Research Article

Right To A Healthy Environment and Environmental Protection in The Treatment of Wastewater From The Cumbaza River, San Martín, Peru, 2020–2025

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ABSTRACT:

This study analyzed how the right to a healthy environment and environmental protection were guaranteed in the treatment of wastewater from the Cumbaza River (San Martín, Peru) between 2020 and 2025, in line with Sustainable Development Goal 6, target 6.3. The research was basic and qualitative, explanatory in scope, and with a grounded theory design. We interviewed 10 specialists and analyzed 16 documents: letters from water, environmental, and sanitation authorities, administrative resolutions, a ruling from the Constitutional Court, and two resolutions from a criminal court. Interviewees and documents agree that the framework exists and that monitoring, inspection, sanctions, and corrective measures are applied. Dumping continued. Specialists point to weak sanitation infrastructure, divided competencies, scarce technical evidence, and slow procedures. We found five sanctioning procedures: fines in two (2.2 and 3.5 UIT), archiving in two after the discharge was corrected before the charges were charged, and expiration in one. Three types of liability appeared: administrative (five procedures), criminal (a final conviction) and civil (a reparation of S/ 2,000). The proof of the conduct and its perpetrator decided each case. The framework was applied in parts and after the damage. We recommend continuous monitoring, a body that coordinates the entities, investment in sewerage and restoration orders.

Keywords: right to a healthy environment, water pollution, environmental legislation, sustainable development, environmental law.

1. Introduction

1.1 Context and problem

The Peruvian Constitution and several international instruments recognize the right to a healthy environment, and this right is linked to human dignity and sustainable development. The study is relevant in the face of the global water crisis, because the use and quality of water affect the health and lives of riverside communities. It is linked to Sustainable Development Goal (SDG) 6, especially target 6.3, which seeks to improve water quality by reducing pollution, eliminating discharges, and minimizing the release of hazardous materials into water bodies, and thus serves as a normative and ethical benchmark for evaluating environmental protection (Vranešević et al., 2025). In Peru, the right is recognized in Article 2, paragraph 22 of the Constitution and in Law No. 28611, General Environmental Law (2005). Article 7-A, incorporated by Law No. 30588, recognizes access to drinking water, and Law No. 29338 (2009) regulates how water is used and protected (Political Constitution of Peru, 1993).

Globally, in 2022, 42% of domestic wastewater was not treated safely, which meant that almost 113 billion m^3 of wastewater reached the environment without effective treatment (UN-Water, 2024).

At the local level, the pollution of river basins, especially that of the Cumbaza, is no exception. Local news shows a strong contamination of this river, mainly attributed to the lack of effective compliance with constitutional principles such as the right to a healthy environment, water and sustainable development, and environmental legislation and standards on wastewater management and water quality. Environmental protection requires concrete actions from municipal and regional authorities to prevent, control and sanction polluting discharges, promote wastewater treatment and protect the ecological integrity of the riverbed, but this action is not being carried out. Informal dumping of waste, poor sewage management and urban and agricultural pressure on the basin make it difficult to guarantee these rights. The river crosses Tarapoto, Morales and La Banda de Shilcayo, in San Martín.

The responsibility is shared. The National Water Authority (ANA), through the Huallaga Water Administrative Authority (AAA Huallaga), authorizes discharges, monitors water quality, delimits marginal strips, and processes sanctioning procedures. The Environmental Assessment and Enforcement Agency (OEFA) and the Ministry of

Housing, Construction, and Sanitation (MVCS) supervise their own sectors. Municipalities and sanitation service providers are in charge of sewerage. The question we asked ourselves was how the right to a healthy environment and environmental protection were guaranteed in the treatment of wastewater from the Cumbaza River, San Martín, in 2020–2025.

1.2 Literature review

At the international level, Bennett et al. (2024) wanted to know to what extent the recognition by the United Nations General Assembly in 2022 of a human right to a healthy environment could change ocean governance. They reviewed international law and found that recognition has a high transformative potential: it could strengthen ocean protection, make governance more inclusive, and clarify the duties of the private sector. They concluded that the transition from the declaration to its effective implementation is still pending. Yanquiling et al. (2024) examined the rights of nature as applied to freshwater and marine ecosystems, by reviewing 50 articles, 88 legal documents from 20 countries, and interviews with 15 practitioners. Most initiatives treat nature as a subject of rights, and recurring problems were unclear implementation, conflicts of competition, and clashes with economic interests. In China, Li and Jin (2023) studied the Yangtze River Protection Law and found that it establishes basin-scale approaches, cooperation between sectors and territories, and space for participation. In Colombia, Gutiérrez Pisso et al. (2024) analyzed the Atrato River ruling (T-622 of 2016) and subsequent decisions that gave the same status to other rivers, and concluded that some orders confirmed rivers as subjects of rights, while others maintained an anthropocentric view of non-human entities.

