Water Resources Management

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Abstract

Water is a precious resource, so valuable that it is prone to pollution and scarcity; therefore, it requires comprehensive management and effective decisions for managing these resources. Therefore, the objective was to systematically analyze the management of water resources through different scientific studies of the last 5 years. The methodology was developed through a scientific method of systematic review considering 50 articles from the search engines Scopus, Scielo Dialnet, Ebsco, Scholar Academic, Redalyc, and Researgate. In conclusion, it is inferred that water resource is an influential factor due to the involvement of sustainable management, addressing the principles of precaution and prevention, and valuing the internalization associated with the use and contamination of water resources. Because of this, the growing demand for the consumption of water resources is increasing considerably and generates scarcity at the same time.

Keywords: Water resources, conservation, environmental pollution, climate change.

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INTRODUCTION

For many years, water has had an important value within the development of society, because it is a vital and significant resource in the existence of humanity. The disproportionate use of water resources affects the sustainability of the environment and the economic, social and cultural activities, increasing the complex situation of survival of the population (Nava and Medrano, 2019). Therefore, the management of water resources is generated by promoting control and coordination in the development of water, soil and other related resources to achieve maximum economic efficiency and equitable social welfare, developing greater consideration and supervision of them (Muñoz et al., 2021).

Due to its level of importance, it often leads to a conflict related to climate change and increased demand (Sánchez et al., 2018). Furthermore, pollution, global warming, and the reduction of polar caps are some factors that motivate the reduction of water resources in that same line (Talledo, 2020; Lozada et al., 2019). Therefore, the organized management and optimal use of water resources in a sustainable manner over time are paramount for human welfare. The exponential growth of the population has caused a considerable decrease in this vital element and

environmental degradation (Rodas, 2020; Díaz and Juárez 2021).

At the international level, Morales-Perez et al. (2020) until a few years ago, water resources were considered renewable resources and there was an almost endless availability; the current conditions of sustainability have shown the perspective of the considerable decrease of this vital element, which has been dramatically reduced in these years due to the lack of investment in its conservation and improvement of sanitation processes. Likewise, Apostolaki et al. (2019) refer that the sustainable management of water resources requires the integration of ideas due to the mitigation and informed planning generated by the authorities before this resource.

Therefore, the United Nations Educational, Scientific and Cultural Organization (2019). presents an agenda of sustainable activities for the year 2030, where one of the main objectives is to ensure access to water resources in a sustainable way for all people who are excluded from this service, making a reflection on the process of collaboration at the global level ensuring the conditions of quality of life in a balanced way. Thus, Li et al. (2018), according to various UN reports, more than two billion people lack water services, this the main resource that ensures the survival of human beings and currently, there has been a displacement of millions of people who do not have this vital element, where only about 3% of the total water on the planet is drinkable.

It should be noted that Xiang et al. (2021) correctly managed water resources are considered a vital part of development, reducing poverty and increasing equity. Indeed, conventional water system management maximizes existing water flows available to meet all competing demands, including groundwater and on-site water. In addition, the resilience of natural systems and the capacity to provide ecological products and services has increased vulnerability and exposure to environmental hazards (Vargas and Paneque, 2019). Therefore, climate change would intensify specific water resource management challenges by contributing to uncertainty.

In Latin America, Kauffer and Gonzalez (2020) state that many countries in this region have a large number of water resources, but there is no regulatory policy to safeguard natural resources that are being affected by the logging of tropical forests, mining, environmental pollution, etc. Identifying the main social actors that will allow the conservation of these resources is necessary. It should be noted that the United Nations (2021) emphasizes the diminished value assigned to water resources in many Latin American countries, generating overconsumption and overexploitation, as it affirms that the rate of consumption of water resources in many countries in Latin America is increasing at an alarming rate. Vargas (2021) states that the rate of consumption of water resources is increasing by 1% per year due to excessive population growth.

