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WATER CRISIS IN THE ANTHROPOCENE: AN ANALYSIS OF HOW THE CONCEPT OF GLOCAL GOVERNANCE CAN WORK AS A CATALYST TOWARDS ENSURING THE HUMAN RIGHT TO WATER

A CRISE HÍDRICA NO ANTROPOCENO: UMA ANÁLISE DE COMO O CONCEITO DE GOVERNANÇA GLOCAL PODE ATUAR COMO CATALISADOR PARA GARANTIR O DIREITO HUMANO À ÁGUA

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Abstract

This research explores the concept of glocal governance as a means of promoting the human right to water. The problem emerges from the multifaceted global water crisis of the Anthropocene and its impacts on the realization of the human right to water. In this respect, how is it possible to achieve the full implementation of the human right to water? It's been emphasized that the theory of glocal governance might serve as a catalyst to ensure the human right to water. This study contributes to the fields of Environmental Law, Sustainable Development and Human Rights. The goals of this research are: to present a normative explanation about the human right to water; to analyze the water crisis in the age of the Anthropocene; to clarify the concept of glocal governance; to demonstrate how glocal governance can implement the human right to water. The methodology applied is based on the hypothetical-deductive method through a bibliographic review. It's been evidenced that glocal governance plays a key role in enabling localities to design policies that balance local needs with global sustainability goals in the Anthropocene, ultimately providing efficient ways to ensure the human right to water.

Resumo

Esta pesquisa explora o conceito de governança glocal como um meio de promover o direito humano à água. O problema emerge da crise hídrica global multifacetada do Antropoceno e seus impactos na realização do direito humano à água. Nesse sentido, como é possível alcançar a plena implementação do direito humano à água? Se enfatiza que a teoria da governança glocal pode servir como um catalisador para garantir o direito humano à água. Este estudo contribui para os campos do Direito Ambiental, Desenvolvimento Sustentável e Direitos Humanos. Os objetivos desta pesquisa são: apresentar uma explanação normativa sobre o direito humano à água. analisar a crise hídrica na era do Antropoceno. esclarecer o conceito de governança glocal. demonstrar como a governança glocal pode implementar o direito humano à água. A metodologia aplicada é baseada no método hipotético-dedutivo por meio de uma revisão bibliográfica. Se evidencia que a governança glocal desempenha um papel fundamental ao permitir que as localidades elaborem políticas que equilibrem as necessidades locais com as metas globais de sustentabilidade no Antropoceno, fornecendo, em última análise, maneiras eficientes de garantir o direito humano à água.

Keywords: Anthropocene. Degrowth. Glocality. Human Rights. Water Crisis.

Palavras-chave: *Antropoceno. Crise Hídrica. Decrescimento. Direitos Humanos. Glocalidade.*

1 INTRODUCTION

Water is the essence of life in the world. It is a multi–purpose resource. Water is an exceptional resource with unparalleled attributes. Water cannot be replaced by any other resource since it is exclusively essential for the maintenance of life. This substance permeates a myriad of human usages such as domestic, agricultural, industrial, economic development and livelihood security.

The importance of water is so relevant that it obtained the recognition of a human right – the human right to water. Therefore, the subject of this investigation is related to the concept of *Glocal Governance* as a way of promoting the human right to water. In other words, it sheds light on how the concept of glocal governance might serve as a catalyst towards ensuring the human right to water.

In this respect, given a multifaceted global water crises in an age called *Anthropocene*, characterized by a multiplicity of challenges such as climate emergency, environmental degradation, neoliberal rationality, water commodification, social and economic inequalities, obsolete water governance, water conflicts, globalization, etc, the human right to water has been facing several hindrances in regards to its implementation. In this context, how is it possible to guarantee this right in its fullness?

In this respect, it's been emphasized that the theory of glocal governance, allied with some of the currents of the Degrowth theory, intertwine perspectives with the human right to water, sharing light as a very promising pathway that might help to promote the full realization of such a right. Thus, this investigation serves as valuable contribution onto the fields of Environmental Law, Sustainable Development and Human Rights.

The goals of this research are: to present brief and normative explanation about the human right to water. to analyze the water crisis in the age of the Anthropocene. to introduce and clarify the concept of glocal governance. to demonstrate how glocal governance along with the Degrowth theory might implement the human right to water.

The methodology applied throughout this research is based on the hypothetical-deductive method, through a bibliographic review. It's been evidenced that the glocal governance concept can be applied in the context of emerging issues such as water crisis and reveling significant pathways when it comes to facing global challenges through a localized approach and, ultimately, assisting on the realization of the human right to water.

2 THE HUMAN RIGHT TO WATER: A GLOBAL COMMITMENT

In Chellaney's (2015, p. 113), own words "Water – literally the bloodstream of the biosphere", emphasizing the idea of a life-sustaining resource on which all forms of life are vitally dependent on. Nonetheless, the contrary is also true, at the same time it potentially reveals a source of risk and vulnerability, simply, because water can serve as a vehicle of bacteria, microorganisms and/or chemicals, ultimately, generating diseases and causing environmental hazards (SWAN. COLINO, 2021). Besides, water can create chaos at the context of extreme weather events such as floods, tsunamis, etc. On other instances, water can proportionate cooperation but also conflict. This duality demonstrates a life preserver as well as a life destroyer element, depending on the context.

