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Effective Guiding Proposals Applied to University Environmental Policy: A Response to the Challenges of Global Environmental Awareness

Yim James Rodríguez-Díaz[1], Zoraima Romero Oñate[2], Arley Denisse Vega Ochoa[3]

Abstract

With the purpose of building emerging potential theory to strengthen guiding proposals for Higher Education Institutions (HEIs) associated with the successful implementation of environmental policy from the perspective of the Sustainable Development Goals (SDGs), the Continuous Comparative Method (CCM), based on the stages and processes of the Glaser and Strauss model, was applied. The study was supported by the theory of action of human behavior proposed by Argyris and Schön (1978), the concept of complexity (Morin, 2000), and the global challenges of humanity posed by Novo (1996), while also considering the feasibility of achieving the 2030 Sustainable Development Goals (UNDP–SDGs–Colombia, 2016). The research followed a qualitative approach, grounded in the interpretive paradigm, and employed grounded theory analysis (Strauss and Corbin, 2002). Data collection techniques included document analysis, semi-structured interviews, and participant observation. Key informants were three faculty members leading environmental management efforts and two administrative staff, who contributed to identifying: (i) The dimensions of environmental policies that either inhibit or promote the successful implementation of environmental management programs in higher education institutions. (ii) Guiding proposals to strengthen environmental policy in response to the challenges of global environmental awareness for sustainable development. The emerging proposals derived from the theory of action of social actors make it possible to understand the dynamics of the socio-natural environment and provide operational responses for the implementation, monitoring, and evaluation of the Environmental Management System (EMS), thereby contributing prospectively to the continuous improvement of environmental policy.

Keywords: *Environmental Policy, Environmental Awareness, Sustainable Development, Environmental Management System (EMS).*

Introduction

The emergence of environmental policy dates back to 1972, half a century ago, with the United Nations Conference on the Human Environment held in Stockholm. This event marked a milestone in expressing global concern over environmental issues, becoming the first major summit to significantly influence the establishment of regulations, policies, and national institutions across the countries of Latin America and the Caribbean.

In this context, the present research is grounded in the 14 general principles of Colombia's Environmental Policy, as established in the General Environmental Law, Law 99 of 1993—

[1] Universidad Popular del Cesar, Valledupar, Colombia, Email: yimrodriguez@unicesar.edu.co, ORCID: https://orcid.org/0000-0002-4463-0077. .
[2] Universidad Popular del Cesar, Valledupar, Colombia, Email: zoraimaromero@unicesar.edu.co, ORCID: https://orcid.org/0000-0003-3640-5440.
[3] Universidad Popular del Cesar, Valledupar, Colombia, Email: arlevega@unicesar.edu.co, ORCID: https://orcid.org/0000-0002-9483-2101.

particularly principles 1 and 6. Principle 1 states: "The process of the country's economic and social development shall be guided by universal principles and sustainable development objectives, as outlined in the Rio de Janeiro Declaration of June 1992 on Environment and Development." Principle 6 affirms: "The formulation of environmental policies shall take into account the results of scientific research."

Furthermore, the study also draws on the General Education Law (Law 115), where Article 5 identifies one of the aims of education as:

[…] "*the development of an awareness for the conservation, protection, and improvement of the environment and quality of life, the rational use of natural resources, disaster prevention, all within a culture of ecological and risk awareness, and the defense of the Nation's cultural heritage*" (p. 2).

In this regard, the General Law of Higher Education, Law 30 of 1992, establishes that one of the objectives of Higher Education is to "promote the preservation of a healthy environment and foster ecological education and culture." Environmental policies in Higher Education Institutions (HEIs) are also based on Colombian Technical Standards, particularly ISO 14001:2015, which aims to implement an Environmental Management System (EMS), and ISO 14004:2016, which provides guidelines for the design, implementation, maintenance, and continuous improvement of an effective EMS.

Colombia's National Environmental Policy states that universities, as functional institutions, must adopt relevant approaches that contribute to the understanding and resolution of environmental issues within their institutional mission. This includes fostering participation among stakeholders and engaging in the resolution of socio-environmental problems. As part of this effort, University Environmental Projects (Proyectos Ambientales Universitarios – PRAU) have been proposed as a key strategy. These projects must be a fundamental component of the Institutional Educational Project (Proyecto Educativo Institucional – PEI), involving both internal stakeholders (faculty, students, and administrative staff) and external stakeholders (community members and alumni). According to these policies, all citizens are generally expected to demonstrate behaviors consistent with the environmental goals of the nation and educational institutions. Therefore, universities must develop actions that, through student training, research, and environmental education, contribute to achieving these objectives across all university sectors (Sandoval, Páramo, Orejuela, González, Cortés, Herrera, & Erazo, 2019).

