

The status of water at the origin of conceptual and theoretical conflicts

Le statut de l'eau à l'origine de querelles conceptuelles et théoriques

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Date de soumission : 08/02/2024

Date d'acceptation : 24/03/2024

Pour citer cet article :

Yammad.Y, & BADDIH H. (2024) « The status of water at the origin of conceptual and theoretical conflicts», Revue du contrôle, de la comptabilité et de l'audit « Volume 8 : Numéro 1» pp : 128-145.

Abstract

With the multiplication of ecological crises that have wreaked havoc throughout history, it was imperative to reconcile the model of economic development based on infinite growth with respect for ecological concerns, admitting that we live in a world with finite resources.; we are talking here about sustainable development that integrates the environmental dimension within the process of socio-economic development.

Many authors have paid particular attention towards this coveted resource admitting that it commands the development of human societies, however, a crucial uprising seems to preoccupy all confused collars during international conferences. Indeed, it is necessary to clarify the nature of this resource which creates theoretical equivocations because of the confusion that it poses as for its status. The present paper aims at a better understanding of the status of water based on the literature review, in this sense, we will present crossed glances, by confronting some theories

Keywords: water; common good; collective good; sustainable development; economic growth

Résumé

Avec la multiplication des crises écologiques qui ont fait des ravages à travers l'histoire, il est impératif de concilier le modèle de développement économique basé sur la croissance avec le respect de la préoccupation écologique, admettant que nous vivons dans un monde aux ressources finies. En effet, le passage à un autre modèle plus viable de développement s'impose comme un Game changer, on parle ici de développement durable qui intègre la dimension environnementale au sein du processus de développement socioéconomique.

Nombreux sont les auteurs qui ont porté une attention particulière à l'appétit insatiable de l'humain envers cette ressource tant convoitée admettant qu'elle commande le développement des sociétés humaines, toutefois un soulèvement crucial semble préoccuper tous cols confondus lors des conférences internationales. En effet, il s'avère nécessaire d'éclaircir la nature de cette ressource qui crée des équivoques théoriques du fait de la confusion qu'il pose quant à son statut.

Le présent article vise à une meilleure compréhension de l'état de l'eau à partir de la revue de la littérature, en ce sens, nous présenterons des regards croisés, en confrontant quelques théories.

Mots clés : l'eau; bien commun ; bien collectif ; développement durable ; croissance économique

Introduction:

The pursuit of socio-economic development is undoubtedly the goal of every government. However, this trend is not without consequences, as it inevitably alters water resources. The issue is not only about scarcity, but Baechler has raised another deficiency, that of the deterioration of water quality. He highlighted that the problem of water access is more qualitative than quantitative, as the more we consume, the more we discharge, making pollution the major vice of this reality. This massive influx of wastewater is catastrophic for the aquatic environment, potentially rendering terrestrial reserves unusable or requiring much more expensive treatments for utilization.

It is unanimously recognized that growth is the driving force of economic development. However, from the perspective of degrowth thinkers, it cannot be a sustainable phenomenon. In this context, it becomes prudent to address this significant uprising:

How can we hope for sustainable growth in a world where resources are not unlimited?

Indeed, growth is a prerequisite for development, but it cannot be reduced to this realm alone, as it incorporates other qualitative dimensions.

Although growth is the quantitative essence of development, sustainable development is undoubtedly a way of organizing society in a manner that allows it to exist over the long term. With the multiplication of ecological crises that have wreaked havoc throughout history, it was imperative to reconcile the economic development model based on growth with respect for ecological concerns, acknowledging that we live in a world with finite resources. Indeed, transitioning to a more viable development model emerges as a game changer. Here, we speak of sustainable development that integrates the environmental dimension into the socio-economic development process.

it should be noted that the consequences of the exponential growth of industrialization, coupled with the population explosion and the impact of climate change, are fueling the debate on the ambivalence between water scarcity and economic development.

Looking at the evolution of the international economy over the decades, we can see that it is not the first time that economists have studied the link between economic growth and access to water. We can cite some works: (Bhattarai, 2004; Dalhuisen et al., 2003; Portnov & Isaac, 2008; Rock, 1998), Gleick (2003) (Rock 1998; Bhattarai 2004). Shafik, N., & Bandyopadhyay, S. (1992). Edward b. barbier (2004)

In this sense, BARBIER (2004) studied the possible effect between water scarcity and economic growth. However, before starting this exploration, he required knowledge of the status of water, which he argued is a congestible and non-exclusive good.

