Research Article

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Environmental Taxation and Sustainable Environmental Protection - Reality or Myth? An Integrative Review

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Abstract

The increase in environmental pollution has different origins, and in each of them we can observe the actions and activities of human beings, whether natural or legal persons. In response to this, the legal figure of the environmental tax has been applied as a strategy and means of income to prevent, compensate for environmental damage and improve ecological quality, constituting a route to improve sustainable environmental protection. In this sense, this article examines, based on the scientific literature, the relationship between environmental taxation and sustainable development. The research topics are varied in terms of methodologies and theoretical perspectives, and the relationship between environmental taxes and their objectives remains controversial. The main findings of the review highlighted the importance and purpose of taxes; the difference between types of taxes; the justification for tax collection; and the orientation of the resources raised towards improving environmental protection and sustainable environment, which allows us to conclude on the need to reflect on the implementation of viable environmental policies aimed at ensuring social justice. In this sense, policy makers must have the appropriate profile that demonstrates expertise since sustainable development encompasses the protection of the environment by reducing pollution with educational and awareness-raising policies.

Keywords: *Environmental pollution, public resource, environmental damage, compensation for environmental damage*

1. Introduction

Taxes are a type of tribute whose scope of application is described in Rule II of the Single Ordered Text of the Peruvian Tax Code (SOT TC). Throughout history, taxes have been applied in various fiscal systems, such as the Roman system, which developed taxation rules and principles to limit the power of the State. However, the concept of environmental taxation was not regulated in the Roman Empire. In that context, special taxes were levied on purchases or consumption, such as the " hundredth ratum venalium", which covered all types of sales, and the "collatio lustralis", which today are included in the General Sales Tax and Selective Consumption Tax. These taxes were intended to cover social costs, including environmental costs (Fernández, 2010).

Taxation and its scope of application are structured as follows: (i) it is a pecuniary benefit, which exceptionally is given in kind, (ii) it is compulsory or coercively enforceable, (iii) it is based on jus imperium, (iv) it is levied on the basis of contributive capacity and (v) it is based on the principle of nullum tributum sine lege. Environmental taxes must consider these elements and be well designed to materialize environmental protection, an interest that not only pertains to national policies but also to global policy.

It is relevant to contemplate in the guidelines for compliance with environmental taxation and [the] materialized achievement of the intended purpose. The research reviewed evidences the constant use of several different terms that we explain: "environmental taxation", "green taxes" (Dávila & Mena, 2022), "environmental taxes", "green taxes", "eco-taxes", "ecological taxes" and "taxes with environmental incidence" (Pitrone, 2014).

Environmental taxes and eco-taxes are overlapping terms that have the same meaning (Barbe, 1994). The EU and the OECD consider "green taxes" in the case of groundwater tax, fuel tax, energy tax, vehicle tax, etc. to be "environmental taxes" (European Commission, 2011).

Aviation is one of the most damaging modes of transport in terms of climate change costs (European Commission, 2019)]. The criteria for classifying a tax as environmental are: (i) the tax base (physical-target unit); (ii) the incentive or effect on its application; and, (iii) the purpose of the tax. The physical basis for the application is constituted by a scientifically proven negative environmental effect.

Green taxes can be considered as the genus, and environmental taxation as one of its species. Around 1984, the concept of environmental taxes was introduced to curb pollution. Noting the positive benefits of this legal form, Organisation for Economic Cooperation and Development (OECD) countries implemented green tax reforms in the early 1990s. Almost all OECD countries followed suit. The European Union (EU), the International Monetary Fund (IMF) and the World Bank have come out in favor of the permanent application of green taxes (Pitrone, 2014)

Business, industry and everyone must comply with the green principle (Yasmeen et al., 2023). Environmental taxation is considered by the EU, as well as by many countries in the world, as a tool or strategy of fiscal policy, provided that it is implemented efficiently and provides incentives to the business sector to develop internal policies and projects to contribute to ecological quality from different angles according to their speciality (Li et al., 2023). Studies explain the need to create green taxes in a progressive manner, such as a carbon tax, tax incentives for companies that invest in green technology, a tax on used vehicles by agreeing on their age, and environmental forestry taxes, among others, that guarantee the fundamental right to a healthy and balanced environment (Li et al., 2023) (Dávila & Mena, 2022).

The study is formulated in the face of the indiscriminate increase in activities that are damaging the environment. We have many tax-oriented economic instruments (Calderón, 2015) whose purpose is to contribute to environmental management. The causes related to environmental taxation and sustainable environmental protection encompass new activities, problems and populations; and the absence of efficient fiscal governance to ensure environmental justice (Zevallos, 2022). This justice must not only distribute environmental burdens equitably, but also ensure compliance with environmental collection and guarantee the purpose of the tax. The lack of integration of policy,

regulation and fiscal governance leaves many activities that damage the environment unchecked, harming sustainable development. A relevant proposal is that of a "general environmental tax", which would be integrated into the collection of the General Sales Tax without increasing the total rate, as follows: IGV 16%, 1% Municipal Promotion Tax and 1% General Environmental Tax, for a total of 18%. This revenue would be controlled by the Ministry of Economy and Finance and the respective sectors (Muñoz, 2015).

