it is recommended that it be subdivided into sub-basins, as a way of reducing the scale of operations and optimizing management. CNRH Resolution No. 30/2002 defines the methodology to develop a coding system for river basins throughout the country.

The adoption of the hydrographic basin as a management unit was a major advance because it enabled a systemic view of water resources to be adopted, incorporating environmental, social, and economic aspects, as well as encouraging the decentralization of management, allowing the involvement of social actors that use water resources in a specific territory.

1.8.1.6 The River Basin and the challenge of integrating surface, underground, and coastal waters

The river basin faces the challenge of promoting integrated management of fresh surface waters, underground, and coastal waters. These three dimensions of water are directly interrelated, but each of them has geographical bases that do not necessarily converge with the limits of the basin. Underground water is linked to the hydrogeological basin, which does not always converge with the river basin, a topic that will be fully covered in Unit 3. Coastal waters are linked to Coastal Management and to the definition of the Coastal Zone, which are governed by Law 7.661/1988 and Decree No. 5.300/2004. This space is also influenced by Decree-Law No. 9,760/1946 since part of these areas is located on marine land (Calasans and Silva, 2014).

As for underground waters, they have been classified as water resources and are part of water management, although with some difficulties. In turn, there are controversies over whether or not coastal waters are included within the definition of river basin (Calasans and Silva, 2014).

This controversy includes a geographic definition of the river basin because the jurisdiction of the National Water Resources Management System agencies is restricted to this territory, as well as the effect of water management instruments. Apparently, Law No. 9.433/1997, art. 3, VI, in establishing that the National Water Resources Policy should provide
for the “integration of river basin management with that of estuarine and coastal systems” reinforces the understanding by excluding these resources from the notion of river basin, removing them from the jurisdiction of the National Water Resources System (Calasans and Silva, 2014). CNRH Resolution 32/2003, which delimits the Brazilian Hydrographic Regions, does not provide details on the final border of the basin, defining where the water resources end and the sea begins.

There is an interaction between fresh and salt waters, which generates particularly important problems in the case of the grants related to coastal transition environments. In these cases, the activities that use water are subject to grant and who would be responsible, the ANA or the state agencies?

This issue led to the creation of the Technical Chamber for the Integration of River Basin Management and Estuarine Systems for the Coastal Zone - CTCOST under the sphere of the CNRH. Despite these efforts, so far it has not been possible to reach a resolution that establishes guidelines for the water resources plans of regions that contain stretches of the coastal zone or regulates the issue of granting.

CNRH Resolution No. 145/2012, which deals with the general guidelines of the basin plans, does not address the issue. It only mentions that basin plans should consider other existing plans, programs, projects and studies related to coastal management. CNRH Resolution 181/2016, when defining the Priorities, Actions, and Targets of the National Water Resources Plan for 2016-2020, included goal 16, which specifically addresses the integration of coastal zones into the water resources management system. Some of the actions envisaged included:

- Define the guidelines and attributions of the water resources management area in the management of coastal areas and island basins in an integrated manner with other areas.

It can be seen that the issue of integration between river basin management and coastal management is at an early stage and has much to advance.

1.8.1.7 Decentralized and participative management

Law nº 9.433/1997, in art. 1, items V and VI, designed a new model of decentralized and participatory water management, based on the river basin and the involvement of the actors. This management transition was inspired by the French water policy model. Caubet (2004: 152) explains that decentralization “includes delegating [...] decision-making power to political and administrative issues.” It was assumed that the involvement of actors and the community in the decision-making process contributes to the democratization, transparency and social control of water policies.

The strategy adopted to promote decentralized and participatory management is based on the creation of two public entities at the scale of each basin: the river basin committees and the basin agencies. The committees would be made up of representatives of public authorities, users and civil society and have a deliberative character. In turn, the agencies would assume the role of executive officers of the committee and provide technical and administrative support to the decision-making process (Abers and Jorge, 2005). Unit 2 will address these management structures in more detail.

1.8.2 Objectives

The objectives of the National Water Resources Policy are set out in Article 2 of Law No. 9.433/1997 and are designed to:

I – ensure the required availability of water to current and future generations, in standards of quality that are suitable to their uses;
II - the rational and integrated use of water resources, including water transportation, with a view to sustainable development;

III - prevention and defense against critical hydrological events of natural origin or resulting from the inappropriate use of natural resources.

The objective provided for in item I is intended to ensure that water is available in quantitative and qualitative terms for present and future generations, according to the different types of uses. This section incorporates the constitutional idea of article 225, which guarantees the right to a stable environment. Item II advocates the rational and integrated use of water resources and draws attention to the need to promote waterborne transport. Section III highlights the importance of disaster prevention and control, whether natural or caused by inadequate use of resources (CAUBET, 2004).

1.8.3 General Guidelines for Action

Article 3 establishes the following general action guidelines for implementing a water policy:

I – the systematic management of water resources, without dissociating quantity and quality;

II – adapting water resources management to the physical, biotic, demographic, economic, social, and cultural diversities of the numerous regions of the Country;

III – the integration of water resources management with environmental management;

IV – the joint planning of water resources with that of the user sectors and with regional, state and national planning;

V – the joint management of water resources with land use;

VI – the integration of river basin management with that of estuaries and coastal zones.

The guidelines set out in Article 3 seek to guide water management based on the integrated management model of water resources. Thus, water management should be done systemically, including aspects of quality and quantity, which are integral and complementary.

Management should adapt to local or regional circumstances. Brazil is a country of continental proportions with distinct realities. For example, the management in the Amazon region can not use the same strategies that are enacted in the Southeast or Semi-arid Regions. Management should be dynamic and adapt to the needs and characteristics of each basin and region.

