



Sustainable Development And Sustainability In Higher Education Institutions In Colombia.

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Abstract. Talking about Sustainability and Sustainable Development, from the Higher Education Institutions in Colombia, sought to recognize the strategies, projects or actions, implemented, as a strengthening of the educational offer, the social positioning and the general contribution to the social welfare of these institutions. The starting point was to recognize that sustainability is the approach and style with which the institutions are made and planned, and Sustainable Development is the context to which they must contribute. To this end, we worked from a qualitative methodological approach, from a population sample that statistically allows inferring the behavior of the 163 institutions grouped together, from the 268 recognized active institutions in Colombia. The analysis allowed to identify that there are three approaches to work on sustainability in the university institutions, sustainable campus, sustainability policy and environmental management and within them, work is done on protection and conservation of resources, consumption and use of water and energy, solid waste, environmental education, sustainable infrastructure and administrative infrastructure and with very little scope the explicit transformation towards the sustainability of the academic offer. All approaches are supported by the environmental component and recognize the importance of acting in the social and

economic aspects of sustainability. There is still a long way to go for sustainability to be a transversal element in the offer of academic programs, there is still a long way to go because there are few university advances to explicitly incorporate methodologies for sustainable development. There is recognition of the importance of contributing to the 2030 sustainable development agenda and the SDGs are recognized as the sustainability commitment of global visibility.

Keywords: University sustainability, Sustainability policy, sustainable campus, university environmental management.

INTRODUCTION

Sustainable development is a concept that is habitually beaten when it is misused, putting it as false evidence of intellectuality and direction, because it is done under the ignorance of its essence, its significance, its principles, its scope and the articulations it requires for its realization.

Sustainable development was defined since 1987 by the Brundtland Commission in the document "Our Common Future" as the development that allows satisfying the needs of present generations without compromising the possibilities of future generations to satisfy their own needs (UN & Brundtland, 1987), definition that marked the refocusing of strategies, policies, projects and actions both in the public and private sectors, to integrate policies from the environmental, economic and social aspects defined as pillars of sustainable development.

An accurate graphic has become popular to show the components or pillars of sustainable development.



Figure 1. Pillars of Sustainable Development

Source: taken from <https://girosalut.org/los-3-pilares-del-desarrollo-sostenible/>

From here it is clear that Sustainable Development is the result of the interactions of Equity, Viability and Livability that in the same conditions and importance are developed between the social, the economic and the environmental. In this same approach, ECLAC (ECLAC, 2021) determines the need to interact policies and strategies from these pillars to achieve the development of the whole society. And in continuity ECLAC makes a tacit description of Sustainable Development as a guiding concept of integrality in equal conditions between environmental protection, the structure of economic systems and social covenants, officialized in the 2030 Development Agenda, as a global bet to achieve Sustainable Development through the Sustainable Development Goals before the year 2030 (UN O. d., 2016).

Multiple authors make clear the validity of sustainable development that is achieved as a result of action from the pillars that make it up, oriented by sustainability conditions. Macedo (UNESCO, 2005) describes how sustainability is born as a response to unsustainability, describes positions for and against, concluding that the result has to be sustainable development. Luffiego (LUFFIEGO GARCÍA, 2018) describes how sustainability is given in the three pillars, accompanied by operating principles, with which they support the concreteness of sustainable development. Saura (SauraCalixto& Hernandez, 2008) exposes sustainability from the European vision, arguing it in the three pillars of sustainable development and in which actions are generated to achieve sustainable development. Edwards (Edwards, 2013) presents sustainability as the approach focused on the environment and to contribute to sustainable development, he presents a compendium of the programs and policies of governments and institutions in favor of the environment. Gallopín (Gallopín, 2013) analyzes a set of determinants of sustainability and identifies alternative trajectories for the achievement of sustainable development. Rivera, et al (Rivera, Blanco, Alcántara, Pascal, & Pérez, 2017), after supporting sustainability and sustainability ratifies the pillars that support it and its existence in sustainable development defined by the UN since 1987. Sandoval et al, (Sandoval, Jaca, &Ormazabal, 2017) speaks from the circular economy as a paradigm from sustainability that aims to generate economic prosperity, protect the environment and prevent pollution, thus facilitating sustainable development.