Based on the above, it is evident that society faces numerous challenges related to poverty, education, health, and various environmental issues, such as the absence of peace. In this context, dialogue has been encouraged to listen to the voices of stakeholders, thereby fostering greater commitment within the framework of the new Sustainable Development Agenda. The 2030 Agenda established universal goals to be achieved between 2015 and 2030, outlining 17 new objectives (UNDP–SDGs–Colombia, 2016).

In response to the need for continuous improvement as a strategic action, the theory of action developed by Argyris and Schön in 1978 was employed in this study to analyze organizations through the concepts of espoused theory and theory-in-use (Model I and Model II), both present in the management of Higher Education Institutions (HEIs). Within the framework of the 2030 Agenda, the aim of this study was to formulate guiding proposals to support compliance with the basic principles of an Environmental Management System (EMS), facilitating the effective implementation of Environmental Policy (EP) in HEIs.

At the international level, Peña (2017), in her doctoral dissertation, concluded that students perceive the institution's environmental management policy favorably, associating it with higher levels of pro-environmental behavior. Furthermore, she noted that collective behaviors provide a better interpretation of favorable or unfavorable perceptions of the institutional environmental management policy.

Similarly, Manzano (2017) analyzed the discrepancies in values and practices related to sustainability among staff at institutions certified under ISO 14001 and those without environmental certification. He concluded that although institutions possess ISO 14000 certification, it has not yielded the desired positive effects in the examined dimensions after the implementation of an Environmental Management System (EMS). In the studied cases, understandable patterns of avoidance were observed, suggesting that when such measures are imposed, they may generate resistance, fatigue among the workforce, and a lack of co-responsibility from management.

Arellano (2016), in turn, focused on Environmental Policies by first analyzing the environmental reality of three academic institutions across different educational levels and one administrative unit. Secondly, he examined the environmental awareness of students and staff. Finally, he designed an EMS to facilitate the implementation of environmental policies in the institution, enabling it to carry out its actions with environmental sustainability and improve its corporate sustainability profile.

In the context of complexity theory, Jiménez (2016) conducted an evaluation of Education for Sustainability from this paradigm. His research was structured into three interrelated parts: Part I included a theoretical review focusing on three aspects—environmental education, curricular sustainability, and evaluation; Part II addressed methodological aspects, result comparisons, and analysis of evaluation processes through grounded theory analysis; Part III involved theorization and the presentation of an evaluation model aligned with Education for Sustainability.

León (2015) aimed to contribute to the understanding of university-community collaboration initiatives as essential components of sustainable and effective environmental management models in HEIs. His main recommendations were: (a) provide updated information to the academic community regarding institutional environmental actions; (b) use appropriate communication channels to enhance the functionality of each department; (c) implement actions related to environmental management, sustainability, and social responsibility to generate engagement among faculty, administrative personnel, and support staff; and (d) involve university stakeholders in environmental policies and management plans, sustainability initiatives, or social responsibility strategies. Furthermore, he recommended encouraging contributions from university actors by offering incentives for improvements in environmental indicators.

At the national level, Roa (2016), in one of the objectives of her doctoral dissertation—namely, to elucidate institutional policies, discourses, and pedagogical practices related to environmental education within the academic community of the University of Pamplona—identified several general considerations. She noted that although the university has committed to environmental responsibility in accordance with the National Environmental Policy, it has not fully integrated this commitment into its core academic processes. Academic actions lack a coherent discourse that aligns with current environmental realities, often undermining sustainability efforts. Roa

emphasized the need to construct an educational proposal focused on the environmental dimension, one that is participatory and developed in collaboration with the academic community, adopting a holistic and ecocentric vision. This would involve scientific and technological knowledge, local wisdom, pedagogical organization in teaching and learning, cultural integration, symbiosis with the biophysical environment, and transformative approaches to individual behavior, sociology, ethics, and the reappropriation of nature.

