

## ENVIRONMENTAL REGULATION IN AGRICULTURAL ACTIVITIES IN PERU: A SYSTEMATIC REVIEW

Leyli Jeny Aguilar Ventura<sup>1\*</sup>

<sup>1</sup>Faculty of Laws, Universidad de Huánuco, Huánuco 10001, Perú

\* **Correspondence:** leyli.aguilar@udh.edu.pe; Tel: +51 62 519773

**Abstract:** This study reviews a variety of scientific articles from the past five years that address the importance of environmental regulation in agricultural activities in Peru. The review was conducted using various academic search engines, including articles from Peru and other countries where there is also interest in this topic. The following question was posed: How is the importance of environmental regulation in agricultural activities in Peru demonstrated? The objective of this research is to carry out a systematic review of the articles related to environmental regulation in agricultural activities in Peru. Therefore, the information in the scientific network has been utilized. All of the documents reviewed are from indexed journals of an academic nature, ranging from national to international studies. This approach was taken to rescue the different approaches to this problem with different points of view, their approach, the problem, the solutions, and their recommendations. It has been determined that environmental regulation in agriculture in Peru is imperative to mitigate impacts on pertinent ecosystems and promote sustainability. Nevertheless, the scientific evidence examined repeatedly demonstrates a substantial discrepancy between the regulations concerning pertinent matters and their effective implementation. A review of the extant literature reveals that the most salient obstacles to effective regulation in this sector are a lack of oversight, the fragmentation of institutional competencies, and the articulation of regulatory policies with the realities experienced by small and medium-sized producers. These obstacles impede the real and effective compliance of these producers.

**Keywords:** Environmental regulation, Agricultural activities, Environmental Impact, Environmental Governance, Peru

### 1. Introduction

Agriculture constitutes a pivotal component in the global context, particularly with regard to ensuring food security and fostering economic development. However, the ongoing expansion of agriculture exerts significant pressure on these ecosystems. Agriculture has emerged as a primary contributor to various forms of environmental degradation, including the deterioration of soil quality, the exhaustion and contamination of water resources, the decline of biodiversity, and the release of greenhouse gases into the atmosphere. In this sense, environmental regulation has emerged as the primary legal and political instrument aimed at harmonizing agricultural production, a necessary undertaking, with the preservation of natural capital, thereby progressing towards a sustainable development model.

The issue that concerns Peru is particularly remarkable and complex. Peru is regarded as one of the world's most megadiverse nations, concurrently functioning as an emergent agro-exporting country. This poses a formidable challenge: to balance the expansion of the agricultural frontier with the conservation of its distinctive and vulnerable ecosystems (Becerra, 2022). The country's geographical diversity is characterized by a series of distinct regions, beginning at the arid coast, which is considered the origin of modern agribusiness. These regions extend through the Andean mountains and the

traditional agricultural areas that have been in place for centuries, eventually leading to the headwaters of the Amazon basin. The Amazon is a region that is particularly vulnerable to the adverse effects of unregulated logging. This series of regions, characterized by their unique environmental and socio-economic characteristics, necessitate the establishment of comprehensive regulatory frameworks to ensure the sustainable management of natural resources and the conservation of the environment.

In recent years, Peru has established an environmental regulatory body that oversees economic activity, including agriculture. This regulatory body is based on laws and regulations, and it has created institutions such as the Ministry of the Environment (MINAM), the National Environmental Certification Service for Sustainable Investments (SENACE), and the National Water Authority (ANA). These institutions have aimed to establish Environmental Quality Standards (ECA). The maximum permissible limits (LMP) and environmental management instruments, such as the Environmental Impact Assessment (EIA), are of particular concern. These regulations aim to address, at least in the field of theory, the use of agrochemicals, agriculture, land use change, and biodiversity.

However, despite the existence of this institutional and legal infrastructure, there persists a perception of regulatory fragmentation, overlapping competencies, and, most significantly, an excessively wide gap between the written standard and its implementation and enforcement in practice. The extant literature regarding the impact of these regulations on the environmental impacts of Peruvian agriculture is disseminated in various academic journals, technical reports, legal documents, and so forth. This dissemination complicates the attainment of a comprehensive understanding of the state of regulation, the achievements achieved, the gaps that have been left, and the main obstacles to its compliance.