In this regard, this article will present a spectrum of previous research on this subject and identify the most important axes that must be addressed in future research. Based on the gaps identified in the literature, we will identify future research directions.

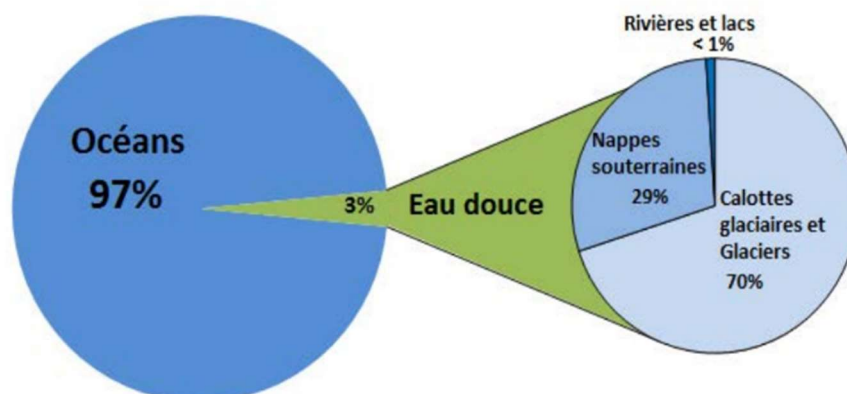
In this sense, in this work, we will first present cross-views on the notion of water appropriation (private or public good), then we will unveil the status of water, which lies at the border of being an economic good and a common good, by confronting several theories. Finally, we will discuss the extension of Ostrom's governance.

1. The Characteristics of Water Resources

Concerned about the future, many country representatives have come to realize that the environmental dimension must be at the center of economic development. In 1972, the United Nations World Conference on the Environment was held in Stockholm, with the goal of diagnosing and studying the destructive trends of the environment and the heavy threats weighing on our ecosystem. Ultimately, this conference resulted in the establishment of a World Commission on Environment and Development, chaired by Norwegian Prime Minister Mrs. BRUNDTLAND.

Gradually, the competent authorities have placed sustainable development at the heart of their concerns, as illustrated by the first report published by the commission in 1987, titled "Our Common Future." The report emphasizes the need to design an economic development model capable of meeting human needs without destroying the ecosystem or compromising future generations.

The quantity of water resources is very limited on our planet. Almost two-thirds of the Earth's surface is covered by water, the vast majority (97%) of which is salty, not meeting the criteria for potability and therefore unfit for consumption. The remaining 3% represents the share of freshwater available on Earth (drinking water). This tiny fraction of freshwater is distributed as follows.(see figure 1) 00

Figure 1: The composition of water at the planetary scale.

Source: our changing climate¹

Between domestic, industrial, agricultural, energy, and even recreational use... The question arises: who could do without this resource ? Water is a multifunctional product, it decides the fate of several aspects, its field of intervention is so varied that it can be a source of international conflicts, an obstacle to development, an instrument of domination by some water-rich countries, a source of inequalities of all kinds... It has several characteristics that distinguish it from any other resource, it is available in fixed quantities, dictated by the laws of nature, it is omnipresent, but access is laborious. All these characteristics make water a resource coveted more than any other, even more because it has no substitute. Moreover, the scarcity of this resource can keep an entire population in poverty traps and paralyze their development. Babillot, P., & Le Lourd, P. (2000).

1.1 Water : a multi-functional resource

Francois Unctil paid particular attention to the insatiable human appetite for this coveted resource, acknowledging that water is a resource intimately correlated with its territory in the sense that its uses cannot be analyzed independently of the geographical, institutional, economic, social, and natural framework in which they are inserted. In other words, it is almost impossible to apprehend water as an abstract unit by dissociating it, but rather as an integral part of an environment with which it maintains relationships of interdependence. (Anctil, 2016)

¹ http://www.unwater.org/downloads/Water_facts_and_trends.pdf

The unique character of water lies in its uses and the fact that it can by no means be replaced by another substance. In its raw or treated state, water can be used for a multitude of purposes, which testifies to its non-substitutability.