From all of them it can be concluded that the pillars of sustainable development are the moments, spaces, actors, elements or similar, from where actions, initiatives or strategies that are framed in conditions of sustainability to achieve common benefit are promoted. And this idea is applicable to any type of organization, work level, scope, economic capacity, or particular condition, from which sustainability must be worked on to contribute to sustainable development (UN N. U., 2015).

When analyzing this in the context of higher education institutions, from ECLAC, UNESCO, ILPES, UNEVOC, IESALC, to name a few international agencies, there is sufficient argumentation of the role of HEIs for the incorporation of sustainability in all aspects of society to achieve Sustainable Development. They present strategies, guidelines, principles approaches to incorporate sustainability in university life, as a contribution to sustainable development (UNESCO-UNEVOC, 2018) (ECLAC, 2021). At the national level, the Ministry of National Education together with the Ministry of Environment and sustainable development, have established a set of strategies to "Educate for sustainable development" and within this establishes sustainable actions that promote the institutions and all their staff for environmental protection, economic growth and social welfare and determines that as sustainability strategies primary and secondary education institutions may develop school Environmental Projects PRAE and higher education institutions University Environmental Projects PRAU.

It is worth highlighting the analysis of the relationship between sustainability and universities, as presented by Parrado (Parrado & Trujillo, 2015) describing sustainability in the substantive and operational functions of the university, highlighting the interest in sustainable development and university environmental responsibility, focused mostly on consolidating sustainable campuses for their communities, in the same way. For their part Callejas-Restrepo et al (Callejas-Restrepo, Sáenz, Plata, Holguín, & Mora, 2018), by focusing their analysis on environmental commitment, show university efforts to show the environmental component beyond their academic responsibility and with this, HEIs, show the appropriation of sustainability and their role in sustainable development. Along with this, Saenz (Sáenz, Plata, Holguín, Mora, & Blanco, 2017) makes a description of the commitment of universities in Colombia, through hedonic method to identify aspects of sustainability in all university areas.

In the particular of higher education Institutions, at the level of alliances, knowledge networks and collaborative actions, national space such as: The Environmental Network of Sustainable Universities RAUS (RAUS, 2021) and the Colombian Network of Environmental Trainers RCFA (RCFA) and at the international level the Alliance of Ibero-American Networks of Universities for Sustainability and the Environment ARIUSA (ARIUSA, 2021) and the Observatory of Sustainability in Higher Education in Latin America and the Caribbean (OSES-ALC, 2021), present multiple experiences of how universities should focus their actions under sustainability criteria or sustainability as proactive agents in the global consensus to build sustainable development and join efforts to realize the 2030 development agenda through the Sustainable Development Goals (SDGs).

METHODS

The construction of this work sought to recognize the approach that universities in Colombia are managing in the context of Sustainability or Sustainable Development, in their structure, in their organizational commitment and in the development of their activities, that is, how they present sustainability or their understanding of sustainable development, from their organizational chart and functionality. The incorporation of sustainability and sustainable development in their academic offerings was not analyzed, since this constitutes an in-depth review of pedagogical approaches, academic proposals, learning objectives and other types of variables that are not required in the focus of this review (OSES-ALC, 2021).

In order to identify the relationship of Colombian universities with sustainability and sustainable development, a qualitative research method was assumed, based on identifying the non-existence of conditions associated with sustainable development in universities, following a descriptive approach, given that the universities were identified to work and their presentation in the field of sustainability was compiled, taking the aspects in which they focused their interest. (Monjes, 2011).

The approaches presented were not evaluated at any level, it is not catalogued if the universities are right or wrong, only their intentions and approaches to appropriate and contribute to sustainable development were documented.

To do this, we began by identifying how many institutions should be worked, through consultation to the Web of the Ministry of Education of Colombia and from it the National Information System of Higher Education SNIES, (MEN - SNIES, 2021), it was found the existence of 268 active Higher Education Institutions, IES, but of them it was decided to select those that offer professional cycle programs, with which 163 were taken as target population, of which 3%, 5 technological institutions, 32% 52 University Institutions and 65% 89 are at the University level.