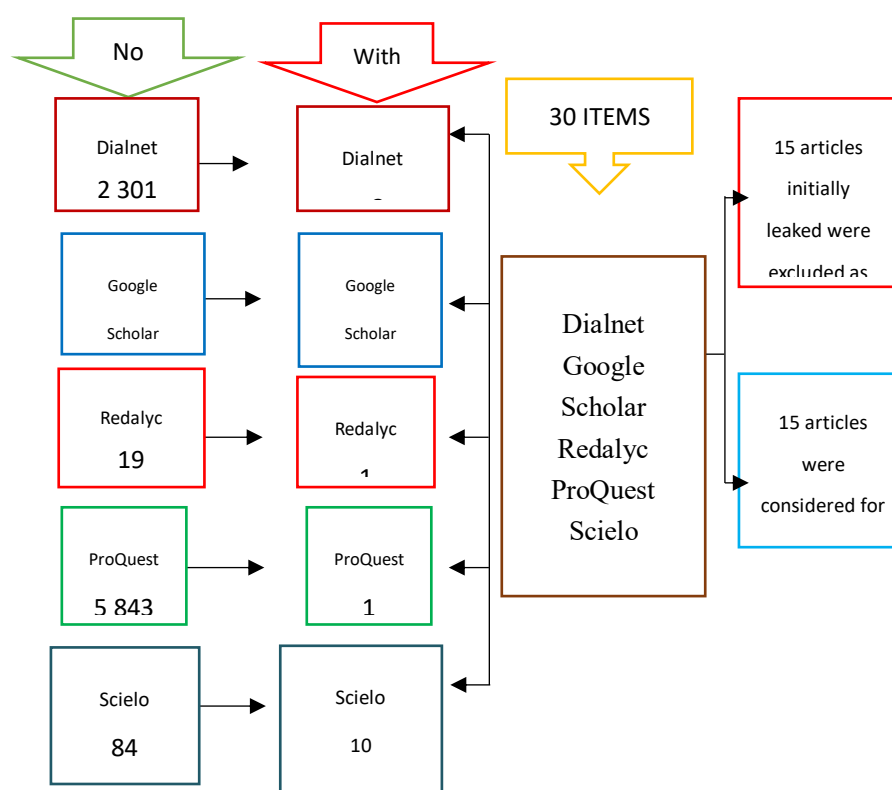
The objective of this systematic review is to systematically analyze, synthesize, and evaluate the extant scientific evidence on the environmental regulation framework in agriculture in Peru. This study, which has carried out an exhaustive search and a systematic analysis of the literature, seeks to map the regulatory framework and identify its changes, describe the main environmental management tools in use, and establish, based on the available studies, what are the challenges and gaps in the environmental governance of the Peruvian agricultural sector. It is anticipated that the review will be meticulously conducted, providing a foundation of knowledge that will be beneficial to academics, public policy managers, and relevant actors in the sector. The objective is to serve as a guide for future research endeavors and to facilitate the development and implementation of enhanced policies that will enable the realization of sustainable agricultural practices in Peru.

## **2. Materials and methods**

Systematic reviews (SRs) are secondary studies that seek to answer a research question by conducting exhaustive searches of the available evidence (studies that have answered that research question) and synthesizing the results found in such research (Fernández et al., 2019). A bibliographic analysis was conducted, encompassing a range of scientific articles that addressed the study's variables. A comprehensive search was conducted for articles published during the five-year period from 2020 to 2025. The objective of this search was to identify a collection of updated data based on the specified topic. The search sites for the systematic review have been the main academic search engines, such as: Google Scholar, Scielo, ProQuest, Dialnet, and Redalyc. In this section, an array of scholarly articles from esteemed scientific journals has been meticulously curated, focusing on the pivotal role of social skills within the context of fundamental education. The search terms employed in this study were "Environmental Regulation," "Agricultural Activities," "Environmental Impact," and "Environmental

Governance."