Finally, Mora (2011) addressed the inclusion of the environmental dimension in higher education through a case study in the Faculty of Environment at the Universidad Distrital in Bogotá. Among her conclusions were: (a) the disconnection between nature and society, the articulation of economic, techno-scientific, and social aspects with holistic approaches and historical–cultural context; (b) the existence of transculturation and dominance/suppression in how environmental problems and solutions are interpreted; (c) the integration of reason, ethics, and aesthetics, giving greater value to intersubjectivities; (d) the notion that examining environmental issues solely through quantitative methods is highly biased, thus encouraging the use of qualitative methodologies to promote genuine interdisciplinarity; and (e) the importance of incorporating other dimensions of culture and embracing multiethnic complexity and diversity of thought.

In the case of the Universidad Pedagógica y Tecnológica de Colombia (UPTC, 2018), curricular guidelines were established regarding the principles and foundations of the environmental component, as part of an institutional commitment to make the inclusion of environmental content in UPTC's undergraduate curriculum viable. This was conceived as a democratic decision-making process that would enable the integration of environmental components into the undergraduate programs of the university.

The above considerations allow for a critical understanding of the shortcomings identified by the aforementioned researchers, while the arguments and explanations serve as theoretical foundations that inform and guide the construction of the theoretical framework proposed in this doctoral thesis.

Materials and methods

Type of Research

According to Hernández, Fernández, and Baptista (2014), "Qualitative research focuses on understanding phenomena by exploring them from the perspective of participants in a natural setting and in relation to their context" (p. 358). This study is qualitative in nature, as it seeks to understand the issues related to Environmental Policy (EP) within a university context.

Research Settings

The research was conducted within the context of the Universidad Popular del Cesar, including both its internal and external interactions. This encompasses the university community's dynamics and the connection between human actions and compliance with environmental policies, in alignment with the institution's Integrated Environmental Management System (SIGA), as well as national and international agreements.

Continuous Comparative Method

Glaser and Strauss (1967) define this method as an approach to the analysis of qualitative data that combines a constant comparative analytic procedure, the explicit coding process of the

initial stage, and the theory development style of the second stage. The purpose is to systematically generate theory by simultaneously conducting comparisons, analyses, contrasts, and recording both agreements and disagreements—elements that emerge from the information provided and the document analysis.

Results and Discussion

Dimensions of Environmental Policy That Inhibit or Promote the Successful Implementation of Environmental Management Programs in Higher Education Institutions.

Environmental Management (EM) in Higher Education Institutions (HEIs) involves both intra- and extra-institutional Social Responsibility (SR). Therefore, multiple dimensions must be considered to promote the successful implementation of environmental management programs, responding to contemporary challenges. In this regard, Rodríguez (2022) recommends examining the following dimensions:

Epistemological Dimension: This selective category integrates the conceptual attributes that shape Environmental Policy, including the principles, commitments, and structure of the Environmental Management System (EMS) within HEIs. In this sense, Lariguet and Yuan (2021) present epistemological dimensions that involve objectively understanding attitudes, beliefs, and related factors. Furthermore, political epistemology seeks to link scientific knowledge with political practice, connecting epistemic knowledge (what we believe) with political judgment (how we act). Thus, believing and acting are frequently interrelated phases. However, there is a widely recognized global gap between knowledge and political practice. As a result, understanding the complexity of current problems requires a strong association between science and politics, and between our ways of knowing and our modes of action on the planet.

Consequently, academics within universities must recognize that solving complex problems cannot rely solely on traditional vertical disciplines of scientific knowledge. The nature of complex prob lems inherently demands a transversal approach that crosses the traditional departmental boundaries of universities, dissolving the rigid frontiers of disciplinary knowledge (Soya, 2020).

Political Dimension: This dimension defines democratized action plans and concrete decisions made by institutions and organizations to establish their strategic guidelines (Carrizosa, Eschenhagen, Noguera, Chacón, & Pineda, 2021). As a second selective category, it refers to the Environmental Policy (EP) that guides actions within HEIs. It embodies the institution's purpose in promoting the continuous improvement of its environmental conditions.

Accordingly, all academic actors should engage in participatory political spaces through dialogue to manage and make decentralized, consensus-based decisions that align with the institutional organizational structure. In doing so, enthusiasm is promoted, replacing apathy and complacency among students and faculty members (Muñoz García, H., 2022). Student participation is emphasized as a critical action within the social dimension, significantly contributing to university governance (Calduch, Llanes, Montané, & Méndez, 2020).

Therefore, for effective shared decision-making in participatory policy planning, it is essential to encourage the contribution of faculty members and the entire academic community. This enables the evaluation and monitoring of the actions taken, thus allowing for assessment of the

outcomes of institutional policies (Cedeño & Sotomayor, 2020).