In the following sections, new knowledge, interpretations, appreciations, comparisons and conclusions regarding the subject matter of the study, based on the review of various academic documents, are made evident. In this sense, the objective is to examine the relationship between environmental taxation and sustainable environmental protection. Analyze the relationship between taxes and environmental taxes; analyze tax theories and collection; analyze sustainable development and ecological quality; analyze the channeling of public income, and the prevention and compensation of environmental damage.

However, it is necessary to warn that there are currently controversies regarding the effectiveness of environmental taxes; on the one hand, they are considered as tools or instruments that allow environmental control and supervision of the income collected and administered by the entities involved with the perspective of facing what is projected by documents from international organizations to 2050, that demographic and economic trends will increase in urban areas, generating new challenges to mitigate environmental pollution, ensure sustainable development and everything that this term implies (Palos et al. al., 2022).

2. Methodology

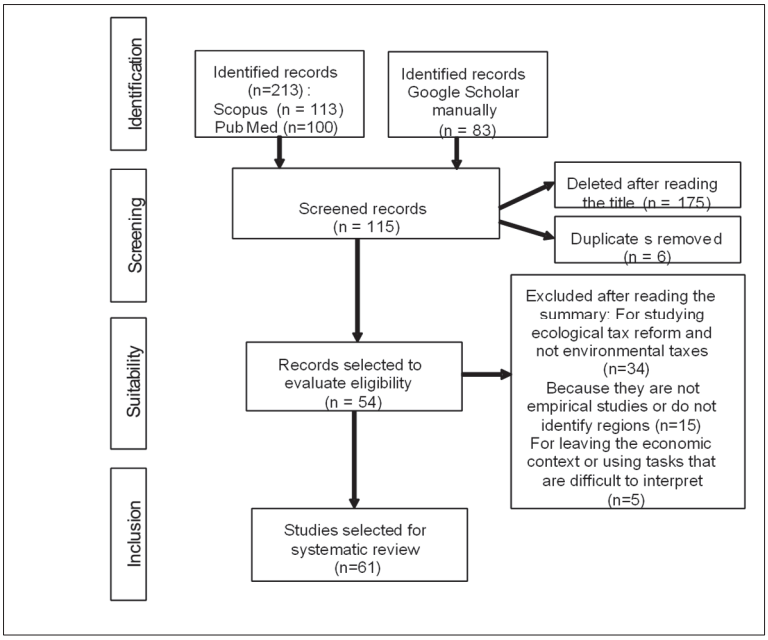
The review focused on scientific articles from journals indexed in recognized databases from 2015 to 2024. Only articles written in English and Spanish were included. As a complement, classical knowledge in the form of books was reviewed. The research included articles and books on the following topics: Environmental taxes and charges, legal assumptions, elements and differences. Theories underpinning the collection of taxes. Sustainable development and ecological quality, importance, need for public revenues. Public resources for the prevention and redress of environmental damage.

The enquiry that we propose is of a basic type because it is focused on the creation of new theories for science, not being necessary its application Álvarez, (2020), in that sense, it will allow to understand the scope of application of the tax as one of the dimensions of the tax, to expand knowledge (Provdanov and Freitas, 2013), with projection to sustain the need for the regulation of environmental tax to contribute to sustainable development. It was developed under the interpretive paradigm, naturalism, qualitative, symbolic, humanistic and phenomenological, Perez (2010) by the need to study the social phenomenon, whose data are found in documents (Soares et al., 2018), are descriptive in nature and the method of inductive analysis (Haradhan, 2018).

The study is integrative and observational so method to be employed will be the systematic review "qualitative or overview" without the use of statistical methods, involves an identification of primary documents, around the research question, critical evaluation and synthesis of results (Pollock & Berge, 2018), which was evidenced in the discussion of the findings presented in the most recent research papers Ceniceros, Jiménez & Fornelli (2019) information search was carried out in the databases Scopus, PubMed, Google Scholar preferably employing search descriptors: Green taxes, sustainable development, environmental taxes, environmental pollution, environmental pollution, solid waste, environmental law. Additionally, in the articles to be reviewed we will take into consideration words such as tax, tax, environmental damage, compensation for environmental damage, regulation. The information was then categorized according to the presence of the words in the title of the work, and the others were excluded. Once the data had been categorized, we began to analyze and compare the findings in order to group them according to our interests, which will allow us to base our research.

The population addressed the review and analysis of scientific articles hosted in the referred databases between the years 2015-2024. In order to determine the sample, we have taken into account Aromataris and Pearson (2014) so that the inclusion/exclusion criteria of the articles to be reviewed are presented in Figure 1. The discrepant results will be useful for redesigning the studies in order to consolidate the quality of the proposed work. The technique we will use will comprise the Documentary Source Review Analysis based on the application of the literal, logical method, which will allow the study of the content of the scientific articles in accordance with the identified criteria (Dulzaides y Molina, 2004, p. 2).