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**Figure 1.** Flowchart of the inclusion and exclusion criteria taken for the systematic review

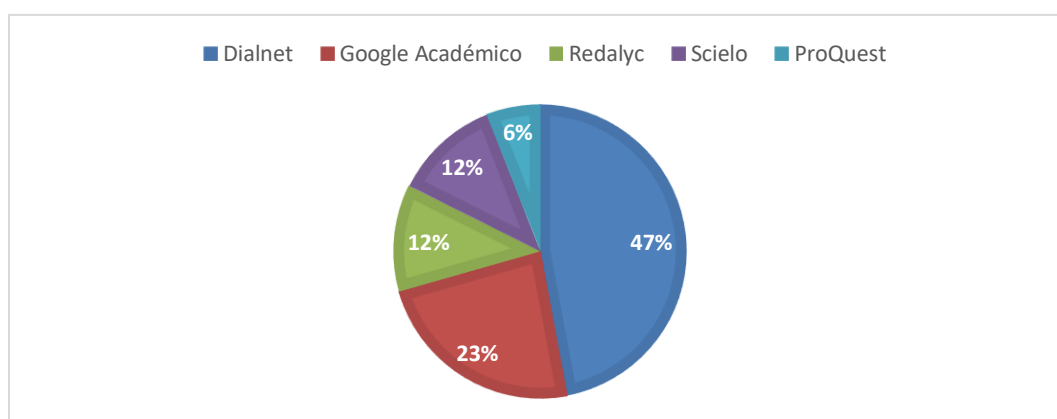
### 3. Results

The results of the research are presented below. The bibliographic analysis was conducted through the academic network, leveraging virtual resources and reputable websites for scientific searches. The following search engines were utilized: The following bibliographic databases are recommended in order of preference: Dialnet, Google Scholar, Redalyc, Proquest, and Scielo. The articles are current, with an age of no less than five years. On the other hand, important articles have been found in Spanish and Portuguese. The search terms used were "Environmental Regulation," "Agricultural Activities," "Environmental Impact," and "Environmental Governance," which yielded results that were highly congruent with the research problem.

As illustrated in Figure 1, the process of searching for information entails a series of steps. In the initial phase of the experiment, the search terms were entered without any filters, resulting in the display of numerous articles: The bibliographic data of the article can be found in the following sources: Dialnet 2301, Google Scholar 485, Redalyc 19, Proquest 5843, and Scielo 84. The application of language filters (Spanish) with a minimum age of five years, narrowed to include only articles from scientific journals, resulted in a significant reduction in the number of articles obtained. It is also pertinent to acknowledge the role of personal preference in this context. It is recommended that articles not directly related to the application of the topic in Environmental Regulation be disregarded. The search process is outlined as follows: The following databases were consulted: Dialnet (8), Google Scholar (10), Redalyc (1), Proquest (1), and Scielo (10).

In this study, an effort was made to gather articles from a variety of academic search engines to

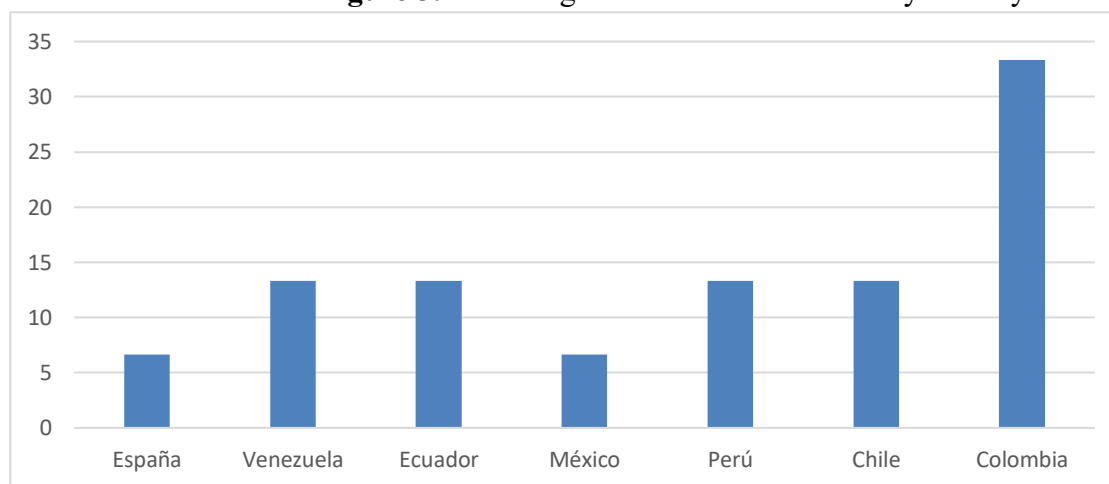
obtain a range of results. However, as illustrated in Figure 2, it was observed that the academic search engine "Dialnet" exhibited a higher prevalence of articles related to the subject. This finding is particularly noteworthy when considering that the majority of the articles, as depicted in Figure 1, were sourced from the search engine "Scielo." It is noteworthy that, in the latter case, the application of the filter led to the discarding of numerous results, in addition to the personal selection of the researcher. This underscores the fact that, despite the precision of the search terms, the results obtained were largely unrelated to the research topic. Conversely, a survey of articles in "Dialnet" revealed a number of relevant publications, suggesting the potential for further exploration into the subject area.