Legal Dimension: This category refers to the legal foundations that support the application of Integrated Environmental Management Systems (IEMS) in accordance with institutional policies. It is based on constitutional principles that recognize the environment as a collective heritage, mandating its protection by all citizens. This is further supported by various regulations, including the Natural Resources Code, the Sanitary Code, Law 99, and related regulations such as Resolution 5544 of 2003 from the Office of the Comptroller General, which acknowledges universities as establishments with high human concentrations and activities involving food handling, chemical and biological substances, among others—factors that pose public health risks. In this context, universities are responsible for designing, implementing, and monitoring their Environmental Management System (EMS) using specific indicators.

The development of regulations and environmental legislation related to preservation, conservation, inspection, and oversight is what defines this legal dimension (Traversa & González, 2022). This framework has strengthened the commitment and cooperation of supranational organizations in responding to the complexity of human-induced environmental issues that can threaten human survival itself (Pérez, Pérez, & Navalpotro, 2020).

As Solà Pardell (2020, p. 5) states, "The expansion of the doctrine of human rights entails a progressive conception and formulation of nature's intrinsic value, acting as a mirror to question the validity of its epistemological premises and ethical-legal implications." Jurisprudence has increasingly leaned toward a biocentric perspective, especially when sentencing environmental offenders, prioritizing human health risks while often underappreciating the intrinsic value of natural elements (Berral, 2022). As a result, environmental protection is limited to human interests, necessitating the integration of both the International Human Rights Law and International Environmental Law frameworks within the legal system—an approach also endorsed by Colombia's Constitutional Court through a biocentric and ecocentric lens (Ordóñez, 2022)

Educational Dimension: This fourth selective category, as presented by Rodríguez (2022), focuses on educating all institutional actors—including general service contractors (e.g., cleaning, waste collection, green area maintenance)—as they are key personnel in managing specific environmental aspects within the institution. The study identified six (6) lines of action: (a) Strengthening a sustainable water culture, following water resource management guidelines, (b) Developing cross-cutting competencies in environmental education for sustainability, (c) Building transversal competencies in environmental education for the planning, execution, monitoring, and evaluation of energy resource management, (d) Strengthening a culture of integrated solid waste management and final disposal, (e) Establishing strategies for appropriate use of physical spaces, promoting their responsible use among all institutional actors, (f) Promoting environmental values: sense of belonging, institutional pride, environmental commitment to the community, pro-environmental attitudes, and ethical and aesthetic values.

Environmental Education (EE) is regarded as the most effective strategy to raise community awareness about the importance of environmental preservation, aimed at improving the quality of life for present and future generations (Sierra, Bustamante, & Morales, 2016). Achieving this requires global commitment, integrating the principle of curricular mainstreaming across all educational areas to ensure environmental education for sustainable development is embedded in academic profiles (Simões, Yanes, & Álvarez, 2019).

Research Dimension: This final selective category refers to the research outputs generated by institutional research groups and academic networks that contribute to environmental issues and the fulfillment of the institution's Environmental Policy mission. Five key success factors were identified in this dimension: Environmental Leadership, Participation in Environmental Policy, Environmental Awareness, Environmental Management Programs, and Academic Networks.

Environmental Leadership Dimension refers to actors who serve as environmental leaders within the institution. Their collaborative efforts have enabled the partial achievement of structured environmental programs. This includes contributions from students, faculty, general services staff, and administrative personnel, who support the implementation of the institutional Environmental Policy. These individuals also play a role in promoting the conservation of both natural and built environments. As higher education institutions often operate with multidisciplinary academic programs, their structure naturally supports leadership from various areas, which contributes to achieving the goals of the 2030 Agenda and the Sustainable Development Goals (SDGs). It is also important to note that environmental policies should be constructed through both consensus and dissent among actors, fostering a democratic environment rooted in mutual respect, thoughtfulness, and collective action.

Environmental Awareness Dimension refers to activities aimed at fostering environmental consciousness among the entire university community. These efforts support both social and environmental responsibility, as they relate to the protection and preservation of the institution's environment. According to Maturana (2003), motivational actions should be validated by their intrinsic value, not solely by their outcomes. In other words, actions should be fulfilling in themselves regardless of the results they produce.