Water is so important that it obtained the recognition of a human right – the human right to water. Historically speaking, one of the earliest conceptions of a human right to water comes from one of the oldest and most widely influential legal systems—the *Sharia Law* system. In light of the geographical and climatic context of the Arabian Peninsula, the importance given to water rights into the *Sharia Law* is reasonably predictable. By this segment, the *Sharia Law* recognizes a right to irrigation, called by the terminology *shirb*, and a right for humans and animals to quench their thirst, expressed in the word *shafa*. These rights are implemented in various ways, depending on local laws and sectarian interpretations, but they include certain general principles, among them, the principle of equality in water distribution (LARSON, 2020).

Water rights under Sharia Law and the emphasis on natural uses highlights one of the key challenges in defining and enforcing a human right to water – determining its scope and limitations. A central question that always caused a bit of confusion is the scope's extent of a human right towards water, in other words, does it only apply to

drinking water for survival purposes, domestic water uses, or a broader range of possibilities which might include food production and energy development? Of course, those are historical perspectives and nuances through an effort to ponder about the limitations of the human right to water. However, despite the interesting academic and theoretical reflections, Larson (2020) claims that one thing is for sure, that is, the human right to water is exclusively concerned with humans and, therefore, it reveals an inherently anthropocentric character.

In this sense, water uniquely complicates social processes because it is the only essential resource that a government can provide and for which there is no substitute. While there are alternatives for food, energy, housing, education, employment, and health, water is irreplaceable and crucial for everyone. Water is central to both the history of ancient civilizations and our hopes for the future, representing an essential element in all aspects of life and death[1].

Taking into account the assumption that access to water is a basic human need, this fact alone wasn't enough to imply that water should be formally recognized as a human right. However, in the political realm, in 2010, the United Nations General Assembly and the Human Rights Council formally recognized the right to water as a human right with the adoption of Resolution 64/292 (UNITED NATIONS, 2010).

Henceforward, States have to respect, to protect and to fulfil the human right to water. Moreover, States are obliged to ensure non-discrimination in any measures they take, as well as to pay special attention to disadvantaged, marginalized and vulnerable groups and individuals. Concerning the obligations arising from the human right to water, Winkler (2014) establishes a tripartite typology, that means, the obligations to respect, to protect, and to fulfill. The first one refers to the idea that States must respect water supplies in the context of human rights standards, avoiding any type of damage on water resources and not limiting water access for those individuals whose situations are

[1] Complementary, it also remains opportune to notice a philosophical comprehension postulated by the political philosopher John Rawls (2020) who argued that if human beings were placed in an original position behind the veil of ignorance – starting a new world, without knowing what the individual circumstances would be in this new world, everyone would certainly agree with the provision of certain primary goods to each individual, given that primary goods are those rights and resources necessary for the realization of all other rights and responsibilities. Water undoubtedly appears as the most powerful Rawlsian primary good, as it is inevitable that no other good is more important than water, due to its exclusive characteristic of dependence for the maintenance of life.

considered to be vulnerable. The second one suggests that States must protect any type of unequitable allocation of water – even if that means the use of legislative power and control – preventing, for example, that any person should be excluded or hindered from water access due to the interference of another person. In this context, equitable access to water is vital. Finally, the third one implies that States must provide means and conditions to satisfy the realization of the human right to water. In this perspective, States must fulfill the human right to water especially for those individuals who are not able to attain water services by themselves. Additionally, the obligation to fulfill also comes into scene on contexts of extreme upheaval such as, for instance, natural disasters.

By the same token, in order to guarantee the complete fruition of the human right to water, it is imperative to pinpoint some key and fundamental elements such as availability, safety or acceptability, accessibility and, finally, affordability. First of all, when it comes to the element of availability, it acknowledges that water has to be assured for the purpose of drinking and domestic uses, in other words, water has to be available in quantities able to satisfy human survival as well as for domestic purposes such as personal hygiene, sanitation and cooking meals. Furthermore, in relation to the exact quantity of water in a person's daily use, it is impossible to precisely determine the amount of water needed to fulfil the human right to water, this is because the requirements may vary due to a multiple of other variables such as climatic conditions, cultural water practices, etc. Nonetheless, the World Health Organization (2023) recommends that between 50 to 100 liters of water daily or more may be considered optimal for basic needs and health concerns.

In the second instance, in reference to the element of safety or acceptability, it is a verified fact presented in the common knowledge realm that contaminated water can serve as a vehicle for parasites, heavy chemicals and diseases and, therefore, it can seriously jeopardize human health when consumed. Thus, water should also be safety for consumption and of such a quality that does not present any risk to human health. Additionally, water intended for personal and household use should have an acceptable appearance, smell, and taste. (WINKLER, 2014).

Thirdly, regarding the topic of accessibility, it literally means its physical access, period. Therefore, when thinking about accessibility it extends to the physical infrastructures such as pipes, distribution networks, connections, water tanks, artesian

wells, springs, etc. Equally, inside the scope of the human right to water, the element of accessibility also includes water distribution among public and institutional facilities such as hospitals, schools, work places, etc (WINKLER, 2014).

Last but not least, on the aspect of affordability, it essentially suggests that the human right to water should not be provided necessarily for free. Instead, it implies that water should be affordable – usually as a way of compensation for water services and distribution. However, it doesn't signify that those individuals who are in a context of vulnerability – living in extreme poverty, for example – are obliged to pay for their water consumption. Under exceptional circumstances the States should provide a certain amount of water free from any charges (GLEICK, 2023).

After exposing its legal significance and theoretical framework, it remains imperative to explore its relationship of the right to water within other categories of human rights. In the following subsection it'll be addressed the similarities, interconnections, and differences with the human right to water and other human rights, emphasizing the multidimensional character of the water element.