**Figure 2.** Percentage distribution of articles according to the academic search engine

Conversely, the genesis of the research has been elucidated to facilitate a comparative analysis of countries that have addressed the aforementioned problem. In this particular instance, Colombia is a noteworthy exception, given that 33.337% of the articles are of Colombian origin.

**Figure 3.** Percentage distribution of articles by country



A number of articles have been published that provide more general and theoretical results. For instance, Tamayo-Álvarez (2023) concludes that the majority of approaches to environmental governance have centered on a conventional and anthropocentric perspective, wherein the preservation of nature is consistently subordinated to economic growth. A plethora of studies that address environmental protection employ a variety of expressions, including "sustainable development," "resource management," and "impact mitigation." The author posits that this state of affairs can give

rise to the utilization of these concepts in a manner that does not interrogate the underlying developmental paradigm. In this context, concepts such as the "rights of nature" emerge as a more precise and adequate alternative to address the severity of the ecological crisis.

In a similar vein, Ugarte Cornejo (2020) underscores the significance of conducting institutional diagnoses and prioritizing the examination of practical management. The text asserts that the capacity of the state to manage socio-environmental conflicts is an essential component of sustainability. The application of a case analysis, such as that of "Tía María," facilitates the determination of the State's actual level of articulation and effectiveness, thereby enabling the implementation of corrective strategies. Their study reveals that management responsibility is fragmented, with the "family" of ministries (including Environment and Agriculture) being responsible for the failure, since, without being able to be indifferent to the problem, they act on their own, without a national strategy to reinforce the coherent application of regulation.

As illustrated in Table 1, the subsequent discussion expounds on the most significant contributions of each research study to the resolution of the inquiry concerning the necessity of environmental regulation in agricultural activities.

**Table 1.** Articles by author and contribution

N°	Authors	Contribution to the study
1	Hunter Ampuero, I. (2020).	This research illuminates the pivotal role of the state's sanctioning authority in enforcing environmental regulations. The argument is made that its implementation should be adaptable and effective, employing instruments such as compliance programs and self-reporting mechanisms to facilitate the correction of offenders' deficiencies. The author posits that this approach, in addition to being more reasonable for the administration, allows the seriousness of each breach to be differentiated and achieves a more direct and faster protection of the affected environment.
2	Coayla, E., Romero Carrion, V. L., & Bedón Soria, Y. T. (2024).	This study defends the claim that the regulation of large-scale mining is primarily concerned with economic profit (extractivism), overlapping environmental and social safeguards. It shows a broad critique of the Supporting Technical Reports (ITS), which, in the author's opinion, become an instrument to dispute and dismantle the Environmental Impact Studies (EIA) in favor of the approval of short-term projects at the expense of serious

- impacts, which means that the question of water, The air, and, in particular, agricultural soils, together with the impact on the rights of communities over territories and water, is basically what gives content to this article, which is therefore considered directly relevant to the problem at hand. Here, finally, an option is proposed for a regulatory reform that gives strength and that turns territorial planning into a way of limiting the use of ITS.

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3 Peña Quispe, P. C., Montes Tapia, K. R., & Ames Vega, E. S. (2022).

The study concludes that, through the case of the oil spill, critical flaws in the governance of environmental oversight in Peru are evident. It shows that OEFA has difficulties in ensuring immediate action in the face of serious risks, ensuring sustained compliance with the law, and effectively prosecuting offenders. The article highlights the urgent need to strengthen inter-institutional and intersectoral coordination to manage emergencies and enforce regulations. The lessons learned from the case are directly applicable to improving control in other sectors, such as agriculture.

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4 Carrasco-Jocope, R. R., Vigil-Requena, S. V., Valiente-Saldaña, Y. M., & González-González, D. G. (2023).