Peruvian authors have wondered above all whether water or nature should be subjects of rights and how courts weigh environmental law. Delgado Requena et al. (2024) analyzed laws, jurisprudence, and doctrine and concluded that recognizing water as a subject of rights is viable in Peru and that the State has the duty to manage it responsibly. Monteagudo and Huyhua Muñoz (2023) argued, from a hermeneutical perspective, that an instrumental relationship with nature has caused serious harm and that a non-hierarchical ontology is needed. Coraje Águila (2023) examined six cases of the Constitutional Court and concluded that Alexy's weighting method works poorly when environmental law conflicts with other rights; he proposed that the right is "imponderable but scalable". Ortíz Sánchez (2025) presented a journal dossier with a historical and normative review of environmental management and law in Peru and the challenges it poses for sustainable development. Closer to our case, Nuñez and Saldaña (2022) and Ordóñez-Ruiz et al. (2023) reached similar conclusions for Morales and La Banda de Shilcayo: the right to a healthy environment is not fully fulfilled. Most of these works analyze norms or sentences. We find few that follow a single river through the entities that should protect it, which is what this study does with the Cumbaza.

1.3 Conceptual and theoretical framework

The right to a healthy environment is a collective right whose purpose is the ecological balance and biodiversity that people share. In Peru, it is based on three legal foundations: constitutional law (Articles 2.22 and 67), the right to water (Article 7-A and Law No. 29338) and the principle of sustainability of Law No. 28611, according to which natural resources cannot be used in ways that compromise their availability for future generations. Environmental protection is, on the other hand, the legal protection that the State grants to the environment to prevent, control and punish the damage caused to it, and thus ensure the right of people to live in a balanced and healthy environment. Its subcategories here are the General Environmental Law, the framework law on sanitation services (Legislative Decree No. 1280, consolidated by Supreme Decree No. 005-2020-VIVIENDA, 2020) and liability for water pollution.

Six theories guided the reading of the data. Brundtland's theory of sustainable development (World Commission on Environment and Development, 1987) argues that present needs must be met without compromising the possibilities of future generations. Vasak's (1977) third-generation human rights theory helps explain the collective dimension of the problem: the right to a healthy environment is not limited to individual interest, but encompasses common interests whose protection it requires of the state, institutions, and society. Alexy's (2002) theory of fundamental rights argues that the right should be realized to the greatest extent possible within existing legal and factual possibilities. Häberle's (1975) constitutional interpreters' theory of the open society helps explain the role of citizenship. Ferrajoli's (1995) theory of legal guarantees requires that rights have institutional mechanisms in place to ensure their fulfillment. Beck's (1992) risk theory stresses the need to act before environmental threats become irreversible damage.

1.4 Objectives

Our general objective was to analyze how the right to a healthy environment and environmental protection were guaranteed in the treatment of wastewater from the Cumbaza River (San Martín) during 2020–2025. The specific objectives were (a) to determine how the right to a healthy environment in the riverbed was guaranteed, (b) to analyze how the competent authorities guaranteed the environmental protection of the riverbed, and (c) to identify how national and international legislation establishes legal responsibility for water pollution.

2. Methodology

Design. The research was basic: it expands the theoretical knowledge of a phenomenon without seeking an application, and its purpose is to provide conceptual, analytical, and doctrinal foundations to understand the reality studied. Here this meant analyzing and developing the legal foundations that protect the right to a balanced and adequate environment for life, taking the Cumbaza River as a case. The approach was qualitative, which gives priority to understanding meanings, experiences, and norms through a reflexive analysis of data from interviews and documents; it allowed us to examine the normative content of the topic through environmental norms and testimonies. The design was based on grounded theory, which constructs explanations based on the information collected (Glaser and Strauss, 1967). The scope was explanatory: it examines the factors that affect the right to a healthy environment in the river, such as possible problems in environmental control, polluting actions, and the weak application of current regulations.

Participants and sample. The scope of study was the judicial district of San Martín, where the actions related to the categories take place. We included specialists who worked on the subject, had the necessary knowledge, had 5 years of experience, and voluntarily agreed to complete the interview prepared by the researchers. We excluded specialists with no experience in the subject, lawyers who did not practice in the district, and those who decided not to complete the interview. The sample consisted of 10 specialists: constitutional lawyers, specialists in environmental law, judges and prosecutors with environmental competence who work in the judicial districts of San Martín, and biologists. The interviewees were coded from E1 to E10.

The documentary corpus consisted of 16 documents, coded from D1 to D16 (Table 2). They came from requests for information from the ANA (AAA Huallaga), the OEFA and the MVCS, and from judicial resolutions. The plan also included the discharge authorizations for the Cumbaza, but the AAA Huallaga reported that it had not issued any (D4). The monitoring reports that the ANA made available were not analyzed in terms of water quality values.

Instruments. We used an interview guide based on the objectives of the study and the subcategories of each variable, and a documentary analysis sheet. The file recorded, for each document, its scope (national or international), the issuing entity, the relevant facts, the legal criterion on responsibility for water pollution, the type of liability (administrative, civil or criminal) and an analysis. Three doctors of law (a public defender, a provincial criminal prosecutor and a practising defence lawyer) reviewed the interview guide in terms of its internal consistency, clarity and relevance to the objectives.

Procedure. We requested the institutional documents through access to information procedures, read each complete document and recorded it in the file. Then we interviewed the specialists who accepted in person, between September and October 2026, and transcribed the interviews.