2.1 Water and its relationship within other human rights

Given the multifaceted character of the water element, it is significant to pinpoint its interconnectedness throughout the human rights scope. Therefore, it is not hard to presume the impossibility of isolating the water element into the single category of the human right to water, that is, due to the element's overarching character it goes further beyond this categorization permeating other categories of human rights. In this section, it'll be explored some of the affinities and/or relationships that the element of water shares with other sets of human rights – and, in some circumstances, how the human right to water interplays as a precondition for the achievement of other human rights.

First and foremost, in order to fathom the magnitude of the element of water and how far it can encompass amidst other categorizations of human rights, it would be thought-provoking to start with what may be considered the least expected relationship among categories, that is, water and the human right related to freedom of religion. On one hand, depending on the type of religion, water comes into play as a determinant element for the performance of religious practices and rituals, ultimately, also serving as

an implicit catalyst supplementing the exercise of the human right of freedom of religion. On the other hand, in certain aspects, the human right of freedom of religion may also have a profound significance when it comes to the topic of water policy and water conservation. For example, for the purpose to perform ceremonial rituals or baptisms, most people would tend to use clean water instead of polluted water[2]. Therefore, it applies for a conservationist engagement by the civil society, religious institutions, and also may compel governments and political leaders to act in defense water sources such as rivers, lakes, etc. In the words of Larson (2020, p. 5), every time water polices affect the purity or availability of water in ways that influence its religious significance or use "[…] human rights protecting the free practice of religion at the national and international level could be asserted not only as a means of protecting religious expression but also of promoting water security."

Subsequently, another interaction is given between water and the human right to food. In this regard, for quite a while, some thought and claimed that water was an integral part of the right to food, associating water as some type of liquid food based on the idea of liquid nourishment. According to this reasoning, the guarantee would only encompass water for drinking purposes, and perhaps for cooking food and cleaning dishes, for instance. Nowadays, this dichotomy has been perfectly settled since water and food are separate components and, consequently, the human right to water and the human right to food are distinguishable categories (WINKLER, 2014). Nevertheless, water is very important when it comes to the realization of the human right to food since it is the main ingredient to produce food, being used to irrigate crops, to hydrate animals for consumption, to prepare meals, etc.

In this context, another correlation is related to the element of water and the human right to housing described in article 11.1 of the 1966 International Covenant on Economic, Social and Cultural Rights (ICESCR, 1966) – and also recognized as part of the right to an adequate standard of living in article 25 of the 1948 Universal Declaration of Human

[2] The Jordan River is one of the best examples to illustrate how the exercise of freedom of religion can bring significant benefits for water conservation. The river is shared by Israel, Jordan, and Palestine, and is one of the most intricate river basins. Its religious significance, as the historic location of Jesus Christ's baptism, attracts pilgrims to the area, fostering the need to maintain a minimal flow of water. Consequently, "[…] in a river basin shared by countries with a history of religious conflict and scarce water resources for growing populations, religion may provide a common reason for countries to preserve environmental flows so pilgrims can continue to visit the river for ceremonial and spiritual reasons." (LARSON, 2020, p. 4-5).

Rights (UNITED NATIONS, 1948). The right to housing essentially ventilates the idea of the right to a place and/or a home where one can live in safety, peace, and with dignity. Obviously, a place to live must be equipped with essential infrastructure and basic services, such as access to clean water and sanitation. Hence, access to water would figure an important part in the assimilation of the right to housing in certain aspects.

In this train of thought, it is equally significant to distinguish about the differences and similarities between water and the right to an adequate standard of living established on article 25 of the Universal Declaration of Human Rights from 1948 (UNITED NATIONS, 1948). It is possible to presume that this right includes other fundamental needs of the individual going further beyond the human right to water. Similar to what happens with food and shelter, access to an adequate supply of water is crucial for maintaining a descent standard of living, as it is essential for sustaining life and ensuring dignity.

Finally, it's important to take a look at the relationship among the right to water and the human right to health – also evidenced as part of the right to an adequate standard of living from article 25 of the UDHR from 1948 (UNITED NATIONS, 1948). In this perspective, it is feasible to accentuate that access to clean and safe water is a precondition for the fulfillment of the right to health, that is to say, the right to water is inextricably linked to the right to health as far as it relates to health aspects (WINKLER, 2014).

Notwithstanding, after this brief background presentation, in the next section it'll be presented some of the main current world challenges and hindrances as it pertains to the full implementation of the human right to water worldwide, specifically, in the age called *Anthropocene*.

3 WATER IN THE ANTHROPOCENE: CHALLENGES IN ENSURING THE HUMAN RIGHT TO WATER

The current global water challenges are summarized on the following numbers: 2.2 million people do not have access to safely managed drinking water services (WHO, 2023). Almost 2 million people depend on health facilities without basic water services (WHO, 2020). More than half of the world's population or 4.2 million people lack safely managed sanitation services (UNITED NATIONS, 2023). 297,000 children under the age

of five die every year from diarrheal diseases due to poor sanitation, poor hygiene or unsafe drinking water (WHO, 2022). 2 million people live in countries facing high water stress (UNITED NATIONS, 2019). 90% of natural disasters are climate-related, including floods and droughts (UNISDR, 2015). 80% of wastewater returns to the ecosystem without being treated or reused (UNITED NATIONS, 2023). About two-thirds of the world's transboundary rivers do not have a cooperative management framework (UNITED NATIONS, 2023). Agriculture is responsible for about 70% of global water withdrawals (FAO, n.d.). Moreover, a study published in 2016 reveals that 4 billion people live in areas that experience severe water scarcity for at least one month during each year (MEKONNEN. HOEKSTRA, 2016). Additionally, Lorenzetti (2021) ponders that the outlook for numerous countries, regions, and populations indicates that they will face rising economic costs in accessing additional water resources, which may limit economic growth. This could also make it more challenging to address the needs of impoverished populations and nations experiencing ongoing water insecurity. Besides, there is a potential for geopolitical conflicts regarding the management and allocation of shared water sources (WELZER, 2010).