From this population and understanding that the methodological approach was qualitative, it was determined that for a population size of 163, we would work with a 90% confidence level and a margin of error of 10%, with which the number of Higher Education Institutions was established at 49, of which to review their expression of institutional context of Sustainability and Sustainable Development.

With the size of the sample, the web page of 49 HEIs was reviewed, biasing the review by the names of the best known institutions in the country. The web site was searched to see if there was any explicit component on Sustainability or Sustainable Development and once the institutional information on this topic was found, a review was made of the institutional relationship with these topics.

Finally, it was possible to identify the mention of sustainability and sustainable development in the selected HEIs, cataloguing the institutional instrument with which it is assumed, the main approaches with which the HEIs describe these instruments and the actions, projects or strategies that each institution describes in this area.

RESULTS

From the meetings in the web pages of the consulted HEIs, it stands out that efforts and commitment are being made to assume the role of the university in the construction of Sustainable Development, for which its interest in its environmental management is the most outstanding and together with it the recognition of wanting to appropriate sustainability in the fulfillment of all its substantive functions.

Within this, it frames the importance of three specific actions in the universities: declaration of an apolitical and institutional sustainability commitment by its top management; two, the importance of defining actions and projects that framed in sustainability generate sustainable development results; and three, assuming the commitment to contribute to the achievement of the 2030 agenda and the Sustainable Development Goals SDGs.

Even so, from the sample reviewed, the institutions reveal a very marked duality in the way they understand their role in sustainability. On the one hand, they relate sustainability to their environmental commitment and actions, so their discourse focuses on the protection and conservation of biodiversity and minimization of environmental impacts, especially in solid waste and climate change. On the other hand, there are the tacit manifestos on sustainability and the incorporation of sustainability to their functional structure, although it is also focused on environmental actions, assuming that sustainability responds to the interaction with natural resources. In this last aspect, a minority, 15% of the institutions reviewed, describe their commitment to sustainability in the three pillars of sustainable development and show arguments, actions and commitments in the social, economic and environmental areas.

From the review, Figure 2 shows how coincidences were found in the main institutional action with which HEIs incorporate their commitment to sustainability, the idea revolves around sustainable campus, institutional sustainability policy and environmental management.