We used as an instrument the matrix of analysis of documentary source review with assignment of study dimensions (Revilla, 2020), among the dimensions are considered complete data of the source, content, analysis and conclusions. According to the authors Page et al. (2020), systematic reviews clearly show all the steps that the authors took to review the literature relevant to the development of the research, by giving priority to specific criteria for the identification and selection of articles published in journals published in prestigious databases.



Note: Selection of the literature used for the systematic review

Figure 1: Prism Flow Diagram

2.1 Search for Systematic Review

To examine the relationship between environmental taxation and sustainable environmental protection, a systematic review search of the existing literature was conducted. Comprehensive searches were conducted in academic databases such as Scopus, PubMed and Google Scholar, using a combination of relevant keywords, such as "environmental tax", "green tax policy", "environmental sustainability" and "environmental protection". The search was limited to articles published in peer reviewed journals and in the Spanish language, with no restriction on publication date. In accordance with Page et al. (2020), it is necessary to ensure the relevance of the studies selected for inclusion in the results section and thus achieve better coverage for the object of study being analyzed

The systematic search was carried out again in April 2024, using databases such as Scopus, PubMed and Google Scholar. The objective was to identify relevant studies from the last few years up to the date of the search. A strategy of combining terms was used to maximize the relevance and quantity of results obtained. The search strategy used was: TITLE-ABS-KEY ("environmental tax") OR TITLE-ABS-KEY ("sustainable development") AND TITLE-ABS-KEY ("environmental taxes") AND

TITLE-ABS-KEY ("tax collection") OR TITLE-ABS-KEY ("ecological quality") OR TITLE-ABS-KEY ("environmental damage") OR TITLE-ABS-KEY ("compensation for environmental damage"). Page et al. (2020) determine that it is necessary to "select a subset of results from the included studies" (p. 793).

This combination of terms proved to be highly effective, producing a total of 113 in Scopus, PubMed and 83 in Google Scholar. To ensure the quality and relevance of the selected studies, rigorous inclusion and exclusion criteria were defined. These criteria allowed us to filter the articles, focusing on those that provided relevant and significant information. In this regard, Sánchez, et al. (2022) indicate that in order to select the most relevant information, it is necessary to specify the quantity resulting from the sample selected for the development of the content based on the corresponding analysis that is linked to the analyzed topic.

3. Inclusion and Exclusion Criteria

The inclusion criteria for the selection of studies were as follows: 1) studies that analyzed the impact of environmental taxes on environmental protection and sustainability; 2) studies that examined the effectiveness of environmental taxes as a policy tool to promote conservation and sustainable use of natural resources; and 3) studies that provide empirical evidence or theoretical analysis on the relationship between environmental taxes and environmental protection. Finally, the 61 selected articles provide a comprehensive overview of environmental taxation and sustainable development; environmental taxes and environmental tributes; theories and collection of taxes; sustainable development and ecological quality; channeling of public revenue, prevention and remediation of environmental damage; and environmental taxation as a policy tool to promote conservation and sustainable use of natural resources.

Studies that did not meet these criteria were excluded, as well as those that focused only on economic or fiscal aspects without addressing environmental implications. Excluded after reading the abstract: For studying ecological tax reform and not environmental taxes (n = 34) For not being empirical studies or not identifying regions (n = 15). For leaving the economic context or using tasks that were difficult to interpret (n = 5).

The data collected from the review of the different scientific articles analyzed considering the literal method used in area of law starting by understanding the special meaning of certain terms (Muñoz, 2015, p. 244). The hermeneutic method according to Arteta (2017) was used for the understanding of a phenomenon studied and analyzed in the different documents to be reviewed. The inductive method was applied, taking into account Accountants (2018) because from premises regarding the phenomenon of study in particular we will manage to obtain general conclusions. We will use the systematic method since it will allow us to structure, categorize and interrelate the data obtained. The interpretative method was used, considering Ayala (2021) to understand the information contained in the selected articles. We will also apply the logical method that will allow us to compare the findings.

4. Results Environmental Taxes and Environmental Tributes

The history of environmental taxes and taxes arises from the fact that the States, faced with the phenomenon of pollution, agreed on guidelines, in the 70s with the recommendation of the OECD - 1972, reaffirmed in 1974 and 1989, the principle "who polluter pays" principle taken into account by the European Community in the 1975 recommendation at the United Nations Conference on the

Human Environment - Stockholm. Sweden. In 1987, Norway issued a report "Our Common Future", known as the Brundtland Report, poverty was the cause of environmental degradation, economic growth, international trade, and could generate resources. In 1992, "The Earth Summit", reaffirming the Declaration of the United Nations Conference on the Human Environment. In 1997, in Japan, the Kyoto Summit was held within the framework of the Third Conference of the Parties. of the Framework Convention on Climate Change. The Kyoto Protocol came into force on February 16, 2005 and expired in 2012. In 2015, the Cop21-Paris Summit was held in Paris, France, where the necessary actions and investments for a sustainable future were specified. Added to all this are the Sustainable Development Goals - 2030 UNESCO.

