

# Social and economic dimensions of the water resources

Dimensiones sociales y económicas del recurso hídrico

Dimensões sociais e económicas dos recursos hídricos

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## Abstract

**Introduction:** Water is a natural resource, which today being a vital limited liquid turns out to be of national and global security interest, causing conflict of interest in its reserve, use, management and distribution. **Objective:** to describe an overview of the social and economic dimensions of water resources from their use. **Materials and Methods:** it is structured on the basis of a documentary-type qualitative methodology, based on the consultation of books, scientific articles in virtual databases, reports, domestic and international normative instruments that allowed developing a descriptive and interpretative scope of water resources. Results: the value added to a natural resource such as water, has created transformation and adaptation to processes of its use, management, reserve, scarcity, maintenance and distribution, in which water interest or vision has shaped the social and economic systems of different societies. **Conclusions:** the above dimensions provide an overview in various categories of water as a limited liquid vital that puts societies in a situation of water stress, in a state of vulnerability of the right to life individually and collectively, transgressing the sustainable welfare state in which the various sectors of society find themselves to ensure access to and guarantee of the minimum vital liquid.

**Keywords:** *Water; Conflict; Environment; Public policy; Sustainability.*

## Resumen

Introducción: el agua es un recurso natural, que hoy día al ser un vital líquido limitado resulta ser de interés de seguridad nacional y mundial, suscitando conflicto de interés en su reserva, uso, gestión y distribución. Objetivo: describir un panorama de las dimensiones sociales y económicas del recurso hídrico a partir de su uso. Materiales y Métodos: está estructurado con base a una metodología cualitativa de tipo documental, a partir de la consulta de libros, artículos científicos en bases de datos virtuales, informes, instrumentos normativos internos e internacionales que permitieron desarrollar un alcance descriptivo e interpretativo del recurso hídrico. Resultados: el valor agregado a un recurso natural como el agua, ha creado transformación y adaptación a procesos de su uso, gestión, reserva, escasez, mantenimiento y distribución, en el cual, el interés o visión respecto al agua ha

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configurado los sistemas sociales y económicos de las diversas sociedades. Conclusiones: las dimensiones expuestas otorgan un panorama en diversas categorías del agua como vital líquido limitado que antepone a sociedades en situación de estrés hídrico, en estado de vulnerabilidad del derecho a la vida de forma individual y colectiva, transgrediendo el estado de bienestar sostenible en el que los diversos sectores de la sociedad se encuentran por asegurar el acceso y garantía del mínimo vital líquido.

**Palabras clave:** Agua; Conflicto; Medio Ambiente; Política Pública; Sostenibilidad.

### Resumo

**Introdução:** a água é um recurso natural que, atualmente, como líquido vital limitado, é de interesse para a segurança nacional e mundial, dando origem a conflitos de interesses na sua reserva, utilização, gestão e distribuição. **Objetivo:** descrever uma visão geral das dimensões sociais e económicas dos recursos hídricos com base na sua utilização. **Materiais e Métodos:** estrutura-se a partir de uma metodologia qualitativa documental, baseada na consulta de livros, artigos científicos em bases de dados virtuais, relatórios, instrumentos normativos internos e internacionais que permitiram o desenvolvimento de um escopo descritivo e interpretativo do recurso hídrico. **Resultados:** o valor agregado a um recurso natural como a água tem gerado transformação e adaptação aos processos de uso, gestão, reserva, escassez, manutenção e distribuição, em que o interesse ou visão sobre a água tem moldado os sistemas sociais e económicos de diferentes sociedades. **Conclusões:** as dimensões expostas dão um panorama em diversas categorias da água como um líquido vital limitado que coloca as sociedades em situação de stress hídrico, em estado de vulnerabilidade do direito à vida individual e colectiva, transgredindo o estado de bem-estar sustentável em que se encontram os diversos sectores da sociedade para assegurar o acesso e a garantia do líquido vital mínimo.