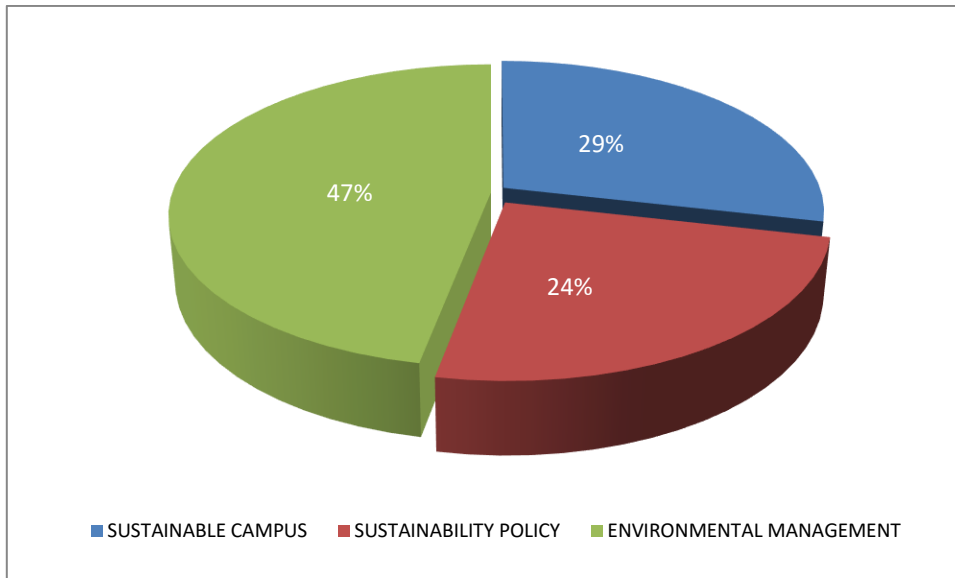


Figure 2 Areas of Sustainability in HEIs

Source: Authors

The sustainable campus is described as: efforts to achieve an economically, socially and environmentally sustainable management in accordance with the challenges established for Colombia in the 2030 Agenda (UMEDELLIN, 2021); University campus under the concept of university park (EAFIT, 2021). Commitment implied by the 2030 Agenda of the United Nations, so that the academic activities of teaching, research and extension are carried out in correspondence with the SDGs (UN, 2021). Institutional willingness to work within the framework of a University Social Responsibility, outlined in an environmental policy aimed at promoting and developing actions aimed at the protection and preservation of natural resources (UDES, 2021). It articulates the actions and programs generated from academia, research, internal operation and social projection of the UAO, based on the commitment and environmental and social responsibility (UAO, 2021). Generate in the Universidad Tecnológica de Pereira educational, technological and environmental culture processes that promote the sustainable development of the campus, through the active participation of each member of the university community (UTP, 2021).

When talking about Sustainability Policy, HEIs have two approaches, looking at their substantive functions and focusing on the protection and conservation of natural resources, for this they argue aspects such as: the positive impact on each of the dimensions of what is now called sustainability (UPB, 2021). Responsible for our impact at a social, environmental and economic level; working for the balance between economic growth, benefit for society, as well as responsible environmental

development (CES, 2021), Conservation and maintenance of social, environmental and economic conditions (EIA, 2021). Promotes Integral and Sustainable Human Development, also sows from the academic, research and social work, the commitment to care for the common home, as mentioned by Pope Francis (USALLE, 2021). strategic north that establishes integral guidelines, within the Institution, to implement actions of positive impact on the environment, society and the economy (EAN, 2021). Institutional commitment to respond comprehensively to society, from its environmental, economic and social aspects within the framework of Agenda 203 and the SDGs (UTS, 2021). Institutional commitment to sustainability, defining guidelines for self-governance and self-management of sustainability that contribute to strengthening the biocultural identity of the institution and to training in competencies related to sustainability (UM, 2021).

From the environmental management approach, the universities that express this focus their concept on the protection of resources, but include their commitment to sustainability, the main arguments found show that: contribute to the improvement of the quality of life of people, living beings and the spaces that coexist in the different sites of the University (UdeA, 2021). Efficient use of resources. Ensure compliance with legal requirements and others voluntarily adopted by the institution (UIS, 2021). Institutional commitment to promote environmental management and responsibility in the university, from the curriculum, research and administration (USTA, 2021). Educate the Javeriana community towards the strengthening of environmentally responsible practices and integral ecology for the transformation of our society (UJAVERIANA).

In relation to the actions that the universities propose to develop to fulfill their commitment, there are contributions that can be made to coincide in thirteen conceptual areas, these are shown in Table 1 and in Graph 3, relating the number of HEIs that propose actions or strategies, which can be included in the proposed thematic denomination

Table 1. Number of HEIs by focus of actions to be implemented.

Source: Authors, adopted from inputs on the web page of the related HEIs.

Quantity	Action or Strategy to be Implemented	Acronym
26	Environmental Policy	PA
36	Environmental Education and Culture	ECA
23	Environmental Management Plan	PMA
30	Environmental Impact Reduction	IA
20	Biodiversity Management	GBIO

43	ResourceEfficiency	REC
33	InstitutionalProcesses	INST
38	sustainable, green, healthy, environmental campus	CAMP
21	Climate change: mitigation and adaptation	CCLIM
12	Sustainableconsumption	CONS
26	Integratedwaterresourcemanagement	GHID
23	Integratedenergymanagement	GENER
42	Integratesolidwastemanagement	GRSOL
40	Teaching, extension and research	DEI

From the identification of areas, it is evident that there are multiple points of agreement among HEIs, regardless of the approach of the strategy of appropriation of sustainability and sustainable development. It stands out that the most significant aspects of common agreement are the efficient use of resources 43, solid waste management 42 and the incorporation of sustainability in the substantive functions of higher education. It is also evident that the least expressed point is sustainable consumption, since only 12 HEIs expressed intentions or actions linked to this approach..