On the other hand, Lozano-Parra (2018) in their research refers to the limited amount of water resources currently available for sustaining the human race, which is an essential element for all THE phases in nature, and that due to population growth and other factors, this resource, in a period of approximately 20 years will be reduced by 80%. Martínez and Villalejo (2020) also refer to the inequality of access to water resources, where one of the main causes is the uncontrolled population growth and the overexploitation of natural resources, which brings with them the environmental overexploitation that envisions a less-than-optimal scenario for the future.

In Peru, Robert (2019) analyzes the difficulties faced by drinking water service providers to supply the liquid element to large cities, which is becoming an increasingly large and complex challenge due to the increase in water consumption needs due to the rapid and disorderly growth of cities. Of equal importance, Burstein-Roda (2018) The World Economic Forum has also highlighted the consequences of poor water management, which is not an infinite resource; its accelerated consumption, pollution and degradation pose a threat to the population's way of life, affecting the agricultural activity and consequently reducing food production and other factors that are included in the main themes of the World Economic Forum to ensure the living conditions and health of the population.

The objective was to systematically analyze the management of water resources through different scientific studies of the last 5 years. Therefore, the justification of the present publication exposes the testimonies of the systematic review of different authors in the

purpose of the process of management and valuation of water resources, where more than a third of the world's population does not have water services, for which adequate planning should be carried out to provide this service to the largest number of people. Therefore, the theoretical justification is based on the different studies it systematizes to know the reality and conceptions about the management of water resources. Meanwhile, the social justification favors the citizens, since they are the final beneficiaries of this resource.

METHODOLOGY

The present article was DIO using a scientific, systematic review method, which develops an information search that is detailed and selective (Cuadrado et al., 2020). This review referred to water resource management, showing its importance in the management and crisis caused by the lack of water. The search engines considered were Scopus, Scielo Dialnet, Ebsco, Scholar Academic, Redalyc, and Researgate; considering the following words "Water resource," "Water resource management," "Pollution and Water Resources," "Pollution and Water Resources," "Water resource," "Water resource management," and "water efficiency and control."

Likewise, the search was performed by combining descriptors, logical operators AND, OR, NOT to delimit the review, exclusion and inclusion criteria were taken, such as research included in the period from 2017 to 2022, in the quantitative, qualitative, mixed aspects, that maintains a direct link with the subject of review; while as part of the exclusion, duplicates, different documents, AMONG OTHER FACTORS were considered as described in Table 1.

Table 1. Inclusion criteria in the systematic search for articles.

Source	Description
Search Engines	Dialnet Scielo Redalyc EBSCO Scopus Researgate Schoolar Academic
Search string	Water resources management (WRM), WRM + environmental pollution, WRM + global warming, WRM
Timeliness	2018 - 2021
Research area	Social Sciences, Public Management
Type of document	Magazine articles
Languages	Spanish - English

Therefore, the final result of the collection was 50 articles; where 5 articles were obtained from Dialnet, 3 articles from Redalyc, 4 articles from Researgate, 9 articles from Schoolar academic, 13 articles from Scielo, 16 articles from Scopus. This generated an emphasis to make groupings according to the relevance of the research.

Table 3. Selection of final items

Tags	Dialnet	Redalyc	Researgate	Schoolar academic	Scielo	Scopus
ENGLISH	4	3	4	9	11	1
ENGLISH	1				2	15
Total			**50**			

DEVELOPMENT AND DISCUSSION

For the development of the study, the research results of the 50 selected articles are presented.