**Palavras-chave:** Água; Con lito; Meio Ambiente; Políticas Públicas; Sustentabilidade.

### Perfil

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## Introduction

Processes of social, economic and cultural dynamics have globally determined a conceptual diversity with respect to "water" which has been determined by society itself based on its interests and needs, creating socio-economic scenarios that allow it to have through "power", control, distribution and use of water, considering that societies through social institutions have created ways to meet the basic needs of natural resources.

Water takes on a substantive value when it is seen as more than a simple natural resource derived from the value added according to the environments and contexts of societies. In recent decades it has been considered a national and global security issue.

But why address the socioeconomic and environmental context of water? It is important to point out the need to understand the facts from the system itself, approaching through the dimension of categorizations the meaning of water and the derivation it has directly in societies, resulting binding the appropriation of the meaning of the water resource for the development of the societies themselves. On the other hand, it transcends the importance of understanding an environmental fact binding to socio-economic circumstances/texts; moving from being a merely environmental fact to a socio-environmental fact in a global economic and power structure.

There is no denying that latent, emerging and manifest conflicts have arisen as a result of the interests underlying water resources. The different legal, social, economic and cultural contradictions applicable to water resources have created scenarios that must be understood on the basis of the different conceptions that emerge, transform or correlate; it is then that in the development of this work essential aspects are analyzed that give guidelines to the socioeconomic dynamics and evolution or transformation of the conception of water resources.

## II. WATER IN ITS VARIOUS CATEGORIES

It is a human paradox to be able to define a single meaning of water, since reality does not always agree with what is estimated in theory. The minimum vital or no access to water, has taken up in an uncompromising way the need to reconstruct according to their needs and interests the elements of the term of this water resource, essentially contemplating the economic, political and to a lesser extent the social and environmental aspect.

Various aspects that emerge from this dynamic crisis of the water resource are developed, based on theoretical, institutional and legal positions that allow confronting precisely the approaches and management of the concept, creating unique scenarios or with a common goal that aim at the sustainability of the water course in the economic system, which does not precisely protect by dignifying, guaranteeing and satisfying access, for the public good (Fernandez, 1999).

### 1. Natural resource

This natural resource would not be such without considering its chemical components H<sub>2</sub>O, that is, two atoms of hydrogen joined to one of oxygen; the union forms a molecule, a group of atoms in the form of a compound, an association of atoms, which are divisible into atoms of different nature; from which derives a hydrological cycle which moves water as streams, lakes, lagoons, rivers and oceans; as well as three states, solid, liquid and gaseous; any of these three states depend on the temperature at which it is exposed.

The international glossary of hydrology (2012) defines water as the liquid phase of a chemical compound consisting of approximately two parts hydrogen and one part oxygen by weight.

Water is considered a natural resource because it is part of interacting ecosystems and is a means of survival for many species.

within a system of life cycles, that is, it provides other sources of existence from the maintenance and reproduction of life, since it integrates the development of the biological processes of all living beings (Monge, 2004), which is why it acquires importance or value for the organisms that depend on it.

Among these living organisms is the human being, as the only being capable of reasoning and determining the greatest benefits of water from its sustainable use, but without ceasing to consider that it is part of the habitat.

García (2008) considers it to be a naturally necessary, limited resource and, as a result of human action, a scarce resource. The conceptualization of water is transformed according to the circumstances, situations or contexts that determine its use, maintenance, exploitation and distribution, constituted on the basis of the "added value" granted by the individual from his or her sphere of competence.

**Tabla. 1**  
*Categorías del agua*

Aspecto	Interés o visión	Valor agregado
Químico	Molécula formada por dos átomos de hidrógeno y uno de oxígeno	
Social	Bien común, bien público	
Cultural	Cosmovisión	
Económico	Producto Privatización Sobreexplotación	
Político-gubernamental	Servicio Medio de cohesión y poder	
Ambiental	Recurso natural y vital	
<i>Como derecho humano</i>		

Value added processes are condensed from the industrial revolution, although it brought growth and development factors, elements of denaturalization are identified between human beings and nature, through the dualism that represents the transformation of land, forests, jungles, water, seeds, of all natural resources.