Data analysis. We use the hermeneutical method to interpret the content, scope, and meaning of the judicial norms, principles, and criteria involved, and to understand how they are applied in this context. We also triangulate the evidence from both instruments, to find coincidences, differences, and complementary elements between the sources (Carter et al., 2014).

Ethics. The study followed University Council Resolution No. 0659-2024/UCV, and the Ethics Committee approved it. Each participant gave their informed consent before the interview, and we kept what they told us confidential. The purpose was academic: to strengthen environmental protection and the management of water resources, so no harm was expected to the participants. We chose the participants with objective criteria and evaluated their contributions impartially.

3. Results

The results are grouped by objective. The interview codes range from E1 to E10 and the document codes from D1 to D16 (Table 2).

3.1 General objective: how the right and its protection were guaranteed

All interviewees described a constitutional and legal framework that recognizes environmental protection and access to water (Table 1). The testimonies also described surveillance and control actions. Even so, sanitation deficiencies and discharges continued to affect the quality of the resource, so that protection was more developed in regulations than in practice. On effectiveness, the interviewees were divided. E5 described a multilevel institutional model that combines preventive and corrective tools. E9 rated the State's operations as moderately effective but insufficient. E7 and E8 rated the guarantee as mostly formal or declarative.

The principle of sustainability is found in the rules and in various planning instruments, but the interviewees saw problems in incorporating it into decisions (E5, E7, E8, E10). Urban expansion, land occupation and sanitation

needs grew faster than infrastructure and treatment systems. The difficulties were also in resources, technical capacity and the monitoring of state actions.
Liability channels lost strength when they were applied after the damage and without timely recovery measures (E1, E6, E7, E8, E10). Proving the causal link, obtaining technical evidence, the length of the procedures and the distribution of competences made it difficult to identify those responsible and stop the damage.

Table 1 Findings from the interviews on the general objective: convergences and divergences

Theme	Convergence	Divergence
Legal recognition and material protection	A constitutional and legal framework recognizes environmental protection and access to water. Discharges and sanitation deficits persist, so recognition has not become a full protection of the river.	E5: A multi-level model combines preventive and corrective tools. E9: Intermediate but insufficient effectiveness. E7, E8: Assurance is mainly formal. E10: Protection needs surveillance, inspection, corrective measures, technical reports, and coordination.
Institutional coordination and prevention	Monitoring, surveillance, inspection operations and inspection exist (E2, E5, E7, E8, E10), but they are poorly articulated. Protection requires that water, environmental, municipal and fiscal agencies act together.	E2, E6: the surveillance and monitoring of the ANA are concrete protection. E3, E4, E7: the difficulty lies in the weak coordination and weak municipal action.
Principle of sustainability	The principle is in the rules and in the planning instruments. Land use and sanitation decisions rarely follow. The treatment infrastructure did not keep up with urban growth. There are budgetary, technical and institutional limits.	E5: Environmental management instruments are not updated periodically. E8: Legislative Decree No. 1285 and its gradual adaptation regime weaken preventive control. E7: Short-term economic benefits take precedence. E10: Infrastructure, resources and coordination.
Legal accountability and protection mechanisms	There are administrative, civil and criminal channels. The delay, the problems of evidence, the difficulty in identifying the person responsible and the limited technical capacity restrict them. The response is above all punitive and reactive.	E1: civil remedies are rarely used and multi-causal contamination complicates attribution. E6: fines do not guarantee reparation or an end to discharges. E7: the response is mostly administrative. E8: causality and technical requirements limit criminal prosecution. E10: proof, identification and coordination.

Source: Authors' elaboration based on the interviews.

3.2 Specific objective 1: the right to a healthy riverbed environment

Interviewees listed water quality monitoring, delimitation of protection areas, environmental management instruments, inspections, inspection operations, and citizen participation (E2, E5, E7, E8, E10). They said that these actions were poorly articulated and rarely brought substantive improvements. E2 gave special weight to monitoring the ANA and sharing its results with other authorities. E5 separated protection before damage (management instruments) from post-protection (inspection and sanction). E7 and E8 described protection as weak, partial, or uneven, and pointed to unfinished infrastructure and the lack of a comprehensive recovery effort.
The obstacles they mentioned were fragmented competencies, logistical and budgetary limits, insufficient infrastructure, and testing problems. Informal settlement and uncontrolled dumping also made oversight difficult. E3 highlighted clandestine discharges, practices to avoid responsibility, and reliance on technical evidence produced by the water authority. E6 reported contradictions between protected areas and municipal decisions on land use. E8 added causality, marginal stripping, and the absence of a river basin management body. E10 placed the main difficulties in the distribution of competencies and in the technical proof of damage.
On water, the interviewees agreed that the right is legally recognized and that there are actions to expand access, but that the quality of the source had not received an equal response. E2 and E6 said that the State's

action focused on supply projects without planning where the wastewater would go. E7 pointed out that part of the protection mechanisms were activated by citizens and social organizations. E8 separated the progress in coverage from the deficiencies in the quality and protection of the source. On development and conservation, the majority said that an adequate balance between economic growth, urban expansion, conservation, and well-being had not been reached. E1 located the imbalance in the urban and lower part of the sub-basin, with better upstream conditions. E2 mentioned reforestation in the headwaters as a positive but insufficient response, and E8 described the reuse of treated wastewater as a missed opportunity.