The main finding of this research is that it analyzes the problem of pollution and solid waste in the urban environment of Piura. Its relevance for the agricultural sector is tangential but significant: it concludes by identifying proposals for waste management that include the promotion of composting, lumbriculture and the general use of organic materials. This directly connects a city's waste management with practices that are fundamental for sustainable agriculture and soil improvement, opening a path of analysis on the circular economy between the city and the countryside.

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5 Mann, G. A. L. B., Aspillaga, J. O. D. V., & Scoth, W. A. L. (2022).

The study shows that strategic planning in Peruvian agribusiness is incipient and

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- 6 Ugarte Cornejo, M. A. (2020).  
deficient. He points out that the sector is reluctant to incorporate major global challenges such as climate change and environmental degradation into its planning. He mentions that key territorial planning tools, such as ecological zoning, are still in an early phase in Peru. However, it highlights that technological innovation plays a crucial role, not only for productivity, but also to promote cleaner production that mitigates negative impacts on the environment.
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- 7 Vilela, M. (2023).  
The conclusion of the study is that the Peruvian State does not have the capacity to manage socio-environmental conflicts due to structural problems. The essential characteristic that is identified is how far it is from the articulation of the government, since it is shown that the different ministries (and explicitly Agriculture and Environment) and the various levels of government (national, regional, local) worked in isolation, with different strategies and separate work logics. This disarticulation of institutional attention makes it impossible to measure the problem holistically and was the main cause that led conflict management to failure, a lesson that could be directly applied to the regulation of any economic sector, including agriculture. The study shows that the Andean rural population, although dispersed, is organized by a complex and efficient traditional territorial structure, based on community management of water networks and roads. The article strongly criticizes public programs and policies for not valuing or understanding this structure. It shows that state interventions, being standardized and not "tailor-made", are ineffective or harmful. A key example is the criticism of canal extension projects that ignore the integral management of the water network
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- 8 Tuesta, J. A. A., Tuesta, A. A., & Camacho, L. R. (2021). or roads that destroy food security infrastructure.  
The study shows that territorial planning is the main and most appropriate instrument to achieve sustainable development in the country, but that unfortunately it is very deficient. Throughout the research, extreme inequality in terms of infrastructure and resources between Lima and the rest of the regions is observed, which prevents territorial development from being achieved. Based on these scenarios, the study concludes that a Land Use Plan will be really necessary to close these gaps, building the productive infrastructure from local governments in a different way and using the territory efficiently, which will lay the foundations for a sectoral regulation (agriculture in this case) that is coherent and effective.

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- 9 Tuesta Bardalez, S. E., Villegas Chávez, H., & Yupanqui Linares, O. R. (2021). The study highlights that tax benefits in the Peruvian agricultural sector have a direct and positive relationship with economic growth, boosting exports and income tax collection. However, critically, these same benefits do not show a significant relationship with the improvement of labor formalization (measured in health expenditures). The relevance for environmental regulation lies in the fact that (1) it exposes the powerful economic incentives that may conflict with environmental goals and (2) it shows a low level of social formality, which is a fundamental barrier to the effective application and enforcement of environmental regulations.

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- 10 Canahuire-Montúfar, V., & Loaiza-Rojas, E. (2022). The study reveals that the implementation of environmental management in Cusco's brick sector is incipient and focuses more on "planning" than on action. A key finding is that owners perceive Corporate Social Responsibility (CSR) as an additional cost