The approach is granted as a natural resource from its innate form of non-manipulation or intervention by humans, otherwise, its natural cycle is altered directly by the activity of the subject and naturally to a certain degree by climate change (Céspedes, 2011).

Klare (2002) states that in a gradual process, societies are becoming aware of critical scenarios in the demand for raw materials due to scarcity, overexploitation, limitation and other factors, causing the unsustainability of some natural resources for present and future generations; in other words, a chain of extinction of natural resources is worsening, which directly and indirectly affects in the medium and short term the dignified life and functions of societies in a welfare state.

## 2. Vital asset

The state of need of human beings with respect to water resources as a vital good, estimates the figure of the person as a citizen in societies constituted as a State, in which fundamental rights are articulated and recognized for the development of a dignified life, being embodied in domestic and international normative instruments, contemplating water as a vital good. According to Iñigo's research, (2019) this type of plans and programs that encourage environmental education should be instilled in the educational environment, promoting meaningful learning that starts from the theoretical and reaches the practical, where it is not only about educating students but also influencing their families.

The Universal Declaration of Human Rights, since seventy-three years ago, in Article 25.1 states that "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood".

of subsistence due to circumstances beyond their control". In this sense, in order to integrate an adequate standard of living with the aforementioned elements, water is directly and indirectly required as a source of vital goods that ensure access to the rights described above.

Article 11.1 of the International Covenant on Economic, Social and Cultural Rights recognizes the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The benefit of water is not only seen in an individual way, but with a collective scope that contemplates minimum conditions of existence and survival.

The United Nations General Assembly (2004), through resolution 58/217, declared the International Decade for Action (2005-2015) "Water for Life", in which water was pronounced as a fundamental resource for sustainable development, i.e., it represents viability to address poverty, health and human wellbeing. In the Sustainable Development Goals, it states in goal six to ensure the availability of water and its sustainable management and sanitation for all, with the ultimate goal of ensuring the efficient use of water based on a process of intervention by the States and citizen participation (Azamar, 2018) of local communities.

According to the Ibero-American Dictionary of Human and Fundamental Rights (2012), the minimum vital right is based on human dignity, solidarity, freedom, material equality and the social state; this right is based on solitude and freedom, considering that people, in order to fully enjoy their freedom, need a minimum of economic security and the satisfaction of basic needs.

Carmona (2006), from the social aspect of the vital minimum, points out that all individuals in a community have the right to have a minimum amount to meet their most basic needs.

In this sense, Vargas (2012) proposes a fourth state of water in addition to the liquid, solid and gaseous, which he has named as water-life, with the purpose of being perceived as sacred from the conception of life itself, defining it based on the biological, cultural and social value of this vital element, avoiding the separation of its ethical essence.

Dowbor (1999), considers that water is vital, that it is becoming a key element of the process, its absence or contamination leads to the reduction of vital spaces, causing, in addition to immense human costs, a global loss of social production, which he considers vital, due to the dynamics derived from the processes that cause absence or contamination, resulting in the reduction of vital spaces and enormous human costs.

### 3. Common good

Water as a source of life represents a shared good, however, it seems that human beings decided on their own that water belongs to them, subsisting in a state of amnesia to such a degree that within their own species they have been delimiting who and how much of the water resource they should provide or limit. In this regard, Barlow (2009a) expresses that in the common sphere, through its own language, a consensus of water equity is restored, reconsidering the supremacy of citizenship in its conservation, as opposed to what ownership entails.

The European Charter, since its drafting on May 6, 1968 in Strasbourg, establishes through twelve articles that water is a treasure, that it is the blue gold in the 21st century, that it is a common good whose value must be recognized by all, with the responsibility and duty to save it and use it with care, requiring international cooperation.