1.2 Use of water in agriculture:

It must be recognized that the issue of water is crucial for agricultural, industrial, and tourist activities, given the growing demand, moreover, we cannot deny the role of groundwater in agriculture. This sector consumes the most water globally. Population growth is behind the rise in demand in the field of high-value-added food production. Roman, P. (2016). It should be said that food production as a whole is very water-intensive, and groundwater represents a crucial resource for irrigated agriculture, livestock, and other agricultural activities, such as food production. (water, 2022). In summary, we cannot deny that agriculture is a major sector of the global economy, (see table 1) even more, it consumes a lot of water. Internationally, 70% of the total freshwater withdrawals are intended for agricultural purposes. Gleick, PH et al. (2014).

In Morocco, agriculture is the sector that consumes the most water resources. It represents on average 82% of the total withdrawals of water resources, which is almost 11 billion m³/year. Moreover, admitting that irrigation is the main source of water for agriculture. This represents about 95% of agricultural water withdrawals. It should be noted that agriculture is the main consumer of water resources. In Sudan, it uses up to 96% of the water withdrawn. In contrast, in the North, agriculture represents only a tiny part of the total water resources withdrawn, with less than 1% in Germany and the Netherlands.

table 1: Water Withdrawals for Agriculture in Morocco 2020

Variables	Unit	2020 (most recent update)
Agricultural water withdrawal	10 ⁹ m ³ /an	9.16
Agricultural water withdrawal as a percentage of renewable water resources	%	31.57

Agricultural water withdrawal as a percentage of total water withdrawal	%	87.78
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Source: Our own elaboration based on Aquastat data

1.3. Water Use in Industry

Internationally, about 17% of water resource withdrawals are intended for industrial uses. The global distribution of water withdrawals for industrial use does not follow the same logic as that for agriculture, as it is the high-income countries that tend to consume a lot of water. The manufacturing, oil, and power production industries, as well as engineering and construction, are industries that heavily depend on groundwater in their value chains, adding to this the sectors of clothing, food, and beverages. The scant endowment of some countries can present an obstacle to industrial development, given that many firms consume water excessively (water, 2022) There are numerous manufacturing uses of water. It is used in dilution, washing, and cooling of manufacturing equipment, steam generation, etc.

In Morocco, the industry represents a key sector in the Moroccan economy. Indeed, manufacturing activities use a large amount of water, about 10% of the national water consumption. (See table 2)

Table 2: Industrial Water Withdrawal in Morocco -2020

Variables	Unit	2020 (most recent update)
Industrial water withdrawal	10 ⁹ m ³ /an	0.21
Industrial water withdrawal as a percentage of total water withdrawal	%	2.03

Source: Our own elaboration based on Aquastat data

1.4 Recreational Water Uses

Apart from the heavy and vital uses of water resources, we are witnessing nowadays more recreational than essential uses for human survival, shaping leisure practices. For example, water sports, with millions of participants. In France, swimming activities such as swimming, diving, etc., have 21 million practitioners, recreational fishing is also a coveted practice that

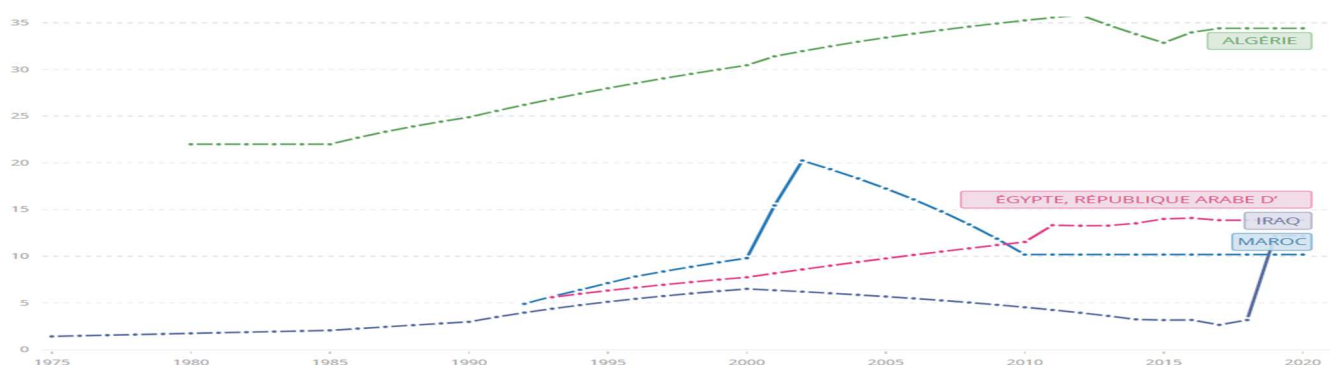
gathers 3.7 million enthusiasts, not to mention the attraction to seaside resorts.² It should be said that the range of recreational practices is still wide, combining luxurious leisure and others that are more accessible. A key point, which we cannot denigrate, is indeed the economic stakes of this trend that consumes water.