3.3 Specific objective 2: how the authorities ensured environmental protection

The interviewees said that the entities monitor, control, and inspect, but that these activities do not form a sufficiently articulated preventive system. The limits in resources, specialized personnel, and coordination reduce the continuity of surveillance. E1 contrasted the systematic monitoring of the ANA with the weakness of the corrective stage. For E6, the technical inspection had improved thanks to standardized methods; the weak point was the punitive stage. E8 attributed part of the problem to how the supervisory powers of the sanitation subsector were distributed over the period. E10 considered the application limited and said that a sanction depends on proving the violation and determining who is responsible.

Interviewees described sanctioning procedures as slow and of little deterrent effect: they are often prolonged by appeals and enforcement problems. E6 stressed that appeals extend the sanctioning phase. E7 pointed to problems in collecting fines. E8 separated the control of the maximum permissible values for discharges into the sewerage network from the direct protection of the receiving water body, and said that it did not know of significant final penalties for the discharges examined. E10 said that a sanction is effective only when the infringement and the participation of those responsible are duly proven.

The sanitation regime was only partially implemented. Interviewees cited insufficient infrastructure, outdated networks, financial constraints, and weak links to urban planning. E1 noted that sanitation and land use planning are disconnected. E2 said that management had put water supply ahead of the final destination of effluents. E8 said that each discharge should be checked for authorization. E10 linked the problem to infrastructure deficits and monitoring.

On administrative, civil, and criminal remedies, interviewees said none provide full protection. Functions are dispersed among entities, and proof and causation are difficult to prove. E1 said that environmental civil remediation is rarely used in the area studied, and wondered if fines to public operators could cut funds for the sanitation itself. E7 proposed strengthening liability for damages, judicial specialization, and broader collective action. E8 argued that several improvements can be driven by the instruments that already exist. E10 acknowledged the usefulness of all three pathways, but said their effectiveness depends on technical testing and identifying those responsible.

Four interviewees made proposals. E1 proposed converting economic sanctions into environmental investment and using automated monitoring stations. E6 proposed continuous biological monitoring, ecological restoration, green filters, and funds to modernize treatment plants. E8 proposed activating the recovery instruments already planned, creating a basin management body, completing the transfer of oversight functions, building a baseline with a chain of custody, and linking the protection of the headwaters with the urban section. E10 proposed stronger monitoring of water quality, faster action within the competencies of each entity, and better coordination.

3.4 Specific objective 3: Legal liability for water pollution in documents

The 16 documents are national (Table 2): five institutional communications (D1 to D5), one marginal strip resolution (D6), six resolutions on sanctioning procedures (D7 to D12), a ministerial memorandum (D13), a Constitutional Court ruling (D14) and two criminal court decisions (D15 and D16).

Table 2 Documents analyzed (D1–D16)

Code.	Document	Issuing entity	Content relevant to the study
D1	Multiple Letter No. 0006-2026-ANA-AAA. H	ANA, AAA Huallaga	Response to a request for access to information. Submitted Report 0057-2026, monitoring reports, and a list of marginal belt resolutions.
D2	Map N.° 03991-2026-OEFA/RAI	OEFA	For 2020–2025, there are no intervention files, sanctioning procedures (PAS) or resolutions of responsibility against those who pour Cumbaza in Tarapoto and Morales.

Code.	Document	Issuing entity	Content relevant to the study
D3	Letter No. 1297-2026-VIVIENDA/SG-OACAIP	MVCS, Directorate of Environmental Affairs	No PAS was initiated or concluded for wastewater discharges into Cumbaza, 2020–2025.
D4	Report No. 0057-2026-ANA-AAA. H/JCOL	ANA, AAA Huallaga	No discharge authorization was issued for the Cumbaza. Monitoring reports 2020–2025, marginal belt resolutions and some PAS resolutions are available.
D5	PRASA Huallaga Email	ANA, AAA Huallaga	New link to the requested information. No legal criteria or finding.
D6	Directorial Resolution No. 0424-2024-ANA-AAA. H	ANA, AAA Huallaga	It delimits the marginal strip along 53.658 m of the channel axis, with widths of 5 to 100 m. Municipalities must place milestones and prevent incompatible uses.
D7	RD N.° 0523-2024-ANA-AAA. H	ANA, AAA Huallaga	Filling of the channel without authorization (3,878 m²; 9,695 m³). Serious infraction: fine of 2.2 UIT and order to restore the channel.
D8	RD N.° 0450-2025-ANA-AAA. H	ANA, AAA Huallaga	Wastewater from cassava flour production conducted into a wetland draining into the river. PAS archived after voluntary correction.
D9	RD N.° 0511-2025-ANA-AAA. H	ANA, AAA Huallaga	Discharge of about 0.5 l/s (inspection of Aug 29, 2024) linked to a sewerage work in Morales. PAS extended to the members of the contractor consortium. 3.5 UIT was proposed.
D10	RD N.° 1079-2025-ANA-AAA. H	ANA, AAA Huallaga	Spill from a collapsed mailbox (inspection on Feb 10, 2025). Ceased prior to notice of charges. PAS filed.
D11	RD N.° 1112-2025-ANA-AAA. H	ANA, AAA Huallaga	Continuous dumping of about 0.54 l/s for a broken mailbox (January 2025). Municipality of Morales fined 3.5 UIT and forced to cease dumping and repair the mailbox in 30 working days.
D12	RD N.° 0154-2026-ANA-AAA. H	ANA, AAA Huallaga	Same procedure as D9. Infringement considered technically proven, but the PAS was declared expired. A new PAS would be evaluated.
D13	Memorandum No. 942-2026-VIVIENDA/VMCS-DGAA	MVCS, Directorate of Environmental Affairs	No PAS in its records for Cumbaza, 2020–2025. It declares its competencies: to evaluate environmental instruments and supervise sectoral commitments.
D14	Exp. No. 02725-2025-PA/TC, Judgment 781/2026	Constitutional Court	Amparo against a pre-investment consultancy for a water and sewerage project. No direct environmental damage was found. No liability was determined.
D15	Exp. N.° 01679-2023-31-2208-JR-PE-02, Res. 6	Criminal Court of Environmental Crimes, Tarapoto	Pork processing company without sanitary authorization. The effluents formed pools of 500–600 m² (May 2022–September 2023). Sentence according to articles 304, 306 and 314-A of the Penal Code: 3 years suspended, 400 days-fine, S/ 2,000 of civil reparation.
D16	Same file, Res. 7	Criminal Court of Environmental Crimes, Tarapoto	It states that the judgment was notified and not appealed within the legal (final) period.