Petrella (2004) points out that the indispensable and irreplaceable nature of water makes it a common good, from whose access no one can be exempted without any reason or motive; it has come to be considered as the common natural heritage of humanity



as a prerequisite for the fulfillment of human rights and even, given its basic need, as a fundamental right (Semanario Judicial de la Federación, 2005). Otherwise, we would suffer situations of vulnerability, confrontations, even the very extinction of the human being.

The criterion of world heritage is reiterated by Veraza (2007) as a constitutive and generative premise of life, which today has the external form of a non-renewable and vital natural resource, and considers the water resource as a good or use value, an external means of life manipulated by human beings in a social or individual way.

In this process of use and exploitation it is applied as a collective good interest in which the idea is to satisfy basic interests and needs (Dowbor et al., 2018), that grant access and guarantee of water, being so that water acquires that value at the moment it has insertion in the market which is justified with the Hydro-utile Procedures (PHU) in which through the intervention of the work of man ad- wants a value, which should not be exorbitant should only be the real cost of the procedure involved; respecting the right of access and use as a vital and common good for the dignity of society.

According to the World Health Organization, the amount of water per inhabitant is a minimum of fifty liters per day to cover basic hygiene and food needs; but in the development of these two decades of the 21st century, that portion of water that by right corresponds to each human being is quite the opposite, some lack it, others have to travel long distances to obtain it and others are surviving with fifty liters of water per week distributed among all the members of the family.

174 The situation at the global level is not at all encouraging; the natural resource of water is being increasingly overexploited, as already mentioned, it is a condition for human life. As a common good, it is necessary to accept integrated, cross-cutting and sustainable management on a small to large scale, starting with the organization of water resources.

However, the water stress crisis, contamination of water bodies, overpopulation, water use and exploitation in other sectors of society (livestock, industry, among others), and climate change must be taken into account.

As a common good, the right of every person to have access to water that guarantees its use, integrated management and distribution as a public good must be protected; furthermore, as societies constituted in States, there is a shared co-responsibility of rights and obligations that contemplates mechanisms of access to justice in the event of damages or omission of said right.

#### 4. Human Right

In the international and universal legal framework for a healthy environment, human rights are recognized from the third generation (violations of collective rights), including the right to enjoy a healthy and ecologically balanced environment; ecological damage; the right to enjoy the common heritage of mankind; the right to peace and the right to be different, which are considered of a collective and diffuse nature.

Since the incorporation and recognition in the Universal Declaration of Human Rights in Article 25.1, which states "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family..." although it does not tacitly express the recognition of the right to a healthy environment, it is taken for granted that the development of the right to an adequate life with health and well-being must be guaranteed by a natural environment (Pulgar, 2020) considering the satisfaction of basic needs, while at the same time providing resources for future generations.

The antecedent of the recognition of the right to water can be traced back to 1977 in Mar de Plata, Argentina, at the United Nations Water Conference, where it was proclaimed that all people have the right to have access to water.

drinking water in quantity and quality equal to their basic needs.

The United Nations, through Resolution 64/292 adopted by the General Assembly on July 28, 2010, recognizes that the right to safe drinking water and sanitation is an essential human right for the full enjoyment of life and all human rights.

The Universal Declaration of Emerging Human Rights, in terms of the environment, considers it important and even vital to guarantee water through the conditions necessary for the survival of human beings.

According to General Comment No. 15 (2002), it is understood that this right is for all persons and that therefore one has the right to dispose of it in the following manner:

- Sufficient. Continuous and permanent supply.
- Sanitary. Free of microorganisms, chemicals and toxic-hazardous material that threaten the health of the human species.
- Acceptable. The water resource must have an acceptable color, odor and taste,
- Affordable. Access services and facilities should be feasible and possible for personal and domestic use.

The right to sanitation is highlighted as the right of access to this adequate and safe service in order to protect public health as well as the environment (UN, 2005).

The human right to water is linked to other human rights such as the right to health, food, housing, life, education, without forgetting that they are related to the fundamental principles of human rights, such as the right to health, food, housing, life and education.

social justice (UNDP, 2006) concerning equality of citizenship; the social minimum; the vital minimum; equality of opportunities and fair distribution.