In this sense, it is possible to highlight that due to the emerging and unprecedented global challenges, the water crisis has been aggravated and, as a consequence, the full implementation of the human right to water has been severely hindered, that's precisely when the concept of the Anthropocene comes into context. Henceforward, the expression *Anthropocene* originally comes from the Greek language through the words *anthropos* which means 'human being' and *kainos* meaning 'recent/new', thus, when the two words are put together, they contextualize the idea of a new epoch/age for humans. This new age is defined by the fact that the human influence on the Earth's nature has grown so intensively that it now competes with some of the major forces of nature in shaping the Earth system's processes (BONNEUIL. FRESSOZ, 2016).

The Anthropocene marks a pivotal shift in the relationship between humans and the natural world, signaling a fundamental change in how humanity interacts with nature. This epoch discloses a time when modernity's pursuit for unlimited growth and progress collides with the planet's finite threshold. In this context, humanity is no longer viewed as progressing toward a brighter future characterized by improved living conditions, knowledge enhancement, or mastery over nature, but rather, confronting boundaries,

critical thresholds, possible breakdowns and upheavals, increase in terms of violence, disputes and conflicts. Humanity has literally become the pilot of a hybrid techno-nature. Everything is human fabricated (BONNEUIL, 2015).

Drawing from this overview on the world's water crisis, Marques (2018) argues that the capitalist economic system prioritizes profit and unlimited growth – most of the times, at the expense of environmental health and sustainability. This system encourages practices that harm ecosystems, increase pollution, reduce biodiversity, and lead to the uncontrollable exploitation of natural resources. However, the conflict between unrestricted economic growth and environmental degradation extends far beyond from being considered as a mere economic issue, reflecting a much broader spectrum, that is, it implies the relationship between human societies and the environment. This, in turn, exposes the failure of social and political structures that should be safeguarding sustainability. In this regard, the author adopts the terminology *Environmental Collapse* as a systemic crisis in which economic, political, and social forces clash with the planet's ecological limits.

Due to the neoliberal rationality (DARDOT. LAVAL, 2013) along with the imperial mode of living concept (WISSEN. BRAND, 2021) – which are exclusively based on the idea of economic growth as the nearest possible synonym of prosperity –, the world is getting to its tipping points in terms of finitude, disclosing an environmental catastrophic scenario. It reveals the urgency to change the predominant unsustainable paradigm, otherwise, it might get into an apocalyptic end. In fact, numerous proposals for sustainability transitions in the Global North, which predominantly focus on green investments, green technology, and renewable energy, often involve a significant increase in the extraction of vital materials from the Global South. In order to achieve global ecological justice, it requires a profound redistribution of wealth, resources, and emission rights across the world, which ultimately calls for a reduction in the overall scale of the economies of industrialized nations. Some of those proposals intend to hinder the South from achieving a more prosperous lifestyle pinpointing the world's environmental crisis, but at the same time those same proposals, paradoxically, don't share interest in giving up the northern imperial mode of living based on overconsumption and environmental degradation towards a less aggressive and sustainable way of life. (SAAVEDRA, 2019).

Even though, in a try to keep going with the growth paradigm, big corporations offer technical or market-oriented solutions. Therefore, it is no surprising that mega projects such as geo engineering are being proposed an adopted worldwide (WISSEN. BRAND, 2021), raising a high range of scientific and ethical implications – particularly in a long-term approach (HAMILTON, 2014). Thus, instead of taking into account the neoliberal paradigm that has to be coped with, right in the first instance, by fundamentally shifting the social, economic, cultural, and political relations in order to properly confront the emerging and unprecedented issues that characterize the new geological epoch, they tend to propose solutions that won't solve the problems – and might even generate exacerbations or cause new issues.

It is possible to exemplify with the case of geoengineering by the injection of stratospheric aerosols – one of the most recognized of its technologies – causing changes in solar reflectivity with the main goal of reducing the amount of heat that reaches the Earth's surface creating some sort of chemical curtain over the sky. Even though this type of technology has been designed to mitigate the effects of global warming, its side effects are not very well grasped into a long term perspective, which could potentially cause implications on human health, especially, those related to respiratory issues (BONNEUIL. FRESSOZ, 2016) and, in some cases, even generating visual effects from the changes in landscapes, triggering negative emotions – based on the concept of *Solastalgia* and *Psychoterratic emoticons* – being detrimental to mental health (ALBRECHT, 2019). In addition, there is also the issue related to the discomfort witnessed by the notion of exercising technological dominion over nature and challenging the ways in which human beings relate to the natural world (HAMILTON, 2014). The same can be said about issues involving the use and extraction of water and the development of the respective mitigation technologies, when it is not taken into account that the true root of the problem comes from an unsustainable dominant economic paradigm that needs to be substituted.