Note. ANA = National Water Authority; AAA = Water Administrative Authority; OEFA = Environmental Assessment and Inspection Agency; MVCS = Ministry of Housing, Construction and Sanitation; PAS =

Administrative sanctioning procedure; RD = Directorial Resolution; ITU = Tax Unit. Source: Authors' elaboration based on the documents.

Institutional records (D1 to D5 and D13). The ANA reported that it has monitoring reports from 2020–2025, marginal belt resolutions and some sanctioning resolutions on the river, and that it had not issued any discharge authorization in the Cumbaza (D1, D4). The OEFA records for 2020–2025 did not contain intervention files, sanctioning procedures, or liability resolutions against those who discharge into Tarapoto and Morales (D2). The environmental directorate of the MVCS found no sanctioning procedures initiated or concluded for discharges into the river (D3, D13). In 2024, the ANA delimited the marginal strip along 53,658 m of the river axis and ordered the municipalities involved to place milestones and prevent incompatible uses within it (D6).

Sanctioning procedures (D7 to D12). The documents contain five procedures (Table 3). The dumping violations were based on Article 120, paragraph 9 of Law No. 29338 and Article 277, paragraph d of its regulations (D8 to D12). Two procedures ended in a fine: 2.2 UIT and a restoration order for filling the channel (D7), and 3.5 UIT for the Municipality of Morales with the order to cease the dumping and repair a mailbox (D11). Two were archived because the dumping was corrected before the charges were formally filed, which the resolutions treated as exemption from liability according to Article 257 of the single harmonized text of Law No. 27444 (D8, D10). One was extended to the members of the contractor consortium to identify who had carried out the conduct (D9) and was later declared expired, although the technical report had considered the infringement accredited (D12).

Table 3 Results of the five sanctioning procedures identified

Procedure (CUT)	Facts	Documents	Result
177183-2023	Filling the channel with external material	D7	Fine of 2.2 UIT and order to restore the channel
209259-2023	Wastewater from cassava flour production that reaches the river through a wetland	D8	Archived after voluntary correction. No fine
81613-2024	Discharge of about 0.5 l/s linked to a sewerage work in Morales	D9, D12	Extended to the members of the consortium, it later expired. No fine
28808-2025	Spill from a collapsed mailbox in Morales	D10	Archived: Dumping ceased before charges. No fine
13038-2025	Continuous discharge of about 0.54 l/s through a broken mailbox in Morales	D11	Fine of 3.5 UIT and corrective order to the municipality

Source: Authors' elaboration from D7 to D12.

Judicial decisions (D14 to D16). In the constitutional case, representatives of civil organizations filed an amparo lawsuit against the Huallaga Central and Bajo Mayo Special Project and the Regional Government of San Martín, to annul a call for consultancy for a drinking water and sewerage project. They alleged damage to health and a balanced environment, because the headwaters of the Cumbaza are linked to the Cordillera Escalera conservation area. The Court held that a pre-investment study is a preliminary stage that by itself does not cause direct environmental damage and that constitutional protection requires a certain and imminent threat. It did not determine liability (D14). In the criminal case, the legal representative of a pork processing company was convicted of polluting through wastewater discharges, for violating solid waste regulations, and for responsibility as a representative. The court imposed 3 years of suspended imprisonment, 400 days-fine and S/ 2,000 of civil reparation in favor of the State. No one appealed and the sentence was final (D15, D16).