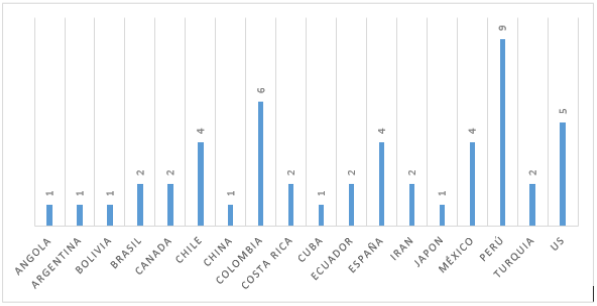

Figure 2. Distribution of articles by country

Figure 2 shows the origin of the academic articles on water resources management, with the most relevant results from Peru with 9 articles and 6 articles in Colombia. Angola, Argentina, Bolivia, China, Japan, and Bolivia have the least number of articles. These aspects are considered among the productions from 2017 to 2022.

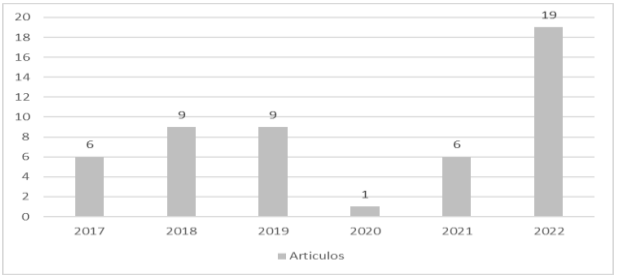

Figure 3. Distribution by year

Figure 3 reflects that in 2022 more publications on water resource management and development were executed with a representation of 19 articles, due to their importance related to water. On the other hand, in the minor case is 2020 and 2017, where there are fewer relevant publications with the topic of the study with a representation of 6 articles.

Table 4. *Item* grouping list

Grouping	Quantity
Water resources management	
Climate change and water resources management	
Pollution and water resources management	
Population and water resources management	

Table 4 shows the 4 categories that were made to the selected articles where they were selected according to their characteristics, summary and results. These results are 14 articles of resource management, 13 articles of climate change, 13 articles of pollution and 10 articles of population towards water resources.

Water resources management

Table 5. Classification on Water Resources Management

AUTHOR	METHOD	ORIGIN	LANGUAGE	SOURCE	YEAR
Suryanarayana et al. (2022)	Descriptive	Us	English	Scopus	2022
Sekizaki et al. (2022)	Documentary	Japan	English	Scopus	2022
Chuang et al. (2022)	Descriptive	Us	English	Scopus	2022
Firat et al. (2022)	Documentary	Turkey	English	Scopus	2022
Rahmani et al. (2022)	Descriptive	Iran	English	Scopus	2022
Wang et al. (2022)	Descriptive	China	English	Scopus	2022
Cartuche et al. (2021)	Descriptive	Turkey	English	Dialnet	2022
Alcácer (2019)	Reflection analysis	Ecuador	Spanish	Researgate	2019

Dirwai et al. (2022)	Systematic review	Spain	Spanish	Schoolar academic	2022
Villagómez and Gómez (2020)	Case studies	Mexico	Spanish	Scielo	2020
Basterrechea and Noriega (2019).	Qualitative	Mexico	English	Schoolar Academic	2019
Rojas (2019)	Documentary analysis	Chile	Spanish	Scielo	2019
Nunez (2021)	Descriptive	Colombia	Spanish	Schoolar Academic	2021
Burstein (2018)	Documentary	Peru	Spanish	Scielo	2018

Modern water resources management began with the industrial revolution, generating a greater emphasis on water use (Dirwai et al., 2022; Alcácer, 2019). Likewise, a dynamic systems model is generated for the sustainable management of groundwater resources based on links with water, food and energy security (Rahmani et al., 2022). Given this, distribution systems have generated greater sustainability in managing water supplies, thus trying to avoid overflows due to scarcity of water resources (Sekizaki et al., 2022; Suryanarayana et al., 2022).