As a way of illustration, there are already wild proposals such as the one suggesting the possibility of human engineering as a way of reducing carbon emissions, therefore, reducing the height of human beings so that people will decrease their environmental impact (LIAO. SANDBERG. ROACHE, 2012). It also includes to genetically alter human vision similar to the eyesight of cats so that people would be able

to see at nighttime, thus, reducing the energy consumption of artificial bulb lights (ANDERSEN, 2012). Additionally, the authors point out for the birth rate reduction, especially including the use of pharmaceutical drugs to enhance cognitive function creating a pathway for altruism and empathy among marginalized young women so that they will develop the necessary consciousness to avoid unwanted/accidental pregnancies (HICKMAN, 2012). All these ideas gravitate around the philosophical and intellectual transhumanist movement, nonetheless, with an emphasis on fabricating a post-individual who meets the needs of capitalist logic. In this sense, Tonel and Cenci (2024, p. 15) pinpoint that

> […] some fragments of the argument for the indirect adoption of transhumanism as a way of solving environmental problems is a complete hoax. Putting it in another way, it only works as a camouflage with the purpose of keeping up with an unsustainable lifestyle for the wealthier groups at the expense and sacrifice of the poor. Besides, it's been evidenced that the neoliberal (ir)rationality takes advantage and sees opportunities for production and consumption logic even by the environmental crisis itself.

Thus, it essentially characterizes an extreme mode of technofix as a response to climate change. In the words of Hamilton (2014, p. 176-177) this sort of proposal "[…] takes the technofix to a sublime plane, one made possible by an intensely individualistic understanding of the world, which sees the failure to respond to climate change as arising not from political, institutional and cultural forces but from a lack of personal willpower."

On this conjuncture, it is possible to realize a new stage of the neoliberal globalization marked by capitalism's chronic crisis – where it thrives on this crisis, generating immense profits for specific sectors, by not only exploiting the environmental, social, economic, and military crises but also actively amplifies and perpetuates them –. the capitalism's alterations on the Earth's systems. a technological revolution that offers both opportunities and dangers, defused by geoengineering proposals and the desire to control Earth's climate as well as synthetic biology. the expansion of authoritarian regimes along with xenophobia, misogyny and racism in disfavor of democracy (SOLÓN, 2019).

3.1 Water commodification and its many facets

The human impacts on the environment have accelerated since the 1970's, that's a period coined by the expression *The Great Acceleration* (MEADOWS et al., 1974). Since then, the major severe environmental issues are global warming, freshwater scarcity, land use change and biodiversity loss, declining oceans and coasts (BARBIER, 2022). Specifically, in the context of water, Barbier (2019, p. 66) scrutinizes that as soon as populations worldwide have expanded during the modern era, water use has proportionally increased significantly. The author notes that, historically speaking,

> […] in 1900, the world's population was just over 1.6 billion, and water withdrawals were around 580 billion m3 per year. By 1950, there were over 2.5 billion people, and annual global water use was around 1,400 billion m3. In 2010, as the number of people approached 7 billion, water withdrawals withdrawals amounted to 3,000 billion m3 annually. By the time the world population tops 9 billion in 2050, annual water withdrawals will total 4,300 billion m3.

Therefore, it is possible to realize that the current system of governance and institutions have created a vicious cycle simply because they are primarily focused on pursuing the so-called *hydraulic mission* by locating and utilizing more freshwater resources. Thus, the actual model of water governance continues to operate under the assumption that water is still abundant, rather than scarce (BARBIER, 2019). Consequently, if global populations continue to grow, a key question is whether the world can continue to use more and more freshwater.

In this regard, Shiva (2007) has consistently highlighted that as the global population grows, the demand for water resources will rise significantly. Similarly, the author contended that viewing water as a commodity rather than a shared resource compromises public access and fairness, resulting in severe social and environmental issues. Hence, the privatization of water services typically results in higher costs and diminished access for marginalized communities and vulnerable groups, emphasizing profit over human survival and worsening existing inequalities.

The water crisis, therefore, is a multifaceted and multicausal crisis and is exacerbated by human-caused climate change, ecological degradation, and overexploitation by agribusiness and other industries. However, the lack of access to safe

water worldwide constitutes a serious emergency. Partly because of this growing crisis of quantity, quality, and inequality, safe water has been increasingly seen as a lucrative commodity — a product to be sold to consumers at market prices. However, when a resource becomes a commodity, its access depends on the ability to pay and/or the purchasing power (JAFFEE, 2023).

Currently, based on the analysis of a myriad of situations and contexts around the world – it is possible to emphasize that the privatization of public water services has not fulfilled the promises of its promoters. When access to drinking water is based solely on the ability to pay, this ends up generating yet another type of social asymmetry and intensifying existing inequalities (SHIVA, 2007). Correspondingly, Jaffee (2023) suggests that privatization also has major gender effects insofar as the amount to be paid for water tariffs, depending on the social and economic context of citizens – especially those who are in vulnerable situations – can substantially alter not only the economies of poor families, but also the economic and physical security of women. Given that the burden of water collection in many parts of the world falls predominantly on women and girls, if families are disconnected from a piped water supply due to lack of payment and have to travel far from their homes in order to find water, they are most likely to suffer in the form of extra work time, missing school attendance, they may face physical hardship or injury, and even vulnerability to sexual assault – in more extreme situations, such as in Kenya, where women and girls were forced to exchange sex for water in one of the regions most affected by drought and other climate-related events (G1, 2022).

Therefore, the privatization of water is presented as a singularity of a much broader and continuous process of commodification of nature, designed from a neoliberal rationality with the greater objective of continuous accumulation of capital, that is, profit. Meanwhile, water is an element – or a *natural capital*, borrowing an expression from the field of Economics – that is difficult to commodify and profit from when compared to other natural capitals such as forests, minerals, etc (BARBIER, 2022). Due to its very physical constitution, water is an element that is difficult to transport, making it very challenging to convert it into a new sort of commodity. In other words, water doesn't cooperate with the system of capital accumulation.