4. Discussion

4.1 Recognition and protection

Specialists and documents agree on the basic picture: Cumbaza has a legal framework and entities in charge of it, and dumping continued. E2 and E6 valued ANA's monitoring as concrete protection. E3, E4, and E7 pointed to weak coordination and the limits of local management. As E6 indicated, a fine alone does not end a dumping or repair the damage. The procedures confirm this. Of the five we reviewed, two ended in fines of 2.2 and 3.5 UIT (D7, D11), and the other three were closed without a fine (D8, D10, D12).

Our findings agree with Bennett et al. (2024), who say that recognition of the right should be followed by its implementation. They agree with Yanquiling et al. (2024), who list unclear application among the recurring problems of regimes that protect bodies of water, and with Nuñez and Saldaña (2022), who found incomplete state protection in Morales. Interviewees did not agree on how formal the guarantee is: E5 saw a consolidated multilevel structure, E9 intermediate results, E7 and E8 a mainly declarative guarantee. The documents partly support each position. The ANA registry is active (D1, D4, D6 to D12). OEFA and MVCS do not report sanctioning procedures for the river (D2, D3, D13). That is a statement about their records and nothing more.

4.2 The right to a healthy riverbed environment

The measures listed by the interviewees coincide with what the documents show. The ANA delimited the marginal strip and assigned duties to the municipalities (D6), and carries out monitoring and processes sanctioning procedures (D1, D4, D7 to D12). The interviewees separated the activity from the result, and the distinction is useful. E10 acknowledged the monitoring work, but said that the distribution of competencies and the technical requirements delay action. Alexy (2002) treats rights as mandates that must be carried out to the extent that legal and factual possibilities allow. The budgetary, technical, and territorial limits described by the interviewees do not eliminate this duty. They make it necessary to demonstrate that the available possibilities were taken advantage of.

The gap between access to water and source quality (E2, E6, E8) is a sustainability problem in the sense of the Brundtland report (World Commission on Environment and Development, 1987). The water supply for the current population expanded; treatment, which protects the source for future users, lagged behind urban growth. Häberle (1975) helps to read the role of citizenship. E7 said that part of the protection mechanisms were activated by citizens and organizations, and the D14 protection was presented by representatives of civil organizations. Ordóñez-Ruiz et al. (2023) surveyed 90 residents of La Banda de Shilcayo about the dust in the air, and more than 70% said they felt uncomfortable or uneasy. They add that resignation and limited knowledge of their rights can weaken residents' participation. Their topic was air, not water, and we did not interview residents. We cannot say if the same goes for the river.

4.3 Environmental protection by the authorities

The main complaint of the interviewees was that prevention, inspection, and punishment are not articulated. E1 and E6 identified the weak point after monitoring: in the corrective stage (E1) and in the punitive stage (E6). E8 indicated how the oversight powers of the sanitation subsector were distributed over the period. E10 said that effectiveness depends on resources, technical evidence, and the correct identification of the person responsible. Beck (1992) argued that the State must act before environmental threats become irreversible damage. In the five procedures we reviewed, the response began when the conduct had already occurred.

Li and Jin (2023) found that China's Yangtze River Protection Law responds to fragmentation with cooperation between sectors and territories and with basin-scale approaches. Cumbaza does not have an integrated basin management body (E8), and E3, E4, and E7 pointed to weak coordination. Ferrajoli (1995) argues that rights need guarantees that work. D12 is a case in which one did not work: the technical report had considered the violation to be accredited, and the procedure ended the same because it expired. E1 and E8 proposed reversing the sanctions on the environment, activating the recovery instruments, and building a baseline with a chain of custody, and all of this points towards restoration. Two of the five sanctions already include restoration orders: the channel in D7, and the dumping and mailbox in D11.

4.4 Legal liability for water pollution

Regarding the third specific objective, the documentary analysis shows that the response to water damage goes through preventive, administrative, criminal, and compensatory mechanisms. The documents show that protection is not limited to sanctioning discharges: it also encompasses monitoring, the delimitation of marginal strips, authorizations, restoration measures, the determination of causality, and constitutional protection. However, the application of these consequences differs and depends on the evidence, the procedure, and the competencies. The first documents show how the functions are distributed among the institutions. The Multiple Letter No. 0006-2026-ANA-AAA. H and the responses of the OEFA and the housing sector reflect differences in what each entity records. The OEFA and the housing sector say that they do not identify sanctioning procedures for the discharges analyzed, while the ANA does register monitoring and resolutions related to administrative procedures (D1 to D4, D13). Resolution No. 0424-2024 delimits the marginal strip and establishes preventive obligations (D6).

The documents show three ways. Administrative liability is the one with the most files: five procedures, with two fines (D7, D11), two files after voluntary correction (D8, D10) and one procedure that expired (D12). Criminal liability appears once, in the case of the pork processing company (D15, D16), where the court convicted the legal representative for effluents that formed 500–600 m² pools between May 2022 and September 2023. Our documents do not contain any criminal cases for municipal discharges. Civil liability appears only as the

reparation of S/ 2,000 within that sentence; E1 described the civil route as almost unusable, and E7 proposed strengthening it. Constitutional protection appears once, and failed: in D14 the Court did not find a certain and imminent threat in a pre-investment study. Coraje Águila (2023) reached a conclusion similar to the Peruvian Constitutional Court: environmental law cannot be considered a simple principle, and is best applied on a scale ranging from a guaranteed minimum to the greatest possible realization.