The environmental tax comprises the same legal assumptions of any tax; it is a kind of tribute whose provision does not have a direct or individualized retribution, since there is no way to provide personalized services for which it is levied. Being an ordinary resource, it generates a current income aimed at covering the current expenditure disbursed to provide public services (Huamaní, 2013). Pitrone (2014) points out that behind the creation of environmental taxes is intended to prevent environmental damage and, at the same time, to incentivize a change in harmful behavior. The revenue from the environmental tax should be directed, among other purposes, to environmental education, awareness, prevention and compensation.

The OECD (2006) defines environmental taxes as those pecuniary tax obligations imposed by the government on activities that have a significant impact on the environment, without implying that the government is obliged to provide a specific service in exchange (p.26). This is related to the theory of legal protection of the environment, which for Jiménez (1998) is a collective legal good, complete, but recognized at the constitutional level and whose protection is necessary and should not be limited to administrative systems.

Environmental taxation encompasses the tax system, tax legal norms, tax policy, agencies or institutions involved, principles, taxpayers, their species, the tax, contributions and rates. A relevant regulatory system can regulate the adjustment of prices and fees that influence environmentally friendly behavior, activities and actions (Milne and Andersen, 2012). Therefore, environmental taxes are viable instruments to contribute to sustainable development (Ahmad and Satrovic, 2023). Ahumana (1956) defines taxation as a fraction of money that the State collects on a mandatory basis from citizens, considering the established rules, in order to finance public utility services, which are considered indivisible goods (p.249).

It should be specified that environmental taxation is the appropriate tool to correct as much as possible the negative externalities, since its implementation leads to the deployment of environmentally friendly activities. Examples of this type of externalities, misuse of natural resources, solid waste, production that pollutes the environment, water, air, soil and generates damage, a cost that is borne by others outside the activity. One more example would be linked to the negative externality produced by trucks transporting sand, crushed stone, among others, without proper protection and all along their route they leave residues, threatening the environment and individuals, since there is no exhaustive control over this business.

Environmental taxes include both taxes and fees, and their application is justified in the fight against pollution. In Ireland, high taxes are levied on the purchase and sale of plastic bags; taxes on beverage containers. Finland provides for the reduction of taxes on inert and non-hazardous waste. The United Kingdom regulates the tax on nitrogen (NOx) in Sweden. On the other hand, studies group taxes by categories, those related to noise, CO_2 emissions, land management, soil and natural resources. Those related to vehicles, transportation, petroleum products, electricity consumption, excess luminance, among others. From the report prepared by the Center for Economic and Budgetary Research- CIEP (2017) it can be evidenced that there is greater collection of environmental taxes linked to categories such as land, soil and natural resources management, petroleum products, vehicles in countries such as Mexico, Australia, Chile and Germany. In addition, there is the particular case of Turkey, which also levies taxes on carbon dioxide (CO_2) emissions and the ecological footprint, but directed at those who are linked to these emissions (Telatar and Birinci,

2022). The Netherlands, for its part, applies various ecological taxes that encompass a wide range of green taxes, such as: tax on groundwater, waste, piped water, transport fuels and energy tax (European Commission, 2011).

Many questions arise from the different environmental taxes grouped by different categories What is done with the revenue obtained from the application of a tax according to the subject matter and taxable base? Are environmental taxes only levied to stop specific pollution? And finally, if we all perform different activities, will we pay different environmental taxes, if any? Not everyone contributes directly to the payment of these environmental taxes, despite the fact that we are in the chain of polluters, for this reason it is necessary to reflect on the implementation of an environmental tax in the denomination of environmental tax that is in line with parameters: (ii) satisfaction of objectives, use of the resource for education and awareness aimed at changing the behavior of polluters, and not prioritize collection as such (ii) identify the taxable matter (iii) establish the tax base (iv) indicate the percentage rate (v) have the approval of the authorities involved, at the central, regional and municipal levels of government, as well as the favorable opinion of international organizations including IMF, WB, OECD, EU, Inter-American Center of Tax Administrations (CIAT), others. Taxes represent the best approaches to achieve sustainable development without harming the environment (Javed et al., 2023).

4.1 Tax collection

The collection of taxes is supported by the theory of distributive justice, because it seeks to allocate burdens and favor the whole society, that is, the totality of the members of the community (Silva et al., 2017). This is complemented by Rawls' (2006) theory of justice, which argues that norms should require payment that sustains public goods; everyone will contribute their share if they are sure that others will pay their fair share (p.251). The theory of social justice proposed by Pallí (1985) also argues that taxes not only guarantee income for the financing of the State, but also validate political power, and the distributive justice applied will allow to give or demand proportionately (p. 1308).