1.5 Groundwater for Human Settlements

It is essential to recognize that humanity has always satisfied its drinking water needs through groundwater sources (Gun, 2013). Nevertheless, accelerated urbanization and demographic pressure weigh heavily on the water resource, which proves to be limited over time and leads to an unprecedented demand for supply and sanitation, which constitutes a real challenge in terms of urban planning. (Breuil, L. (2004). Still, in the context of the uses of this resource, we cannot neglect domestic use. The latter is defined as the amount of water we use every day to drink, clean, wash, and cook.³ Although domestic water is the most evident and visible use of freshwater, it represents only 12% of total freshwater withdrawals (a small proportion compared to industrial and agricultural uses).

The following visualization shows water withdrawals (domestic) as a percentage of the total water withdrawals (the sum of water intended for agriculture, industry, and municipal uses). In Morocco, the percentage of annual freshwater withdrawals for domestic use is 10% in 2020 (the most recent value). (see figure 2)

Figure 2: Annual Freshwater Withdrawals for Domestic Use (in %)



Source : Organisation des Nations Unies pour l'alimentation et l'agriculture et données d'AQUASTAT

²² **Roman, P. (2016).** Agathe Euzen, Catherine Jeandel et Rémy Mosseri (dir.), 2015, l'eau à découvert, Paris, CNRS Éditions, 368 pages. Développement durable et territoires. Économie, géographie, politique, droit, sociologie, 7(2).

³ Ritchie, H. et Roser, M. (2023). Consommation d'eau et stress. *Notre monde en données*.

The growing interest in the topic of water over the past thirty years reflects an awareness of the astounding role of drinking water in the development of a society. It must be said that the urban water and sanitation services of developing countries struggle to meet the water needs of the population in the face of demographic density, which continues to intensify in the context of unchecked urbanization over the last 30 years.

The figures announced by international organizations inform us about the severity of this global situation: "some 2 billion people worldwide do not have access to safe drinking water services, while 3.6 billion are deprived of sanitation services and 2.3 billion lack any facilities for washing their hands. These deficiencies are often exacerbated by population growth, water-intensive growth models, increasingly fluctuating precipitation, and pollution. As a consequence: the issue of water is a major threat to economic progress, poverty eradication, and sustainable development. World Bank (2022)

Apart from the health issues, there are other challenges that need to be addressed, those of the sustainable development goals which depend on access to drinking water (economic development, education for all, health, etc.). This water scarcity runs counter to these goals and contributes to the proliferation of precarious areas on the outskirts of cities not served by urban infrastructure.

It is clear that water resources are under unprecedented pressure, posing a threat to food security and nutrition. Indeed, the potential of freshwater is limited while demand is increasing.

44,000 km³/year represents the potential of domestic renewable freshwater resources, found in rivers and aquifers. Moreover, freshwater withdrawals for agriculture, industry, domestic water, and leisure exceed 4,000 km³/year, (accounting for 10% of the available resources).

In reality, since the first United Nations Water Conference in 1977, a crucial uprising seems to concern all sectors at international conferences, which is none other than the status of water. The debate is open regarding the commercial nature or not of this controversial resource.