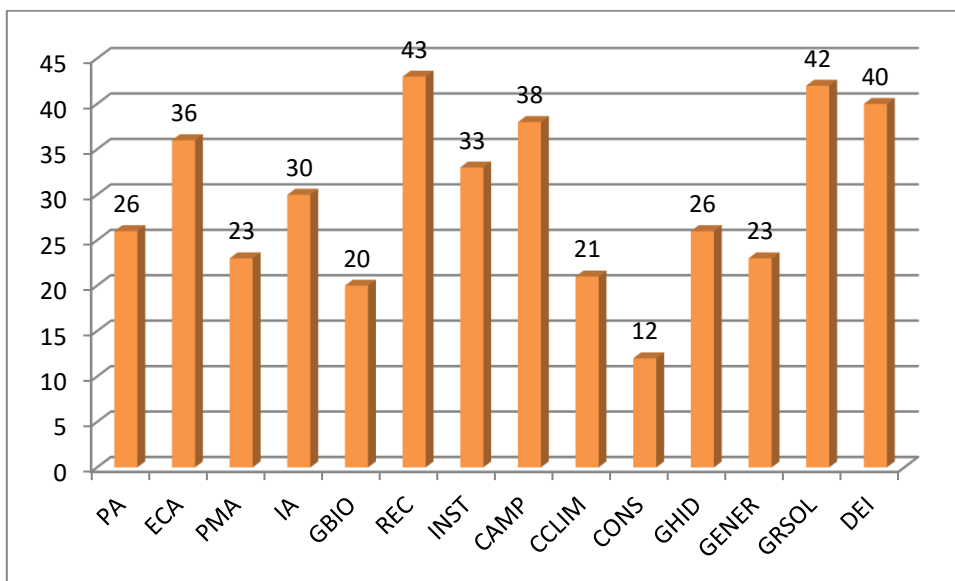


Figure 3 Fields of action for sustainability in HEIs

Source: Authors

Graph 3 allows a related interpretation of the most outstanding aspects in HEIs and to recognize that they have common interests to address sustainability and the recognition of the contributions that universities can make to sustainable development, because regardless of the strategy they assume, the concern for better environments, the protection and conservation of biodiversity and resources, as well as minimizing the exploitation of resources and responding to climate change, are present in the manifestos of the universities..

DISCUSSION

Although it can be interpreted that higher education institutions in Colombia have included in their projection the relationship with sustainability, there is still a long way to go to consolidate this process as an evident strength from higher education at the service of society.

The base point from which universities have begun to advance in sustainability is their environmental component, (UNESCO-UNEVOC, 2018) for the vast majority of documented HEIs, responding to their environmental commitment is the column of recognition of their commitments and actions and although it is undoubtedly a necessary element, the vision falls short when thinking only that the environmental is central to assume sustainability.

The institutions that have decided to assume a sustainability policy, do it as a manifesto of good intentions and fall into the same point of the previous paragraph, the description of what is called policy is focused on responding to their environmental commitment and to put their efforts on this issue in consolidating sustainable campuses, environmental education and water and energy management, but they limit this approach to these areas of environmental nature. (Sáenz, Plata, Holguín, Mora, & Blanco, 2017). Undoubtedly, this is key to progress, but the vision of HEIs cannot be left to respond only to environmental issues, as this would break the tripartite condition of sustainable development and would limit action on strategies related to the UN 2030 development agenda and the SDGs. (Callejas-Restrepo, Sáenz, Plata, Holguín, & Mora, 2018).

HEIs have identified sustainability as their contribution to the protection and conservation of nature, consequently to their way of acting environmentally, it is found that in the vast majority of cases, natural resources and smelted waste are the main focuses of work, this understood because they are the aspects that in a delimited environment of social interaction are the most evident elements as potential environmental impacts. (Callejas-Restrepo, Sáenz, Plata, Holguín, & Mora, 2018). It is noteworthy that institutions that claim to enjoy a campus made up of buildings, sports scenarios and green areas for community enjoyment, have also begun to organize this

space so that in it the regulation of environmental actions is taken into account, in addition to thinking about infrastructure to prevent their impacts or waste from transcending the physical limits of their territorial spaces. (Parrado& Trujillo, 2015).