Timing mattered. Correction before charges avoided a sanction (D8, D10). Expiration closed a procedure that the technical report supported (D12). When a public entity and contractors intervened, the authority first had to determine who carried out the conduct (D9, D11), which is what E1, E8, and E10 said about causality, technical evidence, and who was responsible.

International law arrives at this study only through literature, since all 16 documents are national. Delgado Requena et al. (2024) and Yanquiling et al. (2024) show other legal systems that give water or rivers the status of subjects of rights. Would this solve the problems of application that we find in the Cumbaza? Our data cannot say. Colombia gives a reason for caution: Gutiérrez Pisso et al. (2024) found decisions that maintained an anthropocentric reading, so that recognition alone does not change practice. Monteagudo and Huyhua Muñoz (2023) and Ortíz Sánchez (2025) raise the same debate for Peru, although neither studied a specific river.

4.5 Implications

For theory, the data underpin an explanatory category: a framework applied in a fragmented way and after the damage, which produces the gap between recognition and protection. For practice, entities could add a corrective or restoration order to each of the five procedures, and could verify that corrections made before charges are maintained. For public policy, specialists converge on continuous monitoring and a body that coordinates entities at the basin scale. They also call for investment in sewerage and treatment.

4.6 Limitations

This is a qualitative study of a single river. It is supported by 10 specialists and 16 documents, so the findings help interpret the problem, but they cannot be statistically generalized. The documents depend on what each entity chose to respond to, and an entity without sanctioning procedures in its records may not be the only authority that acted. Several resolutions are from 2026, after our term, because they resolve cases initiated earlier. We did not analyze the water quality values of the ANA monitoring reports, so our claim that the discharges persisted is supported by what the specialists said and the sanction record, not measurements. We did not interview residents or the officials who decide each case. The design also has a strength: the interviews were contrasted with official documents, which reduces dependence on a single source.

5. Conclusion

The right to a healthy environment and environmental protection in the treatment of wastewater from the Cumbaza River were guaranteed through a legal and institutional framework that includes surveillance, monitoring, inspection, sanctions, and corrective measures. This protection was not fully effective in 2020–2025. The reasons were persistent discharges, sanitation deficits, limited coordination between entities, and technical difficulties in assigning responsibility. The main limit was not the lack of rules or competencies, but their fragmented and mostly reactive application.

The right to a healthy environment in the watercourse was guaranteed through the monitoring of water quality, the delimitation of protection areas, inspections, management instruments, and citizen participation. These interventions were partial in scope because they did not reverse the conditions that affect water resources in a sustained manner. The protection of access to water was not accompanied to the same extent by actions to conserve the quality of the source and adequately treat effluents. The guarantee was thus conditioned by insufficient sanitation infrastructure and by the limited integration between urban development, water management, and environmental conservation.

The competent authorities used prevention, oversight, sanctioning procedures, and corrective measures, but they struggled to keep them articulated and continuous. Budget limits, divided competencies, testing problems, and slow procedures curtailed their ability to stop the damage in time and restore the ecosystem. Fines alone did not bring recovery.

Three types of liability appeared in the files: administrative (five proceedings, two of them with a fine), criminal (a final conviction for a wastewater discharge) and civil (a reparation of S/ 2,000). Each one depended on proving the conduct, causality and who participated. No international instrument was directly applied in the 16 documents.

Recommendations. To the National Water Authority (ANA), through the Huallaga Water Administrative Authority: to maintain continuous monitoring of water quality and the inspection of the discharge points identified in the Cumbaza, starting with the urban sections with the greatest pressure, and to share the technical results with the other competent entities.

To the Specialized Prosecutor's Office in Environmental Matters: strengthen how the technical evidence on water contamination is collected and preserved, prioritize the identification of those responsible and the causal link, and coordinate with the ANA so that its reports and monitoring arrive on time for the investigations.

To the municipalities of Tarapoto, Morales and La Banda de Shilcayo, together with the sanitation service provider: prioritize sewerage and wastewater treatment, link territorial planning with investment in sanitation and maintain networks with preventive maintenance.

To the courts with environmental jurisdiction: when sanctioning polluting conduct, add measures that ensure the reparation and recovery of the affected area, weighing the technical reports, the seriousness of the damage and whether it continues. Future research should analyze the water quality data from the monitoring reports, compare other basins of San Martín and study why civil remedies are used so little.

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8. Authors' Statement

Originality. This work is original: it has not been published and is not under review elsewhere. It comes from the undergraduate thesis of S.E.S.L. and M.d.J.M.E. at the César Vallejo University (Tarapoto, 2026).

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Data availability. Interview data contain information about participants and are not public. Institutional documents were obtained through access to information requests. Anonymized excerpts from interviews and copies of documents are available, upon request, from the corresponding author.

Use of generative artificial intelligence. The thesis from which this article derives included a figure produced with Google Flow, which is not reproduced here. The text of this article was adapted from the thesis and edited into English with the help of Claude (Anthropic). The authors reviewed and edited the text and assume full responsibility for its content.