Villagómez and Gómez (2020) refer to the importance of the management of the headwaters of river basins due to the direct relationship they have with agriculture, as referred to in recent publications of the World Bank and the United Nations, approximately 70% of the total freshwater extracted from the country's territory is needed for agriculture. Nuñez (2021), in recent publications of the World Bank and the United Nations, the agricultural sector needs approximately 70% of the total freshwater extracted from the planet, destined for livestock and crop activities, a quota that to date is not met, and that the entities in charge of water resource management express the need to strengthen and conserve river basins to improve environmental, social and institutional sustainability, which will benefit local and national economic and social activities.

Of equal importance (Basterrechea and Noriega, 2019), which states that in Latin America, there is a sufficient quota for supplying the country, but there is deficient management of water resources produced by multiple factors, a fact that will not allow us to cope with the effects of climate change effects that are already being manifested in many localities. There must be adequate planning for water resource management. Therefore, Cartouche et al. (2021); Chuang et al. (2022) refer to the need to create a culture of management and respect for water resources that will go hand in hand with water conservation and management policies.

Therefore, governments must integrate their actions for the management of water resources at the local, regional and national levels since it is frequently observed that two or more institutions generate and regulate provisions for the same resource, which generates losses of material resources, economic resources and man-hours, (Rojas, 2019). The emphasis of the mechanisms and methods used in water management involves costly and slow processes; because the dynamic structure of each system is different and requires specific measures (Wang et al., 2022; Firat et al., 2022). Thus, one of the main actions to be developed by the state is to point out the importance of water resource conservation because it is impossible to survive without this vital element (Burstein, 2018).

Climate change and water resources management

Table 6. Ranking on Climate change and water resources management

AUTHOR	METHOD	ORIGIN	LANGUAGE	SOURCE	YEAR
Rahmani et al. (2022)	Descriptive	Us	English	Scopus	2022
Anari et al. (2022)	quantitative-descriptive	Us	English	Scopus	2022
Coela and Tarqui (2017)	quantitative-descriptive	Bolivia	Spanish	Scielo	2017
Donoso (2021)	quantitative-descriptive	Chile	English	Scielo	2021
Donoso (2017)	Quantitative	Chile	Spanish	Scielo	2017
Jordan et al. (2021)	Descriptive	Chile	Spanish	Researgate	2021
Ochoa (2022)	Systematic review	Peru	Spanish	Schoolar academic	2022
Sanchez et al. (2021)	Theoretical	Ecuador	Spanish	Schoolar academic	2021
Ortiz et al. (2017)	Explanatory	Colombia	Spanish	Researgate	2017
Alarcón-Hincapié et al. (2019).	Documentary analysis	Colombia	Spanish	Schoolar Academic	2019
Leon et al. (2019).	Quantitative	Peru	Spanish	Scielo	2019
Camilloni (2018)	Review analysis	Argentina	Spanish	Schoolar Academic	2018
Barranco et al. (2018).	Quantitative	Spain	Spanish	Scopus	2018

Climate change implies an alteration in the conservation and use of natural resources, as referred to in a 10-year simulation process on water demand and supply, only 3% of the total water of our planet would be available for human consumption. Barranco et al. (2018) in a 10-year simulation process on water demand and supply, only 3% would be available for human consumption of total water of our planet, where the sustainability of this resource implies a greater effort. For Camilloni (2018), the effects of climate change, the greenhouse effect and the concentration of gas emissions are increasingly tangible since one of the major effects of the climate change process is the loss of water resources.

One of the main effects of climate change is the considerable increase in temperature, with more and more marked seasons of the year, making it necessary to collect information to evaluate the behavior of the climate and forecast the coming seasons (Alarcón-Hincapié et al., 2019). Therefore, the radical changes in the cyclical process of water are manifested by the presence of natural phenomena of greater impact, floods, rains, landslides, drought, tornadoes, and thunderstorms, motivating the need to make appropriate decisions by the responsible entities to avoid major impacts on the country.