Environmental Management Programs Dimension involves specific heuristic strategies designed to enable the institution to operate based on strategic and operational programs. This dimension aligns with the paradigm of complexity (Morin, 2000), requiring all institutional members to understand and fulfill their roles in implementing IEMS programs. This includes decision-making processes, internal and external communication, operational control, emergency preparedness and response, performance evaluation, and continuous improvement. These efforts contribute to both individual and collective capacity development through multidisciplinary and transdisciplinary approaches geared toward fulfilling the Environmental Policy.

These challenges emerge in a changing society, one of constant uncertainty, where—beyond political factors—there exists a persistent interaction with economic, social, educational, legal elements, as well as socio-natural risks, technological variables, and human behavior. For this reason, it is essential to continue implementing all SIGA programs to respond to the challenges of contemporaneity. This involves strengthening human talent through the development of capabilities from various disciplines, with a synchronization of multidisciplinary and transdisciplinary approaches to mitigate social, economic, technological, cultural, ethical, and environmental impacts. This interaction of multiple factors affecting the problem under study is interpreted from the perspective of complex thinking, as proposed by Morin (1997).

Academic Networks Dimension. The realities of the context generate the need for integration of multidisciplinary teams in synergy with Higher Education Institutions. This implies moving beyond a strictly disciplinary approach to environmental problems, and instead studying them from social, political, cultural, and economic perspectives. Academic networks allow undergraduate and/or graduate programs that universities have in common to manage joint

courses, theses, and research projects, fostering sustained collaboration and communication through academic and information systems in relation to their progress and research outcomes. Likewise, they promote the exchange of scientific experiences related to course planning, seminars, conferences, research initiatives, and more.

Academic networks pursue the following objectives: (a) Provide legal, professional, administrative, and specialized support to other Higher Education Institutions to advance academic, research, and outreach products, thereby promoting actions in line with the fulfillment of the institution's Environmental Policy (EP). (b) Participate in the planning and execution of action plans for research and outreach within the network, and represent the institution by responding to the collective interests of its members. (c) Actively engage in research networks for the publication or participation in conferences, seminars, writing of scientific articles, books, or book chapters that serve as indicators of SIGA implementation; as well as establishing strategic research partnerships. This last point highlights the alignment between the functions of academic networks and Sustainable Development Goal 17 of the 2030 Agenda, which underscores the importance of academic networks as key success factors. (d) Carry out actions for strategic communication through social media by coordinating with various academic programs, thereby strengthening the institutional Environmental Policy in a cross-cutting manner.

Guiding Proposals to Strengthen Environmental Policy in Response to the Challenges of a Global Environmental Awareness for Sustainable Development

Epistemological and Teleological Understanding of the Mission, Vision, Policies, Principles, Values, Objectives, Programs, and Actions in Higher Education Institutions (HEIs) Articulated with Environmental Policy (EP).

From a teleological perspective in the field of Educational Sciences and Environmental Education (EE), achieving sustainable development requires maintaining epistemological and methodological coherence between the mission, vision, values, principles, objectives, and policies, along with action plans, background of environmental policies, sustainability, and university social responsibility. Below is an epistemological and teleological approach:

Mission: According to Drucker (1974), the foundation of the mission is a time-based expression of an organization's purpose, highlighting the distinctive factor that sets it apart from similar institutions—essentially, its "reason for being." This becomes a key foundation for setting clear and realistic business objectives. In this sense, Fred (2008) defines the mission statement as expressing: "who the customers are, what the products or services are, their markets, technology, concern for survival, growth, and profitability, their philosophy, how they view themselves, and their concern for their public image and employees" (p. 73). He therefore recommends a strategic management approach that enables organizations to achieve their goals through the formulation, implementation, and evaluation of cross-functional decisions.

Over time, companies have shifted from management focused mainly on optimizing financial resources to one that also integrates human capital. In this context, training becomes a critical factor for business competitiveness strategies (Guiñazú, 2004).

Likewise, Argyris and Schön (1978) conceive the human being as a conscious actor capable of determining, carrying out, and evaluating actions—modifying them when outcomes do not align with plans. This behavior extends to the organization where the individual serves. Additionally, companies often adopt explicit theories to program general actions in line with their mission,

vision, and policies, which may contrast with "theories-in-use" identified by researchers through behavioral analysis tools.

From the above, it is inferred that fulfilling an organization's mission requires continuous balance among all resources, which must respond to changes in the market, client demands, services, and technologies. In this regard, training human resources becomes key so that individual behavior aligns with organizational behavior. Holguín (2017) reflects on the environmental commitments of Higher Education Institutions (HEIs), emphasizing their duty to involve academic communities in the discussion, design, and implementation of environmental policies. The alignment of core academic functions with environmental management across university campuses reinforces coherence with their mission and institutional development plans.