9. References

1. Alexy, R. (2002). A theory of constitutional rights (J. Rivers, Trans.). Oxford University Press.
2. Beck, U. (1992). Risk society: Towards a new modernity (M. Ritter, Trans.). SAGE.
3. Bennett, N. J., Morgera, E., & Boyd, D. (2024). The human right to a clean, healthy and sustainable ocean. npj Ocean Sustainability, 3(1), Article 19. https://doi.org/10.1038/s44183-024-00057-7
4. Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J., & Neville, A. J. (2014). The use of triangulation in qualitative research. Oncology Nursing Forum, 41(5), 545–547. https://doi.org/10.1188/14.ONF.545-547
5. Political Constitution of Peru. (1993). https://www.oas.org/juridico/spanish/per_res17.pdf
6. Coraje Águila, D. A. (2023). The fundamental right to enjoy a balanced and adequate environment as an imponderable right. Environmental Justice, 3(3), 15–49. https://doi.org/10.35292/justiciaambiental.v3i3.755
7. Supreme Decree No. 005-2020-HOUSING. Supreme Decree approving the Single Harmonized Text of Legislative Decree No. 1280, Legislative Decree approving the Framework Law on the Management and Provision of Sanitation Services. (2020). https://www.gob.pe/institucion/vivienda/normas-legales/1077410-005-2020-vivienda
8. Delgado Requena, K. K., Díaz López, D. L., Ramos Córdova, H. Y., & Jaramillo Cabrera, E. C. (2024). The recognition of water as a subject of law in Peru: An evolving perspective. Revista Catalana de Dret Ambiental, 15(1), 1–34. https://doi.org/10.17345/rcda3669
9. Ferrajoli, L. (1995). Law and Reason: Theory of Penal Guarantees. Trotta.

10. Glaser, B. G., & Strauss, A. L. (1967). The discovery of grounded theory: Strategies for qualitative research. Aldine.
11. Gutiérrez Pisso, J. A., Caldón Palechor, J. F., Mosquera Rodríguez, A. S., & Belalcázar Chantre, D. P. (2024). Rivers as Subjects of Rights: Development of Colombian Constitutional Jurisprudence. Academia & Derecho, 17(28). https://doi.org/10.18041/2215-8944/academia.28.11852
12. Häberle, P. (1975). The Open Society of Constitutional Interpreters: A Contribution to the Pluralistic and "Procedural" Interpretation of the Constitution. Juristenzeitung, 30(10), 297–305.
13. Law No. 28611. General Environmental Law. (2005). https://sinia.minam.gob.pe/sites/default/files/sinia/archivos/public/docs/ley-general-del-ambiente.pdf
14. Law No. 29338. Water Resources Law. (2009). https://www.minam.gob.pe/wp-content/uploads/2017/04/Ley-N%C2%B0-29338.pdf
15. Li, R., & Jin, W. (2023). The role of the Yangtze River Protection Law in the emergence of adaptive water governance in China. Ecology and Society, 28(1), Article 32. https://doi.org/10.5751/ES-13694-280132
16. Monteagudo, C., & Huyhua Muñoz, S. L. (2023). The rights of nature and the need to move towards a new ontology. Revista Kawsaypacha: Sociedad y Medio Ambiente, (11), Article A-005. https://doi.org/10.18800/kawsaypacha.202301.A005
17. Nuñez, J., & Saldaña, L. (2022). The contamination of the Cumbaza River and its implication to live in an adequate environment according to law 28611, Morales 2021 [Undergraduate thesis, Universidad César Vallejo]. UCV Institutional Repository. https://repositorio.ucv.edu.pe/handle/20.500.12692/114497
18. Ordóñez-Ruiz, K. M., Ordóñez-Sánchez, L. A., & Oblitas-Quiroz, V. H. (2023). Fulfillment of the right to a healthy environment in relation to the perception of particulate matter in the inhabitants of La Banda de Shilcayo. Amazonian Journal of Environmental and Ecological Sciences, 2(1), Article e392. https://doi.org/10.51252/reacae.v2i1.e392
19. Ortíz Sánchez, I. (2025). Reflections on environmental management and law in Peru. Introduction to the Dossier. Kawsaypacha Journal: Society and Environment, (15), Article D-000. https://doi.org/10.18800/kawsaypacha.202501.D000
20. UN-Water. (2024). Progress on wastewater treatment – 2024 update. https://www.unwater.org/publications/progress-wastewater-treatment-2024-update
21. Vasak, K. (1977). A 30-year struggle: The sustained efforts to give force of law to the Universal Declaration of Human Rights. The UNESCO Courier, 30(11), 29–32.
22. Vranešević, M., Meseldžija, M., Grabić, J., Zemunac, R., & Boukalova, Z. (2025). Irrigation water quality in a framework of sustainable development goal 6: A review of challenges, impacts, and policy alignments. Frontiers in Agronomy, 7. https://doi.org/10.3389/fagro.2025.1580338
23. World Commission on Environment and Development. (1987). Our common future. Oxford University Press.
24. Yanquiling, R. S., Cuadrado-Quesada, G., & Schmeier, S. (2024). Exploring the rights of nature in freshwater and marine ecosystems. Earth System Governance, 22, Article 100224. https://doi.org/10.1016/j.esg.2024.100224