In Latin America, this resource is so fragile, added to the processes and acceleration of climate change, only has consequences for ecosystems, including humans (Ochoa, 2022). Therefore, all the nations of the world should create an agenda for water sustainability and take action against the effects of climate change, showing that if concrete actions are not taken, a future with many complications for the survival of the human race is foreseen. Therefore, Coela and Tarqui (2017) mention that climatic conditions are caused by low rainfall and high evaporation rates, which limit crop and forage production. For these reasons, farmers are forced to use additional irrigation systems, generating higher consumption of water resources.

While water consumption has increased due to population growth, urbanization, climate change and pollution, it has resulted in severe water scarcity, which has led to numerous social,

economic and environmental conflicts and vulnerabilities (Anari et al., 2022; Donoso, 2021). Furthermore, the ongoing climate change will increase water scarcity, increasing the challenge of meeting water needs for agriculture and society. Therefore, budgetary and regulatory review management generates a greater impact on the care of resources and sustainability of water resources (Donoso, 2017; Rahmani et al., 2022; Jordan et al., 2021).

Peru is a state vulnerable to climate change, so it is necessary to generate actions to respond to possible emergency scenarios and the severe effects that these climatic alterations cause, the water cycle and the behavior of environmental factors (León et al., 2019). Therefore, the importance to determine, through indicators and indicators, how land use change, accompanied by human activities, exerts environmental pressures on these resources (Sanchez et al., 2021). In addition to land and water use planning based on a long-term vision, it needs to develop strategies to respond quickly to the impacts of climate change on water resources (Ortiz et al., 2017).

Pollution and water resources management

Table 7. Classification of Pollution and water resources management

AUTHOR	METHOD	ORIGIN	LANGUAGE	SOURCE	YEAR
Madrigal et al. (2022)	quantitative-descriptive	Costa Rica	English	Scopus	2022
Liu et al. (2022)	Descriptive	Canada	English	Scopus	2022
Ferreira and Fernandes (2022)	Descriptive	Brazil	English	Scopus	2022
Acevedo et al. (2017)	Quantitative	Mexico	Spanish	Scielo	2017
Murillo and Abreu (2019)	Explanatory	Brazil	Spanish	Dialnet	2019
Galdos et al. (2017)	Explanatory	Peru	Spanish	Dialnet	2017
Sierra et al. (2022)	Documentary	Colombia	Spanish	Scielo	2022
Orihuela (2021)	Documentary analysis	Peru	Spanish	Schoolar academic	2021
Conceição et al. (2019).	Qualitative	Spain	Spanish	Redalyc	2019
Gamarra et al. (2018)	Quantitative	Peru	Spanish	Scielo	2018
Medina and Guecara (2018)	Documentary analysis of usage policies	Mexico	Spanish	Dialnet	2018
Duque (2018)	Quantitative	Cuba	English	Scielo	2018
Barriga et al. (2018).	Qualitative	Peru	Spanish	Dialnet	2018

According to Sierra et al. (2022), water as a natural resource has been affected and subject to a complex set of development, destruction of sources and intentional pollution. For Conceição et al. (2019) the impact of pollution is increasingly tangible; environmental problems, epidemics, and health crises affect the life of human beings, where the consumption of contaminated food is almost inevitable, the agricultural process is often developed with contaminated water or with the presence of mining tailings, according to Gamarra et al. (2018), Duque (2018), Barriga et al. (2018) the effects of waste pollution, especially by the presence of plastic in the environment is leading to the total alteration of the environment, disappearance of marine fauna and the presence of PET residues in animal species.

In the face of this, unequal distribution and scarcity of water are generated, becoming impact factors of flows in the management of water resources, especially when it comes to complex problems such as water quality and quantity (Madrigal et al., 2022; Liu et al., 2022). Other elements are deforestation and urban and agricultural activities that contribute to the deterioration of water quality and scarcity,

examples of global challenges (Ferreira and Fernandes, 2022). Thus, the presence in water of increasingly dense components and the time of their natural degradation becomes more visible on the surfaces of valleys, rivers, lagoons and seas, and the partial or total deforestation of the planet's natural lungs leads to increasingly dramatic consequences for human beings.