Cans (1994) had highlighted "a good that falls from the sky, therefore free, water will become a rare and expensive commodity for everyone, like virgin nature and unspoiled landscapes." However, his postulate was rebutted by the European Water Framework Directive adopted in 2000 which specifies that "water is not a commercial good like any other but a heritage that must be protected, defended, and treated as such" (Council of the European Communities, 2000, p. 1)

2. The Status of Water

2.1 Water: A private good or a public good?

Whether we like it or not, the status of water is endowed with complexity, and an uncertain aspect surrounds the notion of public goods in the literature. (Blümel et al., 1986). Several authors have tried to gather any idea that could be used to define this status.

An economic good is a useful object capable of satisfying a need, adding to this the notion of scarcity and price to differentiate it from free goods, which are excluded from the field of economic analysis; this means that all economic goods or services have a market value (Breuil, L. (2004).

We speak of "pure public goods" when two conditions are verified:

- **The property of non-exclusion:** A good is said to be non-exclusive when the right of enjoyment is reserved for everyone, without exception. In other words, everyone can obtain this good, and no minority has the exclusivity to hold this good (example: air, national defense, a fireworks display). Unlike private goods whose consumption is the affair of a minority who has purchasing power. Young and Loomis (2014)
- **The property of non-rivalry (or non-divisibility):** The consumption of a quantity is non-rival, insofar as it does not deprive other people of consuming the same quantity, it does not decrease and does not deteriorate, meaning that everyone is on an equal footing regarding the available quantities (no disparities). Nonetheless, we speak of rivalry, as soon as the quantity consumed by an economic agent completely eliminates any benefit that others could have derived from this quantity; for example, cars and food are completely rivals in their enjoyment. (Samuelson, 1954)

Table 3 : The Classification of Goods According to the Criteria of Excludability and Rivalry

	Rivalité/divisibilité	Non rivalité/indivisibilité
Exclusion	Bien privés	Biens de club
Non exclusion	Biens communs	Biens publics purs

Source : Calvo-Mendieta (2004, p. 56)

the table highlights the four types of goods referring to economic analysis.

In reality, the nature of goods is absolutely not limited to the dichotomy (Private Good/Public Good); these two extremes are less common, if not rare.(see table 3)

However, there are many situations that are as intermediate as they are recurrent, if one takes into consideration the two properties of exclusion and rivalry.

The opposite intersection of the rivalry property with that of exclusion gives rise to the nature of a "private good".

Following what has been said, we can say that cars and food are private goods while national defense is a public good.

As a concretization of the above, the advances of this theory mislead us and do not find their origins in reality, concerning the service of drinking water. In fact, the latter resembles a collective good according to this theory. However, there is a long way from theory to reality, and drinking water is not at all a collective good.

Far from the norms, water is misplaced from this fragmentation because it neither falls into the category of public good (non-rivalry and non-exclusion) nor into that of private good (rivalry and exclusion) (Samuelson, 1954). Water is a right that no one should be deprived of. This postulate does not allow us to classify it in the category of a "private good"; nor in the category of a "public good".

Indeed, starting from the observation of the existence of externalities, and that any abusive overexploitation leads to rivalry in use. In other words, industrial use leads to a deficit in domestic use... Therefore, there is undoubtedly rivalry. Nevertheless, we cannot speak of exclusion insofar as the possibility of preventing a user from using this commodity is expensive. (Ostrom, 1990)

Indeed, as explained by Young and Loomis (2014), We then conclude that water that is not treated is taken as a common good that is rival and non-exclusive; in the sense that its use by one individual can impact another. Nevertheless, a user cannot be completely excluded. (Ostrom, 1990)

We witness a new categorization of the water resource that finds itself in an intermediary situation: Impure Public Goods. However, it is important to underline that a distinction must be made between the raw solvent and drinking water, admitting that the transition of water as a natural resource to drinking water changes its typology (Barraqué, 2011). We are talking here about a club good: a non-rival good with the technical possibility of excluding users (Buchanan, 1965)

This nature refers to the transformation process that the water resource undergoes. Consequently, it is possible to exclude users because free access is no longer applicable. However, rivalry is no longer a question.