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- rather than an integral part of their management. Research shows that there is no significant relationship between the environmental management they apply and socially responsible behavior. It is concluded that there is a lack of a system that integrates corrective, ethical and legal actions, which shows a disjointed vision and a resistance to voluntarily assume the costs of mitigating impacts, a lesson applicable to the challenges of regulation in other productive sectors of the country.
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- 11 Gallo, B. M. G., Gallo, M. D. S. G., Vásquez, N. R. S., & Gallo, T. M. G. (2021). The study concludes that guinea pig breeding in Peru, beyond its social and economic advantages, produces moderate but notable environmental impacts, mainly in air quality (due to the bad odors generated by excreta) and in the production of solid waste, its most relevant result being that most farms do not have an environmental management plan. Acting without a method of waste care, in this sense, the research shows how an agricultural activity without a standard or control at the production level causes obvious environmental impacts, thus showing a gap in research and in the application of regulations towards this type of activity.
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- 12 Hincapié, S. (2023). The research argues that international environmental governance is often seen as "organized hypocrisy" that holds back climate action. Therefore, in Latin America a broad movement has emerged on the part of civil society, promoted fundamentally by indigenous peoples pre-oriented around the "rights of nature". The main thesis is that the activism of judges and courts has become an essential mechanism to enforce environmental commitments; Through rulings, governments are pressured to implement policies, to strengthen their capacities and to act with transparency.
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- 13 Borg Rasmussen, M. (2022).
- "Judicial activism" is a central means for environmental justice when the administrative regulation/oversight of the state itself is insufficient or does not work. It is established at the end of the study that effective environmental governance is not imposed, but is the result of a negotiation, motivated by the search for legitimacy in the territory. In Peru, the search for legitimacy to achieve this effective environmental governance is being attempted in the following three ways: (1) Specific weight is given to the economic dimension, through incentives and market logics, with the aim of establishing alliances; (2) The function of environmental governance is decentralized in local organizations, where the state becomes a catalyst and mediator of governance rather than a ruler in itself; (3) Environmental governance is the recognition that cross-sectoral discourses exist. Legitimization is proposed through specific management agreements with the communities with which they work, although the author warns that they are participatory, although with a clear institutional hierarchy and that long-term success will depend on whether they manage to establish lasting and legitimate structures of authority.
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- 14 Tamayo-Álvarez, R. (2023).
- The article states that classical environmental law has failed because it considers nature as a mere resource for economic growth, subordinating its protection to human interests. As an alternative, it presents a "decolonial twist" that is based on the "rights of nature" and the principle of "good living", which offer us the possibility of valuing nature in terms of its own value. The research points out that it is already taking place in Latin American jurisprudence, with an Inter-American Court of Human Rights that
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- 15 Concha, J. S. Z. (2022).
- recognizes the environment as an autonomous right and nature as a subject of rights in itself. This philosophical and legal transformation is key to imagining a regulation capable of seeking true environmental and social justice.
- The research argues that the guiding principles of Environmental Law, such as precaution, prevention, etc., constitute the only way and guarantee the operation of Environmental Law in Peru, since they are the ones that interpret the rules, operate legal loopholes and support any executive action by the government. However, a strong criticism is made, given that the new National Environmental Policy for 2030, unlike the previous one, does not explicitly mention the guiding principles as part of its content. This exclusion is of great concern because it could weaken the legal basis of local and regional environmental policies, generating asymmetries and making it difficult to create management instruments that contribute to sustainable development policies.
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The following 15 articles have demonstrated the importance of environmental regulation for the sustainability of the agricultural sector in Peru. Each study offers a segment of the solution to the problem, although there is a general consensus that a significant gap exists between the standard and its execution. The prevailing concern, as expressed by all respondents, pertains to the disconnection between the state and a comprehensive approach, which hinders the effective management of socio-environmental conflicts and the safeguarding of natural resources from the repercussions of agricultural practices. In this sense, Ugarte Cornejo (2020) demonstrates an understanding of a large-scale socio-environmental conflict by highlighting the disconnection between the various governmental levels and ministries (explicitly including Agriculture and Environment), which operate with their distinct logics and strategies. This disconnection has a detrimental effect on the state's capacity to manage conflicts and apply regulations in a coherent manner.

#### 4. Discussion

A subsequent review of the selected articles reveals the necessity for effective implementation of environmental regulation that transcends legal formalism. This paper examines the implementation of environmental regulations in Peru. Research indicates that these regulations are often implemented in a fragmented manner, lacking intersectoral coherence and the capacity to permeate local productive practices. Consequently, they are regarded as a bureaucratic obstacle rather than a management

instrument for sustainability. In light of this, it is imperative to acknowledge the significant disparity between the legal framework and the actual conditions prevalent in the agricultural sector.

For instance, the study by Gallo et al. (2021) on guinea pig breeding, a prevalent agricultural practice, demonstrates a moderate and considerable environmental impact related to solid waste management and air quality. This finding corroborates the observation that a significant proportion of the investigated farms lack a waste management plan or control, environmental plan, or sustainable practices, instead relying on ad hoc management strategies. In addition, the study by Coayla et al. (2024) on mining demonstrates how the lack of effective control [...]