It is important to analyze the "**double dividend**" theory that appeared in the 1980s, with the premise of the environmental tax and its capacity to contribute to the fiscal system by reducing current taxes (Terkla, 1984). However, other studies such as Tullock (1967), Kneese and Bower (1968) or Baumol and Oates (1979) had already reviewed and evaluated similar cases. This theory argues that environmental taxes have a double benefit, on the one hand, the improvement of the environment and on the other hand, to reduce the deviations or distortions of current or traditional taxes by not covering environmental damage with income or preventing it (Pearce, 1991 and Oates, 1995). This explanation corresponds in the same way to the theory of the tax generates welfare gains for society. Research argues that subjects behave according to standard economic theory, and that higher prices reduce the demand for price-elastic products, referring to the carbon tax (Hartmann et al., 2023). It also explains the theory of moral licenses, the active subject of the tax pays the tax and thereby reduces the guilt with respect to the polluting activity, in this respect there are previous studies that deal with and present contributions on the aforementioned theory

Market failure theory, in this particular case, addresses the negative externalities that violate the fundamental right to live in a healthy environment. These externalities, of a socioeconomic or environmental nature, include problems of health, welfare and urban poverty. Negative activities produce solid waste, loss of vegetation, landscape problems, among others (Ayoni et al., 2022). The State, by conducting a technical study of these problems, could implement specific taxes as an approach to mitigate these activities and establish prohibitions as appropriate.

4.2 Sustainable development and ecological quality

We observe that different human actions and activities increase pollution, which represents a challenge for states in promoting and formulating policies in line with reality that effectively solve

environmental problems and ensure sustainable development (Alola et al., 2023). Sustainable development is a term that officially appeared in 1987 in the Brundtland Report of the World Commission on Environment and Development, as a way to protect the ability of future generations to meet their needs. The president of the Gothenburg European Council in 2001 stressed that the European Union has shown a strong commitment to the idea of sustainable development, mentioning that the three dimensions - economic, social and environmental - are intrinsically linked and therefore inseparable. In the social sphere, we have topics involved such as equity, health, education and population. The environmental dimension includes land, atmosphere, seas and coasts, oceans, freshwater and biodiversity. The economic dimension includes the economic structure and the institutional system (Artaraz, 2002). A change of focus is required in terms of current policies and programs, recognizing the concept of sustainable development as an alternative to the traditional vision and not simply as a modification of it (Redclift y Woodgate, 1997).

Sustainable development encompasses the protection of the environment through the reduction of pollution with educational and awareness policies that will in turn promote economic growth based on the double dividend theory. This knowledge is also supported because in countries such as Australia there is evidence of the double dividend impact of their environmental taxes (Fraser and Waschik, 2013). Likewise in Mexico. However, some researches invalidated the "double dividend" theory of environmental taxation (Zhou et al., 2020), also called double dividend hypothesis of environmental taxation applied in northern European countries, even referring to weak and strong double dividend, the latter is possible as long as the tax system is able to balance resources (Rodriguez, 2005). It is even debatable how the environmental tax (hereinafter "IA") that generates resources tends to reduce expenses of different kinds in order to keep the public budget unchanged. In this regard, Miller (2013) refers that taxes related to the environment that have been regulated over time are debatable with respect to the reduction of pollution and improvement of ecological quality.

For Shahzad (2020), the application of environmental taxes for ecological quality presents very scarce and ambiguous studies, and he considers that more in-depth research is necessary in order to elaborate policies, designs and implementation of environmental regulations in accordance with environmental problems. Therefore, we consider that the existence of a series of taxes of different categories, as we have explained above, does not mean that it is the most equitable and fair. The idea of deep ecology promotes a conception of economic growth that is synchronized with the balance of the environment in which we live (Kliksberg, 2013). In this context, Arne Naess raised an interesting debate around the differentiation between superficial and deep ecology, pointing out that the former focuses on combating pollution and the depletion of natural resources, without addressing the social, political and cultural causes that generate the environmental crisis (Elizalde, 2008), which is why the pertinent resource is necessary to protect it, since ecology as a discipline is in charge of analyzing the causes of the environmental problems affecting our planet and critically questions the systems of life, as well as the ethical and moral values of industrial societies; It also highlights the relevance of a philosophical perspective to address current environmental challenges (López-Gonzales y Zúñiga-Gonzáles, 2016).

The contribution to the environment, although laudable from a sustainable perspective, carries with it the possibility of imposing administrative or coercive fines on companies that incur in environmental infractions. This not only implies a direct financial burden for companies, but could also generate instability in their operations and affect their reputation in the market. The imposition of fines not only has repercussions in economic terms, but can also have a negative impact on investor confidence and public perception of companies. Environmental responsibility has become a crucial factor in the decision-making process of consumers and shareholders, who increasingly value sustainable and ethical business practices. In addition, it is worth noting that the environmental focus of legislation not only translates into financial penalties, but may also require significant investments by companies to comply with stricter environmental regulations. This additional outlay could generate additional financial pressures, especially for those companies that have not previously prioritized sustainability in their operations.