Within this context, water bottling comes up as a versatile and alternative route, enjoying several structural advantages. Its physical covering by lightweight plastic

packaging consecrated extreme portability, together with the political-economic changes that allowed its rapid growth, allowing it to avoid many of the bureaucratic restrictions. Bottled water, regardless of its origin, faces fewer barriers to capital accumulation compared to other types of structure, such as, piped water networks, for instance. Therefore, it has become a more mobile and profitable commodity (JAFFEE, 2023).

The advertisement towards health and fitness in bottled water is clearly observable, emphasizing fitness and the athletic body as the main standard to be persecuted, desired, and sculpted. Thus, a notable characteristic of the efforts to market bottled water is that companies can appeal to health principles and ideas, encouraging new consumption practices and using the scientific argument and discourse of the importance of constant human hydration, creating a culture where people are always carrying plastic bottles with them and, at all times, drinking water (CHELLANEY, 2015).

For Jaffee (2023), bottled water requires virtually none of the costs on infrastructure and obligations inherited in municipal piped water systems. Private concession contracts for public water services typically require companies to make large capital investments to maintain water quality and the physical water treatment and distribution network, as well as to meet stringent public health and environmental standards, hire and train employees, manage billing, and deal with other uncertainties that can reduce profit margins or make returns unpredictable. Municipal piped water systems also constitute natural monopolies because it is entirely impractical to build multiple sets of competing water pipes and treatment plants. They are inherently tied to a specific location. In contrast, bottled water companies require a very limited set of investments.

Furthermore, the water bottled industry is also a major contributor of environmental impacts due to pollution through plastic bottles as well as indiscriminate withdrawal of water from natural sources. it severely impacts human health because of microplastics (SWAN. COLINO, 2021). it detrimentally affects human rights by discouragement and public neglect in ensuring quality water for the population (JAFFEE, 2023).

Accordingly, there are only four big multinational corporations that own the bottled water industry worldwide. They are Nestlé, Coca-Cola, PepsiCo, and Danone Group. Worldwide, in the year 2023, they represented a monopoly that sold about 506 billion litters, almost twice as much as other sectors such as alcoholic beverages with

271.2 billion litters, milk and dairy drinks with 257.4 billion litters and carbonated soft drinks with 250.4 billion litters (JAFFE, 2023).

The result of this movement is a vicious cycle where it becomes expensive and challenging to find free drinking water, while bottled water becomes increasingly popular, exempting the government authorities and public institutions from the responsibility of taking care of water resources as well as neglecting the public distribution of free and safe potable water, and the only thing that it's been left is to purchase bottled water (SPARROW, 2022). Hence, the bottled water industry dismantles the trust on citizens to drink public water, it discourages the state to provide potable water.

With all of what have been exposed so far, it is possible to affirm that, given the multifaceted character of water and, consequently, the multiplicity of its causes and challenges that levitate around the subject such as obsolete governance – based on the *hydraulic mission* perspective –, its interconnection with the world's environmental crisis, the climate emergency, the neoliberal approach and its many facets, the lack of governmental initiative as well as responsibility to ensure the human right to water, etc, it engenders a *cascade effect*. Logically, its response, solution, alternative or mitigation has to be ventilated from a systemic perspective. It's impossible to isolate the water crisis into a single response, it has to be faced by a multileveled approach. In this section, it'll be accentuated some proposals and glimpses in terms of alternative possibilities for a new horizon when it comes to confronting the theme of water in the Anthropocene, such as the concept of *Glocal Governance* along with the Degrowth theory and how it might work as a catalyst framework to give assistance in the full achievement of the human right to water.

4 THE CONCEPT OF *GLOCAL GOVERNANCE*

Mihr (2022, p. 15) pinpoints that glocal governance "[…] is a proposal to assess and explain the local–global connectivity and implementation of global norms and concepts, such as human rights and democracy, on local and community levels." Therefore, it implies a convergence space among the global and the local instead of conflict. Besides, it is also imperative to highlight that "glocal governance has emerged because some national governments have proven to be incapable or unwilling to fix

problems of transnational or global dimensions within their own countries, such as global health, climate change, or cyber security." (MIHR, 2022, p. 17).

Historically speaking, the Nation-State, which has gradually been dissolving, was originally established in response to the effects of the industrial and colonial eras from the eighteenth and nineteenth centuries. Nowadays, however, the response to the weakening of Nation-States is glocalization. In the twenty-first century, the struggle between people and statehood revolves around how far regimes are adhering to or bypassing human rights and fundamental freedoms. According to Mihr (2022), national governments are increasingly losing their sovereignty and legitimacy in a globalized world, facing challenges from both domestic and international forces. In this sense, glocal governance emerges as a response to the failure of corrupt and authoritarian regimes, nationalistic models of statehood, which no longer address global citizens' demands for mobility, personal opportunity, and human security. It is important to emphasize that glocal governance arises not only when governments fail to fulfill their obligations to citizens, but also to enhance and reinforce democratic political systems. It strengthens governance whenever local decision-making aligns with and meets citizens' expectations.