Vision: According to González, Salas, and González (2010), from an entrepreneurial standpoint, vision is a key component of prospective thinking, fostering creativity for consolidating and developing the company over time. From an organizational perspective, vision should form part of corporate values, emphasizing the future image the institution seeks to project over the long term. Similarly, Abreu and Badii (2007) argue that for a vision to be holistic, organizations must embrace social and developmental responsibility, where economic and productive aspects are tied to improving the quality of life of their stakeholders—upholding rights, individual freedoms, and democratic institutions.

To achieve this, vision must be strategically shaped and developed by a leading mind that provides direction to the organization (Reyes, 2009). Such leadership organizes and motivates human capital, creating added value that contributes to social growth (Pinzón, 2019). Furthermore, the leader must foster a corporate culture that drives change and development within the organization through proactivity, thus ensuring the survival and competitiveness of micro, small, and medium-sized enterprises (López, 2010).

In this context, an organization’s vision may be defined as the consolidation and integration of a prospective, creative, responsible, and guiding idea that positions the institution competitively over time, underpinned by social responsibility, values, and principles (ethics), and supported by a corporate culture led by visionary leadership in response to dynamic internal and external contexts.

Values: There are various types of values that influence human behavior and define what individuals consider important in life—particularly moral and ethical aspects. These include moral, cultural, social, political, religious, and corporate values. The latter must align with the individual and social behavior of corporate actors to ensure organizational success (Montuschi, 2008). According to Toniut et al. (2017), values are fundamental elements in establishing policies and organizational strategies for implementing the mission and vision. They serve as guiding norms that promote coherence and identity in decision-making by organization members. Managers, therefore, must be consistent in cultivating a corporate identity rooted in essential values, implying a permanent ethical dimension that integrates deontological, organizational, and individual values (Ramírez, Sánchez, & Quintero, 2005). Furthermore, institutional values relate to the principle of diversity, preserving the cultural heritage of local, national, and international contexts. In universities, where cultural diversity converges, mutual respect and tolerance must prevail. Intercultural, equitable, dialogical communication becomes a shared cultural expression, promoting a reciprocal process of dialogical acculturation, as opposed to traumatic impositions (Capella, 2000). This approach enables the diverse identities

of the institutional community to propose new, democratic university policies in which social inclusion fosters homogeneous integration. Ultimately, this shapes a political-cultural identity determined by the acquisition of its constitutive elements.

Vision, mission, strategy, and action are four strategic pillars of organizations, with vision and mission serving as the foundational support for the strategic planning processes of an organization (López-Morales & Ortega-Ridau, 2016; Huerta-Estévez & Andrade-Estrada, 2021). On the other hand, in the business context, studies on organizational culture are gaining increasing prominence, as this approach reflects the organization's situation as perceived by its employees (Andia Colquicocha & Malca, 2021). Likewise, Corporate Social Responsibility (CSR) in Higher Education Institutions (HEIs) begins with the symbiosis of the academic community in favor of the environment and its preservation. However, there is a low level of awareness regarding the utilization of their own resources (Piñero, Vasco, Barberán, & Rivera, 2020). CSR management is illustrated as the association of activities aimed at disclosing socio-environmental reports and updates.

Principles: These are the set of values, beliefs, and rules that govern the management of an organization. However, "it is essential and important not only to define values but also to communicate them and evaluate the behaviors associated with them in order to determine their relationship with the achievement of the objectives established by the organization" (Toniut et al., 2017, p. 57). Similarly, Arrollo (2015) defines them as the structured set of general norms, guidelines, and ideas generated through collective consensus, which define the direction of an organization and support the way in which the company will implement its mission through its actions and results.

Objectives: These are concrete, verifiable, measurable, or quantifiable outcomes that contribute to the achievement of an organization's goals, typically set over a time horizon greater than one year. Some objectives are qualitative (development objectives), measured through attitude scales or profiles, while others are quantitative (results-oriented objectives). Certain objectives are derived from the organization's mission (perennial objectives) and may be reformulated when internal and/or external conditions change (Gómez, 2003). The formulation of objectives corresponds to different levels of leadership, led by the general manager, who must specify the plans that guide employees' efforts (Núñez, 2011). "In this sense, financial planning is a key tool in financial management that provides oversight, improves the decision-making process, and enhances the achievement of organizational goals and objectives" (Valle, 2020).