Then, this increase in demand added to the significant deterioration of water quality due to contamination and soil degradation making water conflicts between different users more frequent (Murillo and Abreu, 2019). Consequently, people's microbiological risk is due to using contaminated water since the microbiological contaminants in all drinking water sources coincide with the system. Therefore, the management of water resources that generate greater protection for the health of society is performed (Galdos et al. (2017).

In Peru, there has been a lot of research on pollution and water resource management (Orihuela (2021). The indicators for water pollution are becoming more and more alarming, and the decrease in the percentage of water resources suitable for human consumption is becoming more evident. Also, more than 60% of the total population at the national level lives on the coast and this only has access to 2.2% of the total water, so the populations find themselves with contaminated water resources unfit for human consumption.

A large percentage of people are still unaware of the consequences of the environmental pollution process that is reaching an irreversible point due to pollutants such as wastewater, microorganisms, pesticides, heavy metals, radioactivity, and plastic. Therefore, Acevedo et al. (2017) refer that environmental organizations that generate collective actions to protect water has contributed significantly to the establishment of local commissions to regulate water treatment procedures through the internal legislation of the local government.

Table 8. Classification on population and water resources management.

AUTHOR	METHOD	ORIGIN	LANGUAGE	SOURCE	YEAR
Rahmani et al. (2022)	Descriptive	Iran	English	Scopus	2022
Simpson et al. (2022)	Descriptive	Us	English	Scopus	2022
Mian et al. (2022)	Descriptive	Canada	English	Scopus	2022
Muñoz and Páramo (2018).	exploratory	Colombia	Spanish	Scielo	2018
Bolaños (2017)	Bibliographic review	Costa Rica	Spanish	Redalyc	2017
Ortega et al. (2018)	Quantitative	Colombia	Spanish	Researgate	2018
Castillo et al. (2022)	Descriptive	Peru	Spanish	Redalyc	2022
Del Puerto y Martínez (2021)	Documentary analysis	Angola	English	SCIELO	2021
Salazar (2019)	Case Study	Peru	English	Dialnet	2019
Montaño (2019)	Documentary	Spain	Spanish	Schoolar Academic	2019

Population and water resources management

According to Del Puerto y Martínez (2021), in the year 2020, water consumption has increased by approximately 50%, showing that 1/3 of the population will develop water stress problems, which is manifested by an uncontrolled population growth, where cities are no longer able to contain the overflowing number of people living in them. In the meantime, Montaño (2019) mentions that there are no policies in place to cover the current global needs of water resources consumption, and any future measures will be

overwhelmed by reality, making the sustainability of cities almost impossible.

The increase in the needs of the inhabitants and the increase in the demographic index will create ruptures in local, national and national relations, where international organizations have expressed their concern about the emergence of multiple conflicts over the use of water since 2000 to date there have been 343 incidents at the international level for the control of the vital element (Salazar, 2019). This generates the involvement of human activity, production, and consumption of various goods and services, which has an uncontrolled and negative impact on the water cycle (Castillo et al., 2022).

The lack of infrastructure for adequate water distribution and consumption leads to conflicts and episodes of inequality between inhabitants of the same country (Rahmani et al., 2022). Therefore, countries must ensure management to promote sustainable development and economic growth (Ortega et al., 2018; Bolaños, 2017). Likewise, emphasize education and learning to protect ecosystems and protect environmental resources. A necessary aspect of the development of environmental education indicators that suggest educational tools in the development of guidelines and strategies for effective management, mainly aimed at society (Simpson et al., 2022; Mian et al., 2022; Muñoz and Páramo, 2018).