And lastly, water management should be coordinated with other closely related themes such as the environment, land use, and coastal management. The quality and quantity of water depend on protecting ecosystems and territorial policies that encourage uses that comply with the vulnerability of the basin. Integration with coastal management is critical because the highest percentage of the pollution that reaches this area comes through rivers. Also, the unregulated extraction of fresh waters in coastal areas can cause salinization of rivers and aquifers and compromise coastal ecosystems.

1.9 Human right to water and sanitation in the Brazilian legal system

The human right to water and sanitation gained momentum at the start of the 21st century, largely motivated by the movements against the privatization of public water and sewage services. Below is a video that presents the opinion of Prof. Doctor Andreia Vieira Costa on the topic.

Video lesson 1:
Privatization of Water Services and the Human Right to Water by Professor Doctor Andreia Costa Vieira.

However, international law and international organizations already affirmed the need to recognize a right of access to water since the mid-twentieth century. Its inspiration emerges in humanitarian law,
considering the need to protect certain vulnerable social groups (Dupuy, 2006). The following conventions are some examples:

- the 1949 Geneva Convention
- the Convention on the Elimination of All Forms of Discrimination against Women (1979); and

The essential nature of water has also been reinforced in several conferences and declarations on water, environment, and health (Ribeiro, 2005; Villar, 2015), such as:

- the United Nations Conference for Human Development (Stockholm, 1972);
- the International Conference on Water and the Environment (Dublin, 1992);
- the United Nations Conference on Environment and Development (Rio 92);
- the International Conference on Water and Sustainable Development (Paris, 1998);
- the Global Conference on Drinking Water and Sanitation (1990);
- the International Conference on Fresh water (Bonn, 2001).

To expand access to water, the “International Drinking Water Supply and Sanitation Decade” (1980-1990), the Global Assessment of the International Decade of Drinking Water and Sanitation and the Charter of New Delhi were established, which offered recommendations on the provision of drinking water in sufficient quantities, and sanitation for all as a goal for 2000 (Castro, 2007; Villar et al, 2012).

A drop in the number of people who do not have access to drinking water was taken up at the Millennium Declaration, among the goals being to halve the proportion of people who are unable to reach or to afford safe drinking water by 2015. These targets were widened by the World Summit on Sustainable Development in Johannesburg in 2002, adding the goal of halving the number of people without access to basic sanitation. The United Nations declared 2003 as the International Year of Fresh water, and 2008 as the International Year of Sanitation. In 2005, The International Decade for Action, "Water for Life” was established (2005-2015).

In September 2015, UN member states approved the 2030 Agenda for Sustainable Development which sets in place 17 Sustainable Development Objectives to be met by 2030, and access to water and sanitation were included in SDG No. 6.

The affirmation of understanding the right to water and sanitation as a human right at the international level has increasingly gained form and substance thanks to three documents: General Comment No. 15 of the Committee on Economic, Social and Cultural Rights, Resolution No. 64/292 of 28 of July 2010, of the General Assembly of the United Nations; and Resolution 15/9 adopted by the UN Human Rights Council in 2010. These instruments strengthened the idea of the human right to water and water justice advocated by several social movements.

General Comment No. 15 of the Committee on Economic, Social and Cultural Rights - CESCER (2002), entitled the right to water, considered the human right to water as part of the set of economic, social and cultural rights proclaimed by the 1966 International Covenant on Economic, Social and Cultural Rights (CESCR). Although the CESDP does not make express reference to this right, it can be inferred from other rights such as the right to life, to enjoy a proper standard of living for human health and well-being, dignity for the human being, protection against diseases, access to adequate food and human development (Villar, 2013).
This document defined this particular human right as providing sufficient, safe, acceptable, physically accessible and reasonably priced water for personal and domestic uses (CESCR, 2002). This concept gave rise to two controversies: how to determine the sufficient amount of water per person since the literature differs on what those quantities would be. The other was the fact that it linked the exercise of a fundamental right inherent to the human person to the payment of a price.

In 2010, the United Nations General Assembly (UNGA) approved Resolution No. 64/292, which was known as the human right to water and sanitation and contributed to reinforcing the view of this right as an offshoot of the rights provided for in the Charter of Human Rights. In addition to recognizing this right, this instrument called upon States and International Organizations to come up with ways to guarantee universal access to the population. Resolution No. 15/9 of the United Nations Human Rights Council confirmed that this right results from the right to an adequate standard of living and is directly associated with the right to health, life, and human dignity.

Brazil voted in favor of UNGA Resolution 64/292 (2010). However, unlike other Latin American countries (such as Uruguay, Bolivia, Ecuador, Costa Rica, etc.), its domestic law does not expressly recognize this right. Faced with the essential nature of water for life, some authors sustain that access to safe drinking water and sanitation are included in the eternity clause of human dignity, enshrined in article 1, section III, of the 1988 Federal Constitution (Mirandola and Saito, 2006, Fachin and Silva, 2011, Flores, 2011; Moares and Marques Júnior, Melo, 2013).

Although the Constitution opens up the inclusion of this right as a fundamental right, the Brazilian legal system has failed to establish the required means to guarantee it efficiently. Federal Law No. 11.445/2007 (Brazilian Basic Sanitation Policy) and Federal Decree No. 7.217/2010 draw attention to the need to universalize the service and the application of subsidies as a way to guarantee this access for the most neediest classes. One of the major challenges of this right is the creation of projects to amplify the coverage of these services in places that are not considered economically profitable, either due to the socioeconomic conditions of the population, the lack of resources or the high cost of setting up a water supply and sanitation network. On the other hand, applying subsidies as a way of guaranteeing access to those who can not pay leaves something to be desired (Villar, 2013).

1.10 References


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