Sustainable development and ecological quality imply, for example, maintaining the ecological status of rivers. Researchers point out that the national legal regime does not establish concrete actions in this regard and consider prohibitions of activities or the obligation to conserve or maintain ecosystems to be insufficient. The legal protection of ecosystems depends on technical studies that should be warned in new legal regulations (Trama et al., 2020). Environmental quality depends on many aspects, including natural climate, topography and human activities (Zhang et al., 2023), resulting in the need for two tasks: environmental monitoring and assessment.

The current concern for preserving natural resources is aimed at maintaining economic stability and ecological health in the face of ecological degradation, seeking to balance ecological integrity (Ahakwa and Tackieb, 2024), based on the identification of key factors that damage ecological quality (Cao et al., 2024), only then will an environmental regulatory framework and accurate public management be viable to advance towards the contribution of the SDGs. In this regard, the theory of the "resource curse" argues that countries with greater natural resources show environmental degradation due to the demands of industries (Ahakwa and Tackieb, 2024), regulation plays a relevant role in environmental impact, which it has not been fulfilling, its results are inconsistent, on the one hand it is costly to require or motivate the development of clean and efficient technologies that mitigate ecological damage (Mehmood et al..., 2024) and on the other hand it can lead to the development of clean and efficient technologies that mitigate ecological damage (Mehmood et al., 2024) and on the other hand it can generate long-term benefits derived from innovation (Ahmad and Satrovic, 2023), under these two premises, regulation is positive for the reduction of ecological damage (Ahakwa and Tackieb, 2024). Also, it is necessary to evidence the ecological quality taking into account human welfare and environmental impact the latter give rise to the concept of efficient ecology, some variables to observe comprise the economic, political and demographic ones (Tamburino & Bravo, 2024) (Tamburino & Bravo, 2024). Linking ecological environment and sustainable development (Dong et al., 2024). Linking ecological safety for green building and sustainable development strategies (Zhang et al., 2023). Ecological quality involves ensuring a balanced ecological environment between humans and nature (Jiang et al., 2023).

4.3 Channeling of public revenues to the prevention and remediation of environmental damage

The prevention of environmental damage is lagging behind due to the lack of capacities and competences not only of the world community but also of the authorities of each country, policies do not respond adequately and the numerous environmental problems, evidencing that rules and regulations are not applied, in the same way it is required that the States consider formulating solid environmental policies (Yao et al., 2021 and Gemechu et al., 2012). Inaction on the part of national and international organizations is observed in the face of environmental damage that includes quantifiable deterioration of natural resources, both directly and indirectly. It is important to consider, for the aforementioned purposes, the administrative instruments that comprise the different duly regulated strategies containing preventive and coercive measures. Also, of utmost importance are the persuasive instruments whose purpose is to promote environmental education and awareness. It is not a matter of regulating the creation of taxes to generate public resources, but of planning how to distribute this environmental income for prevention and compensation, with a view to mitigating environmental problems and contributing to sustainable development. It is essential to determine the collecting agency, the entity that will administer and who will be the supervising agencies.

The purpose of the exploitation of public resources through environmental taxes is oriented, according to Mendescarlo et al. (2010), to the development and implementation of environmental projects related to environmental problems that prevent damage to the health and safety of the population. In addition, the income should be directed to the implementation of Environmental Management Systems. This purpose, specifically stated, aims to ensure environmental sustainability and is not directed to economic sustainability. However, the speed of industrial development,

urbanization and economic factors are confronted with the serious environmental situation of pollution and degradation, which poses pressing challenges for environmental protection with a view to human life. Studies have shown that environmental damage remediation is not enforced due to the lack of a sound system and that it is almost impossible to compensate for the actual amount of damage, as breaking the law is cheap (Dong et al., 2023).

In Peru, given the increase in the number of complaints filed with the Supreme Court, the creation of specialized environmental courts has been implemented through the competent entities, and judges are being made aware of the challenge of ensuring that crimes do not go unpunished (Diburga, 2023). In the same sense, during 2023, 3,735 environmental complaints were received through the National Information and Environmental Complaints Service (Sinada). It is worth noting that 57% of these complaints fell under the jurisdiction of the environmental oversight entities (Oefa, 2024), however, the lack of technical specialization hinders judicial processes for compensation for environmental damages. Europe and the United States have always been at the forefront in this regard, however, China in May 2022, the Ministry of Ecology and Environment, together with 13 departments, issued the Regulations on Environmental Damage Compensation Administration and in the face of conflicts, environmental restoration and supervision, and compensation fund management, increased costs for violators to curb environmental damage (Dong et al., 2023). Compensating environmental damage is a complex research task involving multiple disciplines, such as ecology, hydrology, meteorology, and geographic information, among others

Environmental taxes tend to induce behavioral changes and deter environmentally harmful behaviors, whose purpose is the protection of the environment, improving it for the present and for future generations (Pitrone, 2014). The elements are clearly designed, including the taxable event and the tax rate, in accordance with the principle of tax justice. Studies have shown that environmental tax regulation could mitigate environmental pollution. For example, taxes on airline tickets showed a significant reduction in flights and, with that, aviation emissions (Bernardo et al., 2024). The pesticide tax was effective in persuading behavioral changes and thus resulted in the reduction of the total pesticide load (Nielsen et al., 2023).