Those who have built the proposal of a sustainability policy, keep the environmental aspect in the center of the vision, but it is possible to identify that with the policy they move forward to talk about their social impact, beyond their academic activity and the training of professionals, to contribute campaigns and non-formal processes that have an impact on their social environment. Similarly, they speak of responsibility in the management of their finances, in one sense to comply with their academic offerings and commitment and on the other to have resources to support their commitment to sustainability for the development of actions with people and infrastructure that improve the environment of coexistence for all. (Parrado& Trujillo, 2015).

The HEIs that have focused their commitment on Sustainable Campus, (OSES-ALC, 2021) aim to take advantage of their territory to show their academic and administrative community, better ways of living together, in a sense, avoiding the exploitation or misuse of resources, minimizing their waste or assuming responsibilities in their disposal, on the other hand in transmitting non-formal training in environmental and sustainability so that those who live on their campus extend the messages of responsibility and sustainable development to their other living environments, which generates that the university impact to sustainable development, achieves a greater social influence; and finally from the sustainable campus, they seek the reconstruction of their infrastructure to be environmentally friendly, which means constructions with better lower energy consumption, efficient recirculation of air and use of natural light, as well as open spaces that promote interaction with natural resources (LUFFIEGO GARCÍA, 2018).

Although it is not an argument that in all cases is highlighted in the manifesto of environmental responsibility and intentions of contribution to sustainable development, for HEIs their contribution to the global development agenda 2030 must be assumed and made evident, although it is not explicitly made that they are linked to the SDGs, the intentionality in sustainability points to the execution of actions that are consistent with this proposal. (Parrado& Trujillo, 2015) Even so, this element must be improved, all HEIs must assume a firm and concrete position in relation to the 2030 Development agenda and their undeniable responsibility to promote and contribute to the SDGs. The university has a socially favorable position to contribute to society to appropriate and contribute to the SDGs, the academic service of HEIs marks distinction and trust in society so, what comes from a university is welcome under the recognition that it is done to contribute knowledge and science,

this will favor the SDGs, because it has to promote social acceptance of their fields of action. (UNESCO-UNEVOC, 2018)

Sustainability is the approach, style or commitment with which actions are carried out to generate present and future benefit, with quality level and transcendence in time. Sustainable development is the result of actions that allow present generations to build their well-being without affecting the possibilities of future generations. (Callejas-Restrepo, Sáenz, Plata, Holguín, & Mora, 2018) Sustainability contributes to Sustainable Development. A policy, is the framework of action and direction of an organization to achieve a proposed result or goal, therefore it is accurate to speak of sustainability policy, because this brings together actions, but it is not accurate to speak of sustainable development policy, per se, the policy does not generate welfare, neither present, nor future.

An element that must be improved in all institutions is the inclusion of sustainability in their academic offerings, (UNESCO-UNEVOC, 2018) not by offering professional training programs in the area of sustainable development, but by incorporating Education for Sustainability or Sustainable Development or Sustainable Development Goals in their methodological frameworks and their institutional educational projects, (ARIUSA, 2021), making it transversal to all their programs and ensuring that regardless of the area of knowledge of the educational offer, it will have a focus on sustainability. Likewise, linking the arguments of the SDGs to their academic offer and their actions in research and social outreach, must go hand in hand with their link to teaching, HEIs must make the SDGs an object within their academic offer, so that their students and graduates are encouraged and their social appropriation is guaranteed (UN O. d., 2016).

CONCLUSIONS

HEIs in Colombia have incorporated in their vision and structure the sustainability component, based on the understanding that sustainable development is a common global goal to seek the improvement of the quality of life of all. For HEIs, their environmental responsibility is their main vision of contribution to sustainability, and although it is valid and correct to see from the environmental aspect a contribution to sustainability, it cannot be left aside to assume explicit commitments in the social component, beyond the academic offer and in the economic aspect for the responsible management of resources and the allocation of money to support sustainability processes and beyond the good investment of these resources to support their educational offer.

The commitment to sustainable development of all higher education institutions must be clear in its relevance to the 2030 development agenda and to build in

accordance with the Sustainable Development Goals, these two elements are the global commitment to balance, improvement and welfare towards the year 2030, so universities must tacitly align with these arguments, since their academic offerings and the professionals they deliver to society, must have the vision and training to articulate with the global development strategy. Appropriating and promoting the SDGs should be a commitment of universities that strengthen their role in society and their contribution to the permanent construction of world history.

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