The interaction between the two sectors has a direct impact on the resources of the other, as evidenced by the contamination of water and agricultural soils. This phenomenon highlights the ineffectiveness of state protection in the territory.

A noteworthy finding is presented by Ugarte Cornejo (2020), who conducted an analysis of the underlying causes of this inefficiency. He cites numerous studies and cases, including that of "Tía María," which demonstrate that the Peruvian state is incapable of managing socio-environmental conflicts due to its own disarticulation and centralism. The study indicates that key ministries, including but not limited to Agriculture, Environment and Energy, and Mines, function in isolation, employing distinct logics and strategies. This approach hinders their ability to address problems in a comprehensive manner. This fragmentation at the top of government directly explains why, as Gallo et al. saw, there are no plans and no coherent regulation is applied at the local level.

This perspective can be further contextualized by the conclusions of Borg Rasmussen (2022), who examines environmental governance from the theoretical framework of "negotiated coexistence." The extant research indicates that in instances where the State lacks or experiences challenges in exercising its legal authority, leading to a governance environment characterized by continuous management, the State is perceived as an intermediary that, through the establishment of agreements and the provision of economic incentives, seeks to challenge the legitimacy of its actions. This perception of the State as an institution of control and oversight is a salient feature of the governance landscape. This suggests that the "command and control" model has been superseded by flexible agreements, contingent on the circumstances and the actions of local actors.

Finally, Hincapié (2023) and Tamayo-Álvarez (2023) conclude that, in the face of this scenario of state inefficiency and "organized hypocrisy," the solution is not simply to ask for "more State," but to recognize the emergence of new avenues for environmental justice. The authors contend that social mobilization and judicial activism—where high courts and judges intervene to enforce rights—are becoming a fundamental mechanism of governance. The necessity for a paradigm shift is demonstrated, one that is driven by concepts such as the "rights of nature." This is necessary to prepare the country for environmental challenges. It is understood that citizen and judicial action are agents of change of utmost importance. This is due to the structural weaknesses of the administrative system.

## 5. Conclusions

The objective of the review was to analyze the state of environmental regulation in agricultural activities in Peru, emphasizing the contributions of the reviewed research. The results of the research have demonstrated the importance of regulation and the urgent need to address the significant gap between the existing regulatory framework and its ineffectiveness in practice. A comprehensive examination of case studies, institutional analyses, and theoretical reviews reveals a systemic

vulnerability in the State's capacity to enforce its own laws, which is detrimental to the sustainability of ecosystems and the prevention of socio-environmental conflicts. This analysis encompasses case studies that examine the impacts of mining and guinea pig breeding, institutional analyses that unravel the dismantling of the State, and theoretical reviews that explore governance and the rights of nature.

It is imperative to persist in the enhancement of research endeavors in this domain. While the issue of diagnosis—namely, the weakness and fragmentation of the state—has been extensively documented, there is a need for further research evaluating the efficacy of specific solutions and alternative governance mechanisms. To comprehensively grasp the intricacies of each agricultural production chain (e.g., agro-export, family farming, etc.), a range of specific analyses is imperative. These analyses facilitate the identification of unique characteristics and the subsequent proposal of regulations that are customized to the specific needs of each sector. Future research must transcend the mere denunciation of ineffectiveness to propose and measure the impact of novel management models, complementing the legal perspective with economic and social analyses.

It is imperative to acknowledge the escalating role of non-state actors in the context of government inaction. The research underscores the emergence of social mobilization and judicial activism, fueled by concepts such as the "rights of nature," as a *de facto* mechanism for oversight and the pursuit of environmental justice. The concept of environmental governance in Peru must now be understood in a broader context that extends beyond the actions of the Executive branch. It is imperative to incorporate the role of the judicial system and a well-organized civil society that actively demands the fulfillment of environmental commitments. It is imperative to acknowledge that, within a globalized framework characterized by the imperative for agro-export competitiveness, the perception of regulation as a mere impediment must be tempered and redefined. The prevailing assumption of economic growth, which disregards its ecological and societal ramifications, engenders perpetual discord. It is imperative that the prevailing competitive landscape be transformed into one characterized by respect, intergenerational responsibility, and sustainability. This transformation necessitates the adoption of paradigms that prioritize nature's intrinsic value, rather than merely its productive utility.