4.4 National normative framework

Following the guidelines of the hierarchy of norms we have the Political Constitution of Peru Article 2° numeral 22 Fundamental rights of the person. Every person has the right to enjoy a balanced and adequate environment for the development of his or her life. Legislative Decree No. 613 Environmental and Natural Resources Code, articles 1° and 2° Environmental Policy; 3° to 5° Environmental Protection and 78° to 90 Population and Environment. Likewise, the principles contained in the preliminary title. With respect to the problem raised, we must also analyze Law No. 27332 in Article 10 Contribution for regulation: The Regulatory Bodies shall collect from the companies and entities under its scope, a contribution for regulation, which may not exceed 1% (one percent) of the value of the annual invoicing, deducting the General Sales Tax and the Municipal Promotion Tax, of the companies under its scope. This contribution shall be fixed, in each case, by means of a supreme decree approved by the Council of Ministers, countersigned by the President of the Council of Ministers and the Minister of Economy and Finance. This contribution is a tax of a contributory nature with the purpose of supporting the regulatory entities, this contribution is obligatory, the obligated sectors are: mining, electricity, hydrocarbons, imports and production.

In addition, the Regulation of the Administrative Sanctioning Procedure of the OEFA, states in paragraph 12.1 article 12, the fine to be imposed cannot be greater than ten percent (10%) of the annual gross income received by the offender the year prior to the date on which the infraction was committed.7. After establishing Law No. 27332 and OEFA's Sanctioning Procedure Regulations as premises, it is essential to enter into a deeper reflection on the impact that any contribution to the environment could have on the tax and economic sphere. Beyond the simple application of the General Sales Tax (IGV) with the additional 2% to individuals and legal entities, a complex panorama

is envisioned that would affect not only the fiscal sphere, but also the economic stability of the companies.

in 1972 in the recommendation on guiding principles relating to international economic aspects of environmental policies", later included in the Bruntland Report, in the First Program of Action of the European Communities in Environmental Matters, organized by the United Nations, and with full legal character, in the Single European Act of 1986, and in the German Unification Treaty (p.117), however, the principle only tends to discourage the use of pollutants, which is not adequate to prevent or compensate environmental damage (Martin, 1991). It is also important to review the extra-fiscal function of the environmental tax (Alonso, 1995 p. 136), the parafiscality that does not provide guarantees to taxpayers and the need for a reform of the tax system (Castillo, 1999). Similarly, environmental scholars highlight the need to address the problem of sustainable development, but from a holistic and multidisciplinary viewpoint in order to solve urgent environmental issues (Gutiérrez, 2007)

5. Discussion and Final Reflections

The environmental tax is mandatory and is part of the tax system (Ahumana (1956) OECD, 2006; Milne and Anderson, 2012; Huamaní, 2013; Pitrone, 2014;), it is a viable instrument (Ahmad and Satrovic, 2023) based on the theory of legal protection of the environment and the green principle (Jiménez, 1998; Milne and Andersen, 2012; Yasmeen et al..., 2023), comprises then a useful tool to counteract also, externalities and improve sustainable development (Calderón, 2015; Javed et al., 2023). On the other hand, published researches demonstrate the collection by categories and by ecological taxes (carbon), green taxes (water) (CIEF, 2017; European Commission, 2011; Telatar and Birinci, 2022). Also fees constitute part of environmental taxes, the latter constitutes a strategy of fiscal policy (Li et al., 2023). In finding types of taxes and other forms of environmental collection, studies have proposed a comprehensive tax reform that considers, for example, taxes on Urban Solid Waste (USW); for tourism services (Ecotasa) and the water sanitation fee; fees for discharges into rivers and the sea; tax on petroleum fuels; tax on atmospheric pollution. It is also important to implement ecological taxes and tax incentives to ensure sustainable development (Dávila &Mena, 2022).

Fiscal governance, policy and programs play a fundamental role in ensuring environmental justice, environmental balance, sustainable development and legal protection against environmental problems (Redclift and Woodgate, 1997; Rodriguez, 2005; Elizalde, 2008; Kliksberg 2013; Trama et al., 2020; Zevallos, 2022; Ayoni et al., 2022; Alola et al., 2023) which is supported by the theory of distributive justice (Silva et al., 2017), The theory of justice (Rawls, 2006) the theory of social justice (Pallí, 1985) adding to it, the proposal of the general tax on the environment (Muñoz, 2015) and the theory of market failures, against the arguments pointed out warns the theory of the double dividend (Tullock, 1967; Kneese and Bower,1968; Baumol and Oates,1979; Terka, 1984; Fraser and Waschik, 2013; Zhou et al., 2020) that contemplates on the one hand the improvement of the environment but also the deviances with respect to that goal (Pearce, 1991; Oates, 1995). On the other hand, the standard economic theory of tax debtor behavior (Hartmann et al., 2023; Artaraz, 2002) is complemented by the theory of moral licenses. It is important to ratify Miller's (2013) statement that there is much controversy regarding the collection of environmental taxes and the purpose of such taxes, in that sense there are few studies that reveal this situation (Shahzad, 2020) and without a philosophical vision that warns of the environmental challenges that environmental taxes pose to the environment. (Gutiérrez, 2007).