Cossío (2015) states that water as a right is a resource regulated in different ways in the Constitution and its understanding is a complex model from its understanding to its operation, aggravated in its operation by the imperative of being able to satisfy this "basic human need", which leads to reflect on the feasibility of framing this satisfaction as a human right, considering that it not only represents an old issue, but also that a new form of resilience to this term and applicability is needed.

Thus, the enforceability and compliance in accordance with the new needs and demands for attention to this right, in which an interdisciplinary vision must be contemplated, brings us closer to understanding social realities that determine a real interpretation of the fact from the conjunction of involved actors, giving rise to a reconversion of legal identity through its concrete content, meaning and scope.

## 5. National and global security

The access, reservation, use, management, maintenance and distribution of water resources have led to situations of socio-environmental conflict in various contexts. Gallopín (1986) states that the set of human actions that affect the natural ecological system and the set of ecological effects generated in nature affect the social system (p. 161). This has an impact not only on the threat but also on the detriment of the environment and therefore on human security (Domínguez, 2019) for which societies must foresee resilience processes from the state of vulnerability.

Water security is understood as the capacity power of people through actions to sustainably safeguard water (Villena, 2018) in terms of quantity and quality that allows for the

access to a state of dignified life, well-being and development; in order to protect against all possible forms of contamination by action or omission, preserving ecosystems in a stable manner.

The nature of national and global security is considered based on guaranteeing the survival and development of human, animal and plant life (Black, 2005), since the lack of access to or scarcity of water makes it impossible for nations to ensure the growth, development and well-being of their societies, due to the emergence or worsening of conditions of poverty, migration, displacement, dehydration, new diseases, epidemics, viruses, among others, which leads to a process of unsustainability.

UNESCO (2012) through the International Hydrological Program-IHP (2016) grants security based on the challenges of water-related disasters and hydrological changes; groundwater in a changing environment; water scarcity and quality; water and human settlements; eco-hydrology; education and water culture. The latter as a key element for establishing water security in view of the factors of population growth, industrialization and urbanization, which increase ecological and human vulnerability.

For the World Bank, according to The Global Risks Report (2016), water security continues to be one of the global risks; population and economic growth are putting unprecedented pressure on this resource; it proposes as mechanisms for universal water security, to eliminate extreme poverty by the end of 2030 at the latest, and the second is to boost prosperity. However, these mechanisms must be addressed at the local, regional, national and global levels, and governments must uniformly consider public policy actions that address each particular context based on its needs.

In 2012, the Supreme Court of Justice of the Nation in Mexico, warned that from the conception of human rights and the concept of security

The right to drinking water and sanitation becomes fundamental and indispensable for the realization, enjoyment and enjoyment of other human rights, whose preservation in quantity, quality and sustainability (Fuerte, 2019) is a fundamental task of both the State and society, since this right is based on the premise of access to the welfare of the entire population, supported by the principles of equality and non-discrimination, regardless of the social, gender, political, economic or cultural circumstances of the community in which it operates.

Aboites (2011), points out that in the mid-twentieth century there was a vision of the use of water as a source of progress for development; however, at the end of that same century, governments began to reconsider that position now under a scheme of optimization due to scarcity and pollution; this is derived from the actions and consequences of agricultural processes and industry; in addition, a series of events that call for the care of natural resources began to emerge worldwide (p. 89). In the case of Mexico, the water that had to be dominated and controlled became the water that had to be cared for.

## 6. Water as a commodity

The UN General Assembly, through resolution 64/292, issued two transcendental resolutions; the first recognizes the right to drinking water and sanitation as an essential human right for the full enjoyment of life and all rights; the second refers to providing access to drinking water and sanitation in an economical manner; otherwise, real access to this right would not be guaranteed.