## References

- Becerra, J. (2022). Derecho ambiental y políticas públicas en territorios amazónicos. *Revista Peruana de Derecho Ambiental*, 18(2), 45–62.
- Borg Rasmussen, M. (2022). Convivencia negociada y gobernanza ambiental en áreas naturales protegidas del Perú. *Íconos. Revista de Ciencias Sociales*, (72), 161-183.
- Canahuire-Montúfar, V., & Loaiza-Rojas, E. (2022). Gestión ambiental y responsabilidad social: un estudio exploratorio en la industria de tejas y ladrillos de cusco, Perú. *Producción+ Limpia*, 17(1), 20-34.
- Carrasco-Jocope, R. R., Vigil-Requena, S. V., Valiente-Saldaña, Y. M., & González-González, D. G. (2023). Contaminación urbano ambiental y espacio público del centro de Piura, Perú: Revisión sistemática. *Revista Arbitrada Interdisciplinaria Koinonía*, 8(16), 171-183.
- Coayla, E., Romero Carrion, V. L., & Bedón Soria, Y. T. (2024). Regulación económica e impacto ambiental de la gran minería cuprífera en el desarrollo de Perú. *Economía, sociedad y territorio*, 24(74).
- Concha, J. S. Z. (2022). La importancia de los principios del derecho ambiental en la política ambiental municipal. *Revista de Derecho: Universidad Nacional del Altiplano de Puno*, 7(1), 153-164.

- Cortez, V. & Herrera, P. (2024). Gestión ambiental agraria y descentralización: análisis de casos en la selva peruana. *Revista Latinoamericana de Derecho Ambiental*, 11(1), 99–117.
- Fernández, J. Zafra, J. Goicochea, S., Peralta, C.I., Taype, A. (2019): Aspectos básicos sobre la lectura de revisiones sistemáticas y la interpretación de meta-análisis. *Acta Med Peru*, 36(2), 157-69
- Gallo, B. M. G., Gallo, M. D. S. G., Vásquez, N. R. S., & Gallo, T. M. G. (2021). Impacto ambiental y su vinculación a factores sociales, biológicos y físicos en Perú. *Revista de ciencias sociales*, 27(3), 281-292.
- Hincapié, S. (2023). Gobernanza ambiental global y derechos de la naturaleza en América Latina. *Revista derecho del Estado*, (54), 277-305.  
<http://www.scielo.org.pe/pdf/amp/v36n2/a13v36n2.pdf>
- Hunter Ampuero, I. (2020). Legalidad y Oportunidad en el ejercicio de la potestad sancionadora en materia ambiental. *Revista de derecho (Valparaíso)*, (54), 95-125.
- Mann, G. A. L. B., Aspillaga, J. O. D. V., & Scoth, W. A. L. (2022). Planeamiento estratégico en la agroindustria del Perú. *Revista Latinoamericana de Difusión Científica*, 4(7), 99-111.
- Peña Quispe, P. C., Montes Tapia, K. R., & Ames Vega, E. S. (2022). Cumplimiento de la regulación y gobernanza de la fiscalización ambiental: Análisis del derrame de petróleo en la bahía de Ventanilla, Perú. *Revista de derecho ambiental (Santiago)*, (18), 345-366.
- Tamayo-Álvarez, R. (2023). Los derechos de la naturaleza y el principio del buen vivir como un giro decolonial en la gobernanza ambiental internacional. *Revista derecho del Estado*, (54), 19-54.
- Tuesta Bardalez, S. E., Villegas Chávez, H., & Yupanqui Linares, O. R. (2021). Beneficios tributarios del sector agrario y desarrollo económico-social peruano. *Quipukamayoc*, 29(61), 67-75.
- Tuesta, J. A. A., Tuesta, A. A., & Camacho, L. R. (2021). Planificación y Ordenamiento Territorial para el Desarrollo Sostenible del Perú al 2050. *Polo del Conocimiento: Revista científico-profesional*, 6(12), 220-249.
- Ugarte Cornejo, M. A. (2020). Gestión estatal del conflicto socio-ambiental de “Tía María” en Perú. *Análisis Político*, 33(99), 24-40.
- Vilela, M. (2023). Relaciones espaciales en la dispersión poblacional y estructura territorial. Valle Sondondo, Ayacucho, Perú. *Territorios*, (48), 1.