

Implementation of the Sustainable Development Goals (SDGs) in Higher Education Institutions: Recommendations Based on the Experience of a Latin American University

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Introduction

Undoubtedly, the great challenge faced by higher education institutions today is to assume real and effective commitment to the Sustainable Development Goals proposed by the United Nations in its 2030 Agenda. This was recognised in June 2018 at the 3rd Regional Conference on Higher Education (CRES), which was massively attended by rectors, directors, faculty and students from universities in a wide variety of countries, mainly in Latin American and the Caribbean. The Declaration approved at this important event highlighted “the strategic role of higher education in the sustainable development of Latin America and the Caribbean,” specifically “for the achievement of the Sustainable Development Goals” in the region (CRES, 2018: 5).

The Alliance of Iberoamerican University Networks for Sustainability and the Environment (ARIUSA) issued a similar statement at the end of the same year in a document entitled “Incorporation of the Sustainable Development Goals in the duties of ARIUSA Higher Education Institutions.” Referring to the 2030 Agenda, it states that higher education institutions are faced with “the challenge of taking this ambitious agenda on board, discussing it and using it as a tool to conduct its activities within the framework of the SDGs.” According to ARIUSA, “these goals should be viewed as tool that each HEI should use when planning its journey towards sustained, inclusive development, in harmony with the environment, helping to make Latin America more inclusive, equal and sustainable” (ARIUSA, 2018; 7).

As guidance with an adequate response to such a challenge, this document presents a series of general recommendations grounded on the theory of a ‘University Environmental System’ (*Sistema Ambiental Universitario - SAU*), as proposed since 2007 by an inter-institutional team of Colombian researchers (Román, 2016). More recently, this concept has been developed by the University Environment and Sustainability Team (UAS), which structures the SAU into five fields of university action in relation to their commitments to the environment and sustainability:

- a. Government and participation;
- b. Teaching and training;
- c. Research and technology;
- d. Extension or projection; and
- e) Management and planning (Sáenz et al, 2017: 6).

More than a theoretical and speculative construct, the proposed University Environmental System has been made possible on the basis of the work done across several decades by certain Colombian universities as part of the institutionalisation of their commitment to the environment and sustainability. These include the University of Applied and Environmental Sciences (UDCA), whose experience shall now be taken as a particular example to illustrate how the Sustainable Development Goals can be implemented in higher education institutions.

The University of Applied and Environmental Sciences is a private and autonomous university that since 1983 has offered higher education programmes in the areas of basic, environmental, agricultural, social, administrative, legal, health, education and engineering sciences. It has several campuses and sites in the cities of Bogota and Cartagena (Colombia), which are used by more than five thousand undergraduate and graduate students (U.D.C.A, 2018a: 26)

As is very clearly stated in its Institutional Mission and Vision, this university is highly committed to social and environmental responsibility “at the service of sustainable human development” (U.D.C.A, 2019a). Consequently, according to the Institutional Educational Project (PEI), the UDCA is a higher education institution that is “committed to the shared building of a society that can achieve sufficient economic development to guarantee a dignified level of wellbeing and quality of living for the people, without surpassing the limits required for the conservation of the natural environment for present and future generations” (U.D.C.A, 201X: 11). Hence the decision to “contribute from our institution to achievement of the Sustainable Development Goals proposed by the United Nations” in the 2030 Agenda (U.D.C.A, 2018a: 18).

Based on this position and 24 years after its implementation, the University of Applied and Environmental Sciences is the renowned leader of several university networks and associations in Latin America and the Caribbean. These include the Colombian Environmental Training Network (RCFA), the Association of Universities of Latin America and the Caribbean for Integration (AUALCPI), the Colombia region of the Inter-American Organization for Higher Education (IOHE), the Alliance of Ibero-American University Networks for Sustainability and the Environment (ARIUSA) and the Observatory of Sustainability in Higher Education in Latin America and the Caribbean (OSSES-ALC). All these networks and associations promote commitment among HEI to the environment, sustainability and the Sustainable Development Goals.

The UDCA having such broad and complex experience of these issues, its description is based on the proposed University Environmental System and its five areas of institutional action. To simplify its presentation, the latter are grouped according to the administrative and academic functions of higher education institutions. The areas of Government and Management correspond to the former; the the areas of Training, Research and Extension to the latter.