This refers to the human right to water and those linked to it, the guarantee of access to all people, satisfying the minimum needs and freedoms for a dignified life. Aguilar (2015) points out that the extreme degree to which a good necessary for life can be labeled and even banked as one more input in the production-consumption binomial. Water, as the Court of Appeals has made clear



The Hague, it is a public good and no one can aspire to have control over it (p. 10). However, it must be considered that, in order to guarantee the human right to drinking water and sanitation, the State requires infrastructure that guarantees integrated management (Martínez & Villalejo, 2018) and processes for the use and distribution of water in a sufficient, safe, acceptable and affordable way, so that the citizen must take care of it and make a proportional payment for the maintenance of such infrastructure. In this regard, Guerrero and Schifter (2014) describe that water intervenes in the energy value chain at three stages: in the production of raw materials; in their transformation for consumption; and finally when they are delivered to consumers. In this last phase, water is not consumed directly, only in the distribution system (p. 115).

The International Decade for Action "Water for Life 2005-2015" recognized the so-called green economy system, aimed at improving people's well-being and reducing inequalities in the long term, while avoiding exposing future generations to environmental risks.

Nature has become a deposit of raw materials awaiting transformation into inputs for the production of goods (Meeker, 1987), which acquire an economic exploitation; it is then considered to become part of a series of manageable objects or materials, leaving aside the life of that natural resource.

The usefulness and importance of natural resources in the neoliberal system has allowed large societies to develop and evolve, being consolidated world powers according to means of production and intellectual, human and economic capital that manage the administration of resources according to the market of supply and demand.

Water as a commodity can be conceived from three characteristics; the first one resides in the estimation of the price, in the cost of supplying it, in its

The first is the privatization of water supply through the privatization of water as a service that provides the resource. The second is to empower and empower the market on the basis of the "efficiency and quality" of water supply through the privatization of water as a service that provides the resource. The third is precisely private ownership. According to Langford and Khalfan (2006) there is a mercantilist vision of cost-benefit, prices and permanence in the market according to supply and demand (p. 31-34).

Barlow (2009b), highlights the way in which water resources are traded through production, he refers to the term virtual water trade as the water resource consumed in the production of crops or manufactured products for export (p. 24), it is considered virtual because it is no longer contained in the product, although large quantities of water were used in the production process.

### III. OBJECTIVES

*Social and Economic Dimensions of Water Resources* is a research document that aims to describe an overview of the social and economic dimensions of water resources based on their use in the various spheres and contexts of societies that have stipulated a series of categorizations according to their interests and needs.

It exposes the dimensional categorizations of water as a natural resource, vital good, common good, human right, national and global security and as a commodity in the neoliberal economic system, which leads to understanding the linkage and correlation of water as a natural resource to socioeconomic contexts.

### IV. METHODOLOGY

This document is structured based on a qualitative methodology (Garza, 2013) of documentary type, based on the consultation of books, scientific articles in virtual databases, reports, internal and international normative instruments.

that allowed the development of a descriptive and interpretative scope of the water resource. This allows correlating the dimension of essential aspects that give guidelines to the socioeconomic dynamics and evolution or transformation of the conception of water resources.

## V.CONCLUSIONS

The dimensions presented here point to a theoretical, conceptual and normative approach that allows us to understand that the use, management, access and distribution of water is becoming more acute at the global level; to this end, it is important to link society with concrete actions at the local, regional, national and international levels in conjunction with decision-makers that will lead to preventing or counteracting conflict or violence over access to water.

Although reality is fragmented, it should be understood that the human being is part of a world in which he is not alien to it; the subject is an evolutionary being who, like all living beings, has a life cycle within a habitat; in this case, the human being, as a social subject, as a citizen, as a person, should consider that it is he who depends on the environment and not the environment on him. From the value added to the natural course of water by societies themselves, there has been a transformative process in the social and economic sphere, seeking to ensure a complex system of water resources that does not violate its sustainability.