"Thus, drinking water, by its characteristics, belongs to the classification of club goods. Nevertheless, drinking water cannot simply be qualified as a 'club good'; to define its status, it is necessary to integrate the coexistence of social, environmental, and economic imperatives." Young and Loomis (2014).

2.2. Water: An economic good or a common good?

It is appropriate to state that the status of water is complex because it lacks a universal legal status (Cardenas, 2007, p.4).

It is at the border of the economic good (private good, commodity) and the common good due to its paradoxical characteristics ('WATER UNCOVERED | Agathe Euzen). It is clear that water belongs to the entire community, which implies that it must be a right for all. Also, the European Water Framework Directive adopted in 2000 states that "Water is not a commercial good like any other but a heritage that must be protected, defended and treated as such" (Olivier Petit, 2009). This word "common" refers to the community and the general interest. Ultimately, water becomes a non-appropriable good, managed by municipalities, but it does not belong to them (Lucarelli, 2010).

Practically, according to the theory of (Montginoul and Rieu, 1996; Montginoul, 1998), the nature of the water good is subject to two ambivalent approaches:

For the first, water is a common good that implies a collective dimension, this approach focuses on the accessibility of water. It assumes that water is a fundamental right, which must be guaranteed to all, hence the blockade regarding its appropriation. For the second; water in its economic dimension, is a generator of environmental externalities, to the extent that, the functions fulfilled by water give rise to economic externalities that require a revision of the status of water. Beitone, A. (2010).

Moreover, in 1992, at the international water conference in Dublin, water officially becomes an economic good, meaning a good that undergoes a productive transformation process beyond its natural dimension, water has a cost price and a price unlike before. Baechler (2017) In this respect, like other goods, water must be subject to rational management, with the aim of making its supply and demand compatible. (Montginoul and Rieu, 1996)

Water is both an economic good and a right that no one should be deprived of. This assumption should lead countries to place solidarity at the heart of their strategies regarding the difficulties of accessing water. This solidarity can spare some water-scarce countries from serious water-related calamities.

Upon reflection, Baechler (2017) considered reconciling solidarity and rationality in water resource management.

This combination of solidarity and rationality will allow water-vulnerable countries to solve so-called insurmountable problems. He argued that it is even necessary to dedicate a part of the preserved resources to redistribution towards the most needy through good management when circumstances dictate. (Baechler, access to water: a major issue for sustainable development, 2017)

Assuming that water is an economic good that requires rational management. The envisaged panaceas are none other than the fundamentals of market law (supply and demand).

The mechanisms focus on pricing, water markets, and quotas (Montginoul and Rieu, 1996; Montginoul, 1998). However, these principles conflict with the social imperative, regarding the affordability of drinking water for all.

In McNeill's theory (1998), it is found that water is multidisciplinary, it is both economic and political but also takes into account some philosophical considerations.

The author uses the "sustainable development triangle" to aim for a consensus. It is clear that the use of water involves competitive uses, therefore, the issue of cohabitation of economic, social, and environmental imperatives arises, in the sense that water is above all a human need. However, its extraction, treatment, distribution, and related infrastructure cost money, and consequently are subject to pricing.

McNeill (1998), to unify these three imperatives, regards water as an economic good in the broad sense and capitalizes on the fact that water is free in its raw state and that we do not pay for the common good but rather for the related services. (Ostrom, 1990)

However, a retrospective analysis of this blue gold is necessary before endowing it with the designation "common heritage", the objective being to briefly revisit how this resource has been apprehended by economists. Indeed, economic science has shown indifference or even disinterest in water for a long time, admitting that it is an inexhaustible deposit available in unlimited quantities, something that has reduced the role of water. Nevertheless, this assumption of abundance was canceled, and was reduced to nothing from the moment scarcity

came to define its own dogmas, practices, and values. Water has become scarce in some regions of the globe, even a source of cross-border conflicts (Olivier Petit, 2009)

The idea is that, this water deprivation has been behind the birth of a new qualification of water "economic good", which needs to be managed rationally.

This divergence regarding the status of water is present in academic articles (Ostrom, 1990; Petrella, 1996; Bouguerra, 2003; Calvo-Mendieta et al, 2011; Harribey, 2011; Allain, 2012).