Discussion

The excessive consumption of water resources by the productive sectors of goods and services generates the need to create a context for the conservation for the sustainability of natural resources since the agricultural and industrial sectors consume approximately 70% of drinking water, where world policy should be inclined to reduce the production of fossil fuels to mitigate the effects of global warming, for which the UN calls on countries to recognize their responsibility and change their behavior in the generation of gas emissions, proposing to reduce the rates of production of fossil fuels, since the consequences of climate change and the impact of climate change are already being felt in many countries. UN (2021) calls on countries to recognize their responsibility and change their behavior in the generation of gas emissions, proposing to reduce fossil fuel production rates since the consequences of climate change are already beginning to affect us.

However, controversy has arisen regarding the environmental impact of reducing recycling flows and pollution by enhancing beneficial activities, especially for irrigation operations in agriculture. In the water resources management paradigm, therefore, it involves decision-making that takes into account the needs and desires of the various users and stakeholders. It focuses on the benefits related to water systems' use, management, conservation and sustainability.

The definition of new principles for water management has initiated a paradigm shift from the sector-, infrastructure-, and investment-oriented management systems to multidisciplinary, multisectoral, and integrated approaches. Thus, the emphasis is on reconciling water's current and future uses without having an exclusionary view that water is only economic. Furthermore, IWRM shifts the focus from resource development or use (consumption patterns) to conservation and rational use (integrated management), and from supply management to demand management.

The accelerated growth of the world's population, as referred to by the United Nations (2018). United Nations (2018). where the world population is 7,500 billion inhabitants, with a projected population growth for the year 2050 of approximately 9,700 billion inhabitants, which could reach 11,000 billion inhabitants by the year 2100, these figures are truly alarming because the rate of water consumption per capita will be dramatically reduced to only 143 liters of water per person per week, This shortage in the supply of water resources will be the beginning of the appearance of diseases, increase in poverty rates, an extension of animal and plant species, conflicts, massive migrations, overexploitation of natural resources.

The decrease in water consumption in Latin America has decreased by 22% in a span of 20 years, where food production has been affected, putting survival conditions at risk, the Secretary of Food and Agriculture of the United Nations (2020) warns that more than 1.2 billion people involved in agricultural activities will face serious water supply limitations since currently, about 128 million hectares of crop fields have stopped producing food due to lack of water resources. Furthermore, the same document refers to the

fact that about 240 million people do not have access to water. The main rings of drought and lack of water are projected to occur in Mexico and Latin America.

Thus, water has become an essential input directly involved in the work of industrial and agricultural power producers, hydroelectric power generation and utilities, and errors in the manufacturing process are also reflected in water pollution. There, it is where water resources also provide environmental services and care to the economy.

CONCLUSION

Water resources are an influential factor due to the involvement of sustainable management, addressing the principles of precaution and prevention, and valuing the internalization associated with the use and contamination of water resources. In view of this, the growing demand for the consumption of water resources is increasing considerably, for which we must understand that these resources are not infinite since of the total water on the planet, only 2.5% is suitable for human consumption and due to factors such as climate change, environmental pollution, global warming will motivate that in approximately 20 years this percentage will be reduced to 1%, according to projections of population growth will reach the point of the emergence of armed conflicts for survival and control of water.

The emergence of new scenarios of water stress caused by the fact that the level of drinking water consumption is greater than the amount of drinking water produced naturally, leading to a shortage of water, where approximately 60% of the planet's inhabitants already have problems with the consumption of the liquid element, reaching a growing water deficit where living conditions will be limited to the availability of water resources.

Integrated water and water resources management is a process that can assist countries in their efforts to address water challenges effectively and sustainably. Based on the challenges that countries face in their pursuit of economic and social development are increasingly related to water. Water scarcity, water degradation and flood impacts are among the key issues requiring attention.

The participation of international entities such as the United Nations, UNICEF, the World Health Organization and the World Water Council should focus all their efforts on encouraging countries around the world to implement assertive policies and projects for the conservation and renewal of water resources, with the main objective of these agreements being the well-being of children.

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