The advancement on the field of technology – precisely the ITCs (Information and Communication Technologies) – has brought local and global spheres closer, resulting in significant changes in production methods and social structures (OLSSON. LAVALL, 2023). On this basis, with the advent of the Internet, physical and linguistic borders have become blurred and even irrelevant – especially, with the advance of automated translation technologies. In fact, Guilherme and Souza (2019) have scrutinized how language and communication have been glocalized over the past centuries, turning every local language into some mix with English words. The practice of incorporating words from other languages into one's own language is not a recent occurrence, but the rapid pace at which this has been happening through the last decades is truly remarkable. With a unified global language, communication becomes faster, effortless and, way more effective, bringing with it various other interconnected benefits.

On other sphere, for Beck (2016), a limited national perspective automatically fails to envision such challenges and does not really capture the full essence of the contemporary global context. In the same vein, Beck's theory of metamorphosis criticizes the dominant conventional model of the nation-state when it comes to the lack of a

cosmopolitan approach. In this sense, the world's environmental crisis an all its tentacles such as climate emergency, water crisis, sea level rise, etc, are not limited to traditional notions of artificial borders created and defined by human imagination.

Also, when it comes to the realm of human rights and its relationship with glocal governance, it is possible to affirm that "human rights are the normative backbone of glocal governance" (MIHR, 2022, p. 112), simply because human rights principles have become ingrained in the individuals' everyday existence, reaching a significant level of social awareness and shaping societal attitudes. They are now becoming integral to people's belief systems and political structures. No other international document is as widely translated and distributed across the globe as the Universal Declaration of Human Rights.

Notwithstanding, human rights often serve as the primary framework for governance in situations of dissolving statehood and poor governance. They are fundamental to constitutional states but not necessarily to Nation-States. This is especially true when little remains to rely on except established family values, national pride, and traditions, none of which are capable of addressing the challenges that the Anthropocene presents to local communities (MIHR, 2022). Through this context, it is possible to exemplify in reference to the category of environmental refugees that migrate from one country to another or don't have the adequate treatment in their own country.

Among the main propellants for *glocal* governance, climate change has become the defining catalyst for paradigm shifts in the twenty-first century. For many, it has escalated to the status of a *weapon of mass destruction*, displacing people from their homes, turning them into refugees and stateless individuals. It drives billions to compete for scarce resources, leading to conflicts where people and wildlife alike suffer, and in some cases, even face the threat of genocide. Moreover, climate change sparks efforts as well as cooperation that goes further beyond the traditional boundaries of Nation-States. As basic needs such as clean water and adequate housing become scarce, ideology and nationalism lose their relevance (MIHR, 2022).

In this regard, it comes into play the perspective of alternative approaches from a glocal perspective. For example, networking facilitates communication, individuals are able to share common goals, cross-scale solidarity among various social groups, etc. These initiatives encompass the social and solidarity economy, production and labor

cooperatives, agroecology, feminist economic practices, solidarity finance, and so forth and so on (OLSSON. LAVALL, 2023). In this respect, it is convenient to pinpoint the discussions permeating the *degrowth theory* and how it shares, on certain aspects, some interconnections with reference to global challenges marked by local actions, and how it constitutes a valuable outlook when it comes to alternative ways to deal with the contemporary water crisis in the Anthropocene.

Henceforth, in accordance with Kallis (2018, p. 10) "sustainable degrowth is defined as an equitable downscaling of production and consumption that increases human well-being and enhances ecological conditions." Sharing a similar comprehension, Schmelzer. Vetter, and Vansintjan (2022, p. 191), point out that "degrowth is, above all, a movement in motion, and should be considered an umbrella term for various movements and frameworks on the left." As a result, the concept of degrowth questions the dominance of economic growth and advocates for a democratically guided reduction in production and consumption within industrialized nations to promote environmental sustainability, social equity, and overall well-being.

Wissen and Brand (2021) establish that degrowth, in this sense, aims to replace the imperial mode of living with a solidarity-based scope, to overcome the externalization society, and to foster sustainable lifestyles that end overconsumption by the most affluent nations. That means, one of the degrowth main currents is the Communing or Alternative Economy Current. It emphasizes alternative infrastructures, solidarity-based cooperatives, and non-capitalist models of collective production and livelihood. This current essentially highlights two main focal points. The first, centered on the commons, includes not only resisting the ongoing enclosure of the commons but also opposes accumulation and expansion of land from the capitalist realm. This trend also seeks to reinforce and broaden common property, along with governance principles and economic activities that are rooted in and driven by the practice of common idea (SCHMELZER. VETTER. VANSINTJAN, 2022).

Notwithstanding, it is possible to clarify the idea of degrowth based on the glocal perspective through some practical paradigms such as the *Buen Vivir* concept from South America (SOLÓN, 2019), the *Ubunto* philosophy from Africa (NGOMANE, 2019), the *Gross National Happiness* approach from Bhutan (RODRIGUEZ, 2023) and, the Japanese concept of *Satoyama* (TSING, 2015). All these perspectives share in common

the idea of harmoniously cohabitating with the nature and are exclusively concerned with individual's wellbeing as well as respect for nature – and for the sake of the article's main discussion, these concepts also reflect alternative ways of, ultimately, guaranteeing the preservation of water sources. It's also noteworthy to accentuate the fact that even though these localized approaches may be considered ancient philosophies/knowledge springing from traditional, native or indigenous communities around the world, they still represent effective and alternative ways of handling with emerging global issues such as climate change and water crisis.