Policies: Generally speaking, these are expressions of what each government chooses to do or not do; they are related to social power at a general level (Franco & Lanzaro, 2006; Espinoza, 2009). According to Battaini and Sorrentino (2020), the role of policies is to foster a democratic culture through structured procedures aimed at building sustainable societies. In this context, organizations adopt various types of internal policies to respond to both internal and external political systems, in accordance with their institutional mission and vision. The structural and functional organization chart of objectives, institutional policies, and the development plan of Higher Education Institutions (HEIs) serve as dynamic dimensions that demonstrate a written commitment to implementing Environmental Policy (EP). In this sense, a key challenge emerges: Global Awareness for Sustainable Development. However, evidence shows that many internal actors are unaware of the integrated management systems, including the Environmental Management System (EMS), which operationalizes the EP. Therefore, the teleological understanding of the mission, vision, policies, principles, values, objectives, programs, and

actions must become models of institutional human behavior—democratized, communicated, and internalized—so that what is formally expressed is consistent with the actual behavior of the academic community and aligned with the mission. This alignment will enable the long-term sustainability of institutions, integrating with their vision and considering continuous improvement in human talent development, while actively promoting Environmental Policy within the university community. This effort should be seen as a social commitment under university autonomy, a responsibility assumed freely and autonomously, whether individually, collectively, or socially, according to the position each group, individual, or body occupies, in order to generate a climate of trust.

Democratización, comunicación y sensibilización de la gestión ambiental institucional

Democracy as a Foundational Principle in the Contribution of All Human Resources, and Not Merely the Representation of a Few Popularly Elected Groups, Becomes the Core Perspective of Democratization. This view implies that the community should not be limited to electing representatives at set intervals but must also participate actively and directly in planning, decision-making, implementation, evaluation, monitoring, and control processes across all administrative levels. Consequently, participatory democracy, particularly when integrated into the formalized institutional environmental policy, must not be practiced as a form of restricted pluralism (Spoerer, 2013). The inability to understand that institutional policies are a collective responsibility—not the purview of a select few—results in limited success in their implementation. In contrast, developing socio-environmental solutions through inclusive processes enables democratic engagement that transcends formal regulatory frameworks. This fosters a sense of social responsibility in each stakeholder, ultimately producing positive outcomes.

One key strategy to promote institutional democratization is effective communication, which raises awareness and fosters commitment at all organizational levels. In this regard, it is vital for environmental managers within higher education institutions (HEIs) to recognize that communication and integration of the community must be continuous and dynamic throughout all processes. This includes assigning responsibilities and involving the community in each phase of operationalizing the system. Stakeholders are more likely to engage meaningfully when they are subject to evaluation, monitoring, and oversight of their specific responsibilities, promoting continuous improvement.

It is worth noting that many HEIs have incorporated environmental commitment into their management frameworks, initiating actions with environmental implications to respond to contextual demands. These are guided by principles of continuous improvement, including: “an explicit statement of policy, objectives, and goals; the establishment of plans, programs, and projects; communication systems (dissemination); review and control mechanisms (audit programs); and scheduled performance reviews by management” (Delgado, 2005, p. 17).

Furthermore, Morillo, Salas, and Valbuena (2004) argue that transforming an educational institution through double-loop learning requires fostering a sense of belonging throughout the community—either implicitly or explicitly—thereby enabling effective systems of communication and participation. This involves promoting both individual and group responsibilities through synergy. Communication must thus be regarded as a strategic organizational tool that facilitates the exchange of information and knowledge transmission. In innovative organizations, communicational structures are essential in the learning processes among members (Morillo, Salas de Molina, & Valbuena, 2014).

This raises a critical question: How effective have communication, review, and control processes been within HEIs? Callejas-Restrepo, Sáenz-Zapata, Plata-Rangel, Holguín-Aguirre, and Mora-Penagos (2018) explored this issue by surveying sixty public and private HEIs across various Colombian departments. Their study evaluated environmental performance, revealing that the highest-performing criterion was participation and governance, which underscores the institutions' interest in strengthening environmental policies. Conversely, the lowest-performing area was campus management and organization, indicating a need for institutional self-regulation and improvement strategies. These findings may serve as useful indicators for other universities, albeit with some variability based on contextual dynamics and institutional priorities.