Based on these criteria, the first section of this document presents some general recommendations, and the main concrete actions and obstacles encountered in the institutionalisation of the UDCA’s commitment to the environment, sustainability and the Sustainable Development Goals. The second section goes on present suggestions, activities and barriers in the process of incorporating environmental and sustainable development issues into the areas of training, research and extension at universities.

The third section deals with the need to start with diagnoses and conduct permanent follow-up of these processes both at the general level of the university as an institution and within each of their academic and administrative units. The concluding section makes a series of final recommendations.

Institutionalization of Commitment to the Environment, Sustainability and the SDGs

Based on the theoretical proposal of a University Environmental System and the specific experience of the UDCA, the first and foremost recommendation for higher education institutions is that institutional commitment to sustainability and the SDGs must be taken up from the most senior levels of authority, and be publicly expressed in their most important official documents and incorporated into their administrative and academic structures.

This is what the University of Applied and Environmental Sciences has been doing since 1995, when it decided to make commitment to the environment part of its constitution, whose text defines it as part of the notion of “sustainable human development” (Anzola & Cabrera, 2005: 48). In the current version of what is called its institutional ‘Mission’, the UDCA states that “it is committed to the permanent pursuit of academic excellence, through the transmission, generation, transfer and application of knowledge, at the service of sustainable human development on a local, regional, national and international level” (U.D.C.A, 2019), which is also evident in the university’s future vision, which stresses this aspect as an element of its identity and the way it is viewed from outside.

To complement these general guidelines, in 2000 the university’s academic board passed an Environmental Policy, which has been ratified several times since then.

In the current version of this policy, the UDCA describes its commitment to “continuously improving the institution’s environmental efforts” and to establishing “strategic partnerships to work on disaster prevention, sustainable development and the eradication of poverty” (U.D.C.A, 2008).

In order to implement the general guidelines described in all these documents, from 1999, different administrative units specialising in environmental and sustainability issues started to be created and developed. That was the year when the Environmental Planning and Management Unit was created, attached to the Planning Department. In 2003, it was replaced by the Environmental Management and Sustainable Development Unit, responsible for implementing the guidelines of the Institutional Environmental Plan (Anzola & Espinosa, 2007: 130).

Between 2002 and 2003, this policy was specified and developed through the Institutional Environmental Project (PAI) at the University of Applied and Environmental Sciences. The idea of this PAI was “to direct the actions involving environmental sustainability that the university planned to undertake in subsequent years and thus improve environmental performance” (Peraza, 2018: 33). This Institutional Environmental Project was structured into two parts: The Comprehensive Plan for Environmental Management (PIMA) and the Comprehensive Plan for the Incorporation of Environmental Knowledge (PISA). In turn, both of these plans were made up of several more specific programmes (Anzola & Cabrera, 2005: 52).

Following the guidelines of the ISO 14.001 standard, in late 2004 the UDCA replaced the Environmental Management and Sustainable Development Unit with the Environmental Management System (SGA) “with the aim of integrating all levels of the institution that work on environmental issues and to align their management with institutional standards” (Anzola & Espinosa, 2007: 130).

A decade later, and in order to deal with certain limitations that were identified regarding the SGA, the university decided to redesign this system from a broader perspective. As a result of this work, and through official agreement of the governing board, the following year the UDCA created its current Comprehensive Environmental Management System (SIGA) that “seeks to prevent and reduce environmental impacts” and “strengthen environmental awareness, not only among the university community, but also among other parts of society.” The

administrative unit in charge of this new system is a specially created technical secretariat, which is directly attached to the rector’s office. It was also established that “SIGA transverses all levels of the university, in order for the environmental component to become part of the university’s core duty” (UDCA, 2014).

Given this extensive background, as soon as the 2030 Agenda was announced, the University of Applied and Environmental Sciences made the SDGs part of its commitment to the environment and sustainable human development, and since 2016 it has made progress with a series of actions in five institutional areas, defined internally as Governance, Training, Research, Extension and Internationalisation.

Within the framework of the first of these institutional areas of action, in May 2019, a seminar was held on “Capacities for Implementing the SDGs in Higher Education”, which featured “29 managers and leaders of SDG processes or with knowledge of or working in progress in the area”, in order to “find ways to connect the goals to the core functions of higher education.” More specifically, it was hoped that this seminar would help to “learn about progress that has been made in particular ways and (...) plan actions focused on making the UDCA a leading player in the fulfilment of the 2030 Agenda” (Phillips & Nieto, 2019: 2-3).

In the Internationalisation area, the university has also been doing important work