Concurrently, another localized approach with significant sustainable global benefits is small-scale family farming. Its concept is related to the idea of all family-based agricultural activities managed and operated by a family, largely depending on the labor of both men and women. In this scenario, the family and the farm are interconnected, co-evolve while integrating economic, environmental, social and cultural roles (FAO. IFAD, 2019). Therefore, it is a type of agriculture that not only results in preserving natural resources but also producing more food as well as generating more jobs (FAO, 2024). Family farming also reveals a noticeable contribution in regards to almost all of the Agenda 2030's Sustainable Development Goals. Due to the multidimensional character of family farming it provides efficient and sustainable use and management of natural resources such as the conservation and sustainable use of biodiversity, soil depletion prevention, water pollution and scarcity and environmental degradation (FAO. IFAD, 2019).

Small family farming plays a crucial role as glocal actors in the context of governance and sustainability, representing a pivotal link between the local and global systems. Small family farms usually operate at a local scale through, for example, organic agriculture, agroecology, regenerative agriculture, and solidarity economy, growing food and products that directly sustain local communities. Nevertheless, many of these farms are also connected to global markets, either through export and supply chains. Additionally, family farming, agroecological and organic production models are key to food security (STURZA. CENCI. TONEL, 2022).

In this perspective, Morin (2010), suggests that, in order to face the contemporary challenges, a transdisciplinary perspective is necessary, that is, a vision that transcends the boundaries of traditional disciplines, creating a synthesis that considers both global

and local dimensions. Wherefore, the world's current state of the art demands an approach that goes beyond the fragmentation of knowledge. It implies that instead of looking at knowledge as an isolated unity – as traditional academic often disciplines do –, it is necessary to adopt an approach that holistically seeks connections, interactions and articulations between the different and varied sorts of knowledge that exist.

On similar reasoning, Krenak (2020), reclaims the importance of building new forms of resistance against the techno-capitalist civilization, emphasizing the substance of glimpsing new meanings for the human being's coexistence with nature and the environment. In other words, a glimpse out of the Anthropocene. In this context, it is highly opportune to point out about the concept of *Symbiocene*, originally developed by the Australian philosopher Albrecht Glenn. The Symbiocene is a concept that implies the idea of exiting the age of the Anthropocene and entering into a new era where humans cohabit sympathetically with other living systems. The Symbiocene represents a future era in Earth's history where humans reintegrate themselves harmoniously, emotionally, psychologically, and technologically, into the natural world and its systems. The concept of the Symbiocene inspires humanity to forge a future where positive, life-affirming connections with the Earth outweigh the negative impacts of the past. It envisions a world where human creativity is unleashed, and humanity once again becomes an active participant in the collective endeavor of nurturing and sustaining life on Earth (GLENN, 2019).

Finally, it is possible to perceive that all these cases illustrate how the concept of glocal governance along with the degrowth theory can provide a systemic approach when it comes to confronting the challenges brought by the Anthropocene such as preservation of water resources, water commodification, food production, human rights implementation, climate change mitigation, Agenda 2030's Sustainable Development Goals, etc. It discerns a new pathway for global cooperation through a localized initiative.

5 CONCLUSION

It is important to keep in mind that the element of water is not a virtual asset, water has a territoriality. Water has obviously physical resistance and it has to be distributed to the human populations, not only for drinkable purposes and the idea of sanitation and

hygiene, but also water for food production, water for health, water for an adequate standard of living, water to quench animals' thirst, water for religious the performance of religious rituals, etc. In this line of thought, it's possible to realize that water is an excellent example of a global asset that reveals local interests and must be localized. The water element must be dispersed throughout the globe. It is not possible to move water as easily as to what happens with electricity, petroleum, or any other asset. This reveals the unique nature of water. Correspondingly, water has its own logic of distribution, allocation, treatment and consumption that is very specific and exceedingly unique when compared to other sorts of assets.

Therefore, both glocal governance allied with some of the currents of the degrowth theory, emphasize the importance of local communities in addressing global challenges. On one hand, the concept of degrowth advocates for ecological sustainability, focusing on reducing carbon emissions, conserving resources, and respecting planetary boundaries and, at the other hand, glocal governance plays a key role in facilitating this idea by enabling localities to design policies that balance local needs with global sustainability goals in the age of the Anthropocene, ultimately, providing efficient ways to promote human rights in general as well as serving as a catalyst to specifically ensure the human right to water.

Throughout the examples based on the practical degrowth paradigms such as *Buen Vivir*, *Ubuntu*, *Gross National Happiness*, *Satoyama*, it's been evidenced to glimpse paradigms and lifestyles that can alternative and effectively cope with the emerging global issues which characterize the Anthropocene – as for example, climate change, environmental degradation, water crisis, etc – through a local approach that induces respect, preservation and harmonious cohabitation with nature and other living systems, therefore, demonstrating one of the avenues by which the glocal governance frame of reference has been operating and how it can bring considerable benefits when it is, ultimately, confronted to the subject of water preservation along with the achievement of the human right to water.

At the same time, small family farming is a prime example of glocal actors because it operates at the intersection of local practices and global systems. Through their ability to adapt, innovate, and provide ecological and economic resilience, small family farms are crucial players in both local food systems and global sustainability efforts.

Family farming helps to balance local needs with global objectives, ensuring that both local communities and the global environment thrive in a mutually beneficial relationship.

Furthermore, all these proposals share in common the resemblance of a possibility – maybe a utopia – of replacement and exit from the age of the Anthropocene to the age of Symbiocene. Nevertheless, there isn't a simple solution for all the emerging and complex issues that overwhelmingly challenge the future of humanity and the world. However, the proposal of systemic approaches might ventilate less aggressive and sustainable practices with the aim of protecting water sources. Generally speaking, it also helps to reflect what it really means to live life as a human being and the relationship with nature.

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Data availability

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