## References

- Aboites, A. L. (2011). *De bastión a amenaza. Agua, políticas públicas y cambio institucional en México, 1974-2001*. En Graizbord, B. & Arroyo, A. (Coords.), *El futuro del agua en México*. COLMEX, PROFMEX.
- Aguilar, O. E. A. R. (2015). Genealogía del derecho al agua en México, en *Derecho Humano al agua, Revista Impluvium*, (4), 1-10.
- Azamar, A. (2018). Distribución de agua en México y participación ciudadana. *Revista de economía regional y sectorial*, 10(1), 25-47.
- Barlow, M. (2009a). El agua nuestro bien común, hacia una nueva narrativa del agua. HEINRICH BÖLL STIFTUNG.
- Barlow, M. (2009b). El convenio azul, la crisis global del agua y la batalla futura por el derecho al agua. HEINRICH BÖLL STIFTUNG.
- Black, M. (2005). *El secuestro del agua, la mala gestión de los recursos hídricos*. Bigsa.
- Carmona, C. E. (2006). Los derechos sociales de prestación y el derecho a un mínimo vital, *Revista Nuevas políticas públicas: Anuario multidisciplinar para la modernización de las Administraciones Públicas*, (2), 172-197.
- Céspedes, H. (2011). *Pobreza y escasez de agua, en el México del siglo XXI*. Novum.
- Comité de Derechos Económicos Sociales y Culturales. (2002). *Observación General No. 15. El Derecho al Agua*. <https://agua.org.mx/biblioteca/observacion-general-15-onu-derecho-al-agua-2002/>
- Cossío, D. J. R. (2015). *Derecho y ciencia*. Tirant lo Blanch.
- Diccionario Iberoamericano de Derechos Humanos y Fundamentales. (2012). Programa Regional de Apoyo a las Defensorías del Pueblo en Iberoamérica. <https://www.pra-dpi.es/es/>