It is necessary to identify those causes that generate damage to environmental quality, ecological health, human well-being are related to the theory of the resource curse, ecological security and sustainable development strategies (Zhang et al., 2023; Ahakwa and Tackieb, 2024; Tamburino & Bravo, 2024; Dong et al., 2024; Zhang et al., 2023; Jiang et al., 2023) for relevant standard setting (Mehmood et al., 2024; Ahmad and Satrovic, 2023; Yao et al., 2021 and Gemechu et

al., 2012; Mendescarlo et al., 2010)). Again, the absence of an adequate tax system (Dong et al., 203) and countries such as

Peru continue to strengthen the judicial system but still incipiently (Diburga, 2023; Oefa, 2024; Castillo, 1999), this situation is of concern, but it is also true that taxes play a basic role (Bernardo, et al., 2024; Nielsen et al., 2023; Martin, 1991).

For example, the environmental tax related to the environment "carbon tax" with respect to its collection achieves symbolic figures demonstrating problems in the execution of environmental and tax policies in Latin America (López and Vence, 2021). In Latin America and the Caribbean, some measures have been implemented to control fuel consumption, actions aimed at reducing greenhouse gas emissions such as promoting less use of vehicles in countries such as Costa Rica, El Salvador, Honduras and Panama. (Galindo et al., 2015) or, where appropriate, the application of taxes on the purchase of motor vehicles. On the other hand, Ecuador regulated the Redeemable Tax on non-renewable plastic bottles, without a doubt its purpose is to reduce environmental pollution and promote recycling; Another successful example was developed in Mexico with the tax whose name is wastewater discharge rights that are related to the volume of water. Also in Colombia the tax is known as remuneration rates for water pollution.In Peru, environmental taxes are collected through fees and taxes. Taxes based on the tax base: a) taxes on energy, electricity, combustion vehicles (gasoline and diesel) b) instruments that tax transportation, motor vehicles on purchase, registration, permit. c) others, on extraction, disposal, waste management, the use of pesticides and fertilizers (ECLAC, 2019, 105). The precision to be made is that although they are environmental taxes, environmental taxes are not collected as such, but They are collected as part of conventional taxes such as the general sales tax (VAT), vehicle heritage tax, among others. And the rates that comprise a binding tax are aimed at obtaining direct and individualized benefits, therefore, the problem arises regarding public revenues aimed at preventing and compensating for environmental damage.

6. Conclusions

The research provides knowledge aimed at reflecting on what the topic of environmental tax and sustainable development covers based on the analysis of the developed literature, allowing it to influence reflection on the implementation of viable environmental policies aimed at ensuring social justice. In this sense, policymakers must have the appropriate profile that demonstrates expertise, since environmental policy has an impact on the economic sphere.

It is important that future studies continue along the same lines, specifying the scope and differences between environmental taxes and environmental taxes, specifically with respect to the elements of the tax. In countries such as Peru, where taxes are applied to collect income related to environmental issues, the control of the destination of the tax is inevitable. It should be pointed out that there is no discussion regarding the collection of taxes, since it is based on classical theories that have been developed.

From a broad perspective, sustainable development and ecological quality have broader relations outside the tax sphere analyzed in this argument. However, necessary meditations arise regarding how the environmental tax will ensure environmental compliance, specifically in the case of companies as taxpayers or tax debtors; and how the balance between the tax, sustainable development, ecological quality and financial viability will be achieved and financial viability of those involved. The question also arises as to the scope of ecological quality: are the authorities clear about the scope of application of this category?

Governments play a fundamental role not only in the design, creation, implementation and development of environmental taxes and fees, but also in the channeling of the public revenue collected to ensure the prevention and compensation of environmental damage, the latter of which is sometimes impossible to achieve due to the effect of the damage. On the other hand, in many cases the legal provisions are dispersed and need to be integrated into a single regulatory body in order to fulfill their purpose. Likewise, it is important to review the comparative legislation that is at the

forefront with respect to the compensation of environmental damages and its valuation according to the resource. In this way, the environmental tax will fulfill its purpose and become a reality and not a myth.

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7.1 Etic

The approval of the Research Ethics Committee: D-UCVV-2023-2 was obtained in November 2023. Ethical principles such as integrity, intellectual honesty, truthfulness, fairness and responsibility, transparency and respect for intellectual property were foreseen. Considering Benites (2020) because the documents to be reviewed were cited and referenced using the Turnitin software. The scientific rigor that was evidenced is added because we will comply with the criteria of credibility, transference, conformity and substantiation, taking into account Noreña, Alcaraz-Moreno, Rojas & Rebolledo-Malpica (2012) to ensure the quality of the research.

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