The National Environmental Education Policy (Colombia, 2002) proposes integrating the environmental dimension into HEIs. In Latin American universities, this integration typically begins in academic programs and later extends to institutional management (Sáenz & Benayas, 2015). HEIs must reflect on how their undergraduate and graduate programs address environmental education, aiming to raise awareness and support the 2030 Agenda through research, innovation, and collaboration with other social actors to achieve the SDGs. Accordingly, HEIs must undergo various transformations—outlined during the SEGIB Seminar (2018)—in the following seven areas: (1) changes in educational competencies, (2) shifts in institutional values, (3) changes in public policy, (4) institutional transformations, (5) promotion of research, (6) innovation, and (7) the development of partnerships with other stakeholders.

Rosas, Montaño, Molina, and Escárrega (2024) document the active involvement of HEIs in sustainable development initiatives, particularly in raising awareness to change lifestyles and reduce ecological footprints. Notable efforts include urban gardens, recycling programs, and compost production. All surveyed HEIs agreed on the importance of training initiatives. Environmental management in higher education institutions can be pursued through two main pathways: (1) Cultural change, driven by awareness and training campaigns, and (2) Technical-structural change, involving equipment upgrades and automation for more efficient technologies (Zambrano & Zamora, 2024).

Human Behavior for Institutional Sustainability: Ethics, Culture, and Aesthetics

The behavior of the academic community refers to the integration and cooperation of individuals, regardless of differences among living beings. This collective approach transcends social strata and focuses on a common goal: the continuity of all organisms. Achieving this requires a mindset oriented toward collective responsibility. Cooperation in service of life thus becomes essential for ensuring sustainability in the face of global challenges, such as climate change. Beyond empathy, it involves understanding the complex web of interconnections that exist within ecosystems. In this regard, the development of an environmental culture has enabled new strategies to support environmental education, with ethics-aesthetics emerging as a transformative alternative for rethinking human thought (Melo & Castro, 2024).

From the perspective of Edgar Morin's theory of complex thought (1999b), knowledge construction arises from the symbiotic relationship between human beings, environments, and their functions—evolving in a complex and ordered manner across multiple contexts. Knowledge thus emerges within environments shaped by heterogeneous causes that interact with scenarios and effects, generating change. In this process, the existence of unexpected situations and Morin's principle of uncertainty are ever-present.

According to Murga and Novo (2017), sustainability from a complex thought framework involves reconciling unity and diversity, providing a key interpretative lens for evaluating the positive and/or negative aspects of social actions that impact the environment. These actions often hinder the fulfillment of Environmental Policies and call for an integrated planning approach. This remains a pending task in societies still operating under the dominant mechanistic, reductionist, and deterministic paradigm of positivist science, which emerged during Modernity.

For Argyris and Schön (1978), an organization's effectiveness is closely linked to its capacity for learning—specifically, its ability to process complex, current information and to act upon it in problem-solving. This learning is rooted in theories of action, which encompass beliefs, assumptions, models, and strategies regarding intentional human behavior. They identify two key types applied within organizations: (1) Espoused theory—the formal strategies, structures, and rules, reflected in the organizational chart and job profiles, usually explicit and short- to medium-term. (2) Theory-in-use—the implicit theory derived from observed current behavior. These theories help us understand that the efficiency of an organization depends on its members' capacity for reflection and change, enabling the institution to evolve and respond to the complexity of its contextual dynamics. In doing so, members can infer and act to provide solutions to present-day challenges.

According to Dávila and Dávila (2023), aesthetic education is a fundamental component of cultural formation, made concrete in the teaching-learning process through both internal and external institutional approaches. It connects cognitive and affective dimensions in response to the evolving historical, geographic, and socio-cultural context, with a critical and transformative intent. Aesthetic education is thus a priority in modern schooling and should be emphasized pedagogically in the training of professionals, so that it is reflected in the human behavior of academic community members, who act as key agents within educational institutions.

Conclusions

By unveiling the explicit postulates of the Environmental Policy, several dimensions emerge, such as the epistemological, political, legal, educational and research dimensions, as well as environmental leadership, environmental awareness, environmental management programs, and academic networks.

The emerging proposals derived from the theory of action of the behavior of institutional social actors were: (1) Epistemological and teleological understanding of the mission, vision, policies, principles, values, objectives, programs, and actions in higher education institutions articulated with the Environmental Policy (EP). (2) Democratization, communication, and awareness of institutional environmental management. (3) Human behavior for institutional sustainability (ethics, culture, and aesthetics).

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