Thus, according to Ostrom's extension, this dichotomy between common good or economic good is reconciled by the cohabitation of economic, social, and environmental imperatives, it is about the governance of drinking water which relies on the performance and the operator's ability to provide quality services.

At its flowering, the "the right to water" report presented the legal dimension of water that combines the triptych of imperatives (social, economic, and environmental). Firstly, the social imperative stipulates that water intended for domestic consumption must be safe, and must meet top hygiene standards, and potability standards; this is where public authorities intervene to protect the consumer from any health anomaly. They can even prohibit the distribution of water that shows significant alterations.

The economic imperative is oriented towards reconciling solidarity and rationality in water resource management, meaning that users who can afford it are required to pay the fair price for the service, including fees and taxes, but also pay the costs of solidarity measures (fiscal equalization, tariff, and international aid). This also solidarity measure will preserve social and economic balance.

As for the environmental imperative, it focuses on preserving the water resource as a vital commodity for the survival of all living beings. That is, protecting it against negative externalities resulting from certain activities that are likely to harm this solvent (pollution, wastage...).

The intersection of these 3 imperatives is an integral part of the sustainable development goals of the United Nations member states (6th goal): "ensure access to water and sanitation services managed sustainably for all."

The pricing allocation depends on the nature of the water, whether it is a resource in its raw state or drinking water. Indeed, the resource and drinking water do not have the same properties, neither intrinsic nor legal, in this sense the user has the right to freely enjoy the water from nature without having to pay for it. (Barraqué, 2011) Unlike drinking water, which comes with a price and costs that the user must contribute to according to their financial means.

The transition from raw solvent to drinking water changes the governance modalities and therefore the pricing

At the confluence of these theories, the status and responsibilities of all stakeholders (public authorities, water operators, users/citizens) must be clearly established through an institutional framework. (Schlager and Ostrom, 1992; Ostrom, 1998).

Indeed, it is worth noting that water resources are subject to increasingly competing uses. Pressures continue to rise both qualitatively and quantitatively in view of demographic and economic density. It is symptomatic that these accumulated pressures pose the problem of allocation of this blue gold which, to be well managed, requires a clearly established right of use reference aimed at an understanding among the actors who benefit from it to avoid conflicting uses. Barone, S. (2010)

Conclusion

History has taught us that water is uniquely symbolic, representing a universal need and considered a unique resource due to its multifunctionality. To this day, no technology has succeeded in creating water, and nothing can substitute it. This is why it is symptomatic that the time has come to establish a similar approach to provide an international legal framework with a set of strict rules necessary for responsible water governance, with an essence of ethical concern, particularly towards the most needy and impoverished populations.

This natural capital is unanimously recognized by all users worldwide, converging on its urgency.

Moreover, water resource governance is a concern for developing countries due to its political and social implications. Additionally, international organizations prioritize this situation in their political agendas for the 21st century.

This is a significant project because the United Nations' Sustainable Development Goal 6 for the 2030 Millennium aims to create a better world by 2030 in response to the urgency of climate change and current and future demographic pressures, which necessarily pushes us to question the sustainability of the resource. This goal focuses on ensuring the availability and sustainable management of water and sanitation for all.

This review allows us to establish research hypotheses. In fact, the existing literature has shown that water has proven to be a factor that modulates economic growth. As a result, we put forward the following hypothesis: water security is an opportunity for economic growth.

After exploring the status of water, we seek to verify the validity of the hypothesis that water stress impacts economic growth.

Access to water is an essential element for economic growth, poverty reduction, improved health and education. The status of water influences how water is used and managed, which has implications for economic development.

Indeed, our study highlights the importance of defining water status for a better understanding of its impact on economic development."

To contribute to the debate, we have presented in this paper various perspectives on the status of this resource, highlighting ambivalences regarding its collective and economic characteristics.

The literature continues to fuel the debate with new theories. However, there are other areas of reflection that deserve to be clarified in the future. Future research could examine, among other things, the determinants of the price of drinking water services and approaches to water resource management.

In conclusion, it would be interesting to deepen the understanding of the water status by exploring the different dimensions of the water status (legal, economic, social, environmental) and by comparing the water status between different countries and regions. Finally, it would be relevant to undertake empirical analyses of the impact of water access on economic growth and human development in different regions.

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