- Domínguez, J. (2019). *Seguridad hídrica en la Ciudad de México: riesgos de inundaciones*. Colegio de México- Centro de Estudios Demográficos, Urbanos y Ambientales.
- Dowbor, L. (1999). *La reproducción social*. Siglo XXI.
- Dowbor, L., Esteves, A. & Panez, A. (2018). Reapropiaciones de los bienes comunes: miradas críticas en torno a la gobernanza hídrica. *Revista Rupturas*, 8(2), 33-57. <https://dx.doi.org/10.22458/rr.v8i2.2112>
- Fernández, J. C. A. (1999). El agua como fuente de conflictos: repaso de los focos de conflictos en el mundo. *Afers internacionals*, (45-46), 179-194.
- Fuerte, D. J. (2019). Sustentabilidad y la gestión del recurso agua en México: una revisión histórica. *Economía y sociedad*, XXIII (40), 13-27.
- Gallopín, G. (1986). *Ecología y ambiente, los problemas del conocimiento y la perspectiva ambiental del desarrollo*. Siglo XXI.
- García, A. (2008). *El derecho humano al agua*. Trotta.
- Garza Mercado, A. (2013). *Manual de técnicas de investigación para estudiantes de ciencias sociales y humanidades*. COL-MEX.
- Guerrero, M. & Schiffer, I. (2014). *La huella del agua*. FCE.
- International glossary of hydrology. (2012). *World meteorological organization*. UNESCO.
- Iñigo, L. (2019). Educación para la preservación para el medio ambiente. *Collectivus: Revista de Ciencias Sociales*, 6(1), 215-234.
- Klare, T. M. (2002). *Resource wars: the new landscape of global conflict*. Owl Books.
- Langford, M. & Ashfad, K. (2006). *Introducción al agua como derecho humano, en La gota de la vida: hacia una gestión sustentable y democrática del agua*. Böll.
- Martínez, Y. & Villalejo, V. M. (2018). La gestión integrada de los recursos hídricos: una necesidad de estos tiempos. *Ingeniería Hidráulica y Ambiental*, 39(1), 58-72.
- Meeker, J. (1987). Misused Resources (recursos maltratados), *resurgence*, (125).
- Monge, C. (2004). *La naturaleza del agua como recurso, perspectiva social, económica e institucional de una gestión integral*. Congreso Ibérico sobre gestión y planificación del agua, Tortosa.
- Naciones Unidas. (2004). Resolución aprobada por la Asamblea general. Quincuagésimo octavo período de sesiones, 58/217, decenio internacional para la acción “el agua, fuente de vida”, 2005-2015. [https://www.un.org/waterforlifedecade/pdf/a-58-217 spanish.pdf](https://www.un.org/waterforlifedecade/pdf/a-58-217%20spanish.pdf)
- Naciones Unidas. (2010). Resolución A/RES/64/292, Comité de Derechos. [https://www.un.org/spanish/waterforlifedecade/human\\_right\\_to\\_water.shtml#:~:text=El%2028%20de%20julio%20de,de%20todos%20los%20derechos%20humanos](https://www.un.org/spanish/waterforlifedecade/human_right_to_water.shtml#:~:text=El%2028%20de%20julio%20de,de%20todos%20los%20derechos%20humanos).
- Naciones Unidas. (2015). Desarrollo de Objetivos Sostenibles. Objetivo 6: Garantizar la disponibilidad de agua y su gestión sostenible y el saneamiento para todos. Recuperado de <https://www.un.org/sustainabledevelopment/es/water-and-sanitation/>
- ONU. (2005). Directrices para la realización del derecho al agua y saneamiento, Adoptadas por la subcomisión de promoción y protección de los derechos humanos. [https://www.un.org/spanish/waterforlifedecade/pdf/human\\_right\\_to\\_water\\_and\\_sanitation\\_milestones\\_spa.pdf](https://www.un.org/spanish/waterforlifedecade/pdf/human_right_to_water_and_sanitation_milestones_spa.pdf)
- Petrella, R. (2004). El manifiesto del agua para el siglo XXI. ICARIA.
- PNUD. (2006). *Informe sobre Desarrollo Humano 2006, más allá de la escasez: Poder y la crisis mundial del agua*. [http://hdr.undp.org/sites/default/files/hdr\\_2006\\_es\\_completo.pdf](http://hdr.undp.org/sites/default/files/hdr_2006_es_completo.pdf)
- Programa Hidrológico Internacional (PHI). (2016). 22ª reunión del Consejo Intergubernamental. <https://en.unesco>.

org/sites/default/files/es-ihp\_ic\_xxii\_01\_agenda\_prov.pdf

Pulgar, A. (2020). El derecho humano al agua y al saneamiento y su relación con la protección del medio ambiente en América Latina. *Anuario de derechos humanos*, 16(1), 99-118.

Semanario Judicial de la Federación. (2005). Novena Época, Tesis: II.Io.A.110, t. XXII. [http://sistemabibliotecario.scjn.gob.mx/sisbib/CST/SJFG\\_2005/09/189273\\_T\\_II.pdf](http://sistemabibliotecario.scjn.gob.mx/sisbib/CST/SJFG_2005/09/189273_T_II.pdf)

UNESCO, (2012). IHP/2012/IHP-VIII/1, Plan Estratégico PHI-VIII 2014-2021. [https://unesdoc.unesco.org/ark:/48223/pf0000218061\\_spa](https://unesdoc.unesco.org/ark:/48223/pf0000218061_spa)

Vargas, R. (2012). *Territorios del agua-vida: cultura y democracia en Cultura del agua en México*. MAPORRUA.

Veraza, J. (2007). *Economía y política del agua*. Itaca.

Villena, J. A. (2018). Calidad del agua y desarrollo sostenible. *Rev Peru Med Exp Salud Publica* 35(2) 304-8 <https://doi.org/10.17843/rpmesp.2018.352.3719>

World Economic Forum (2016). The Global Risks Report. 11th Edition. [http://www3.weforum.org/docs/GRR/WEF\\_GRR16.pdf](http://www3.weforum.org/docs/GRR/WEF_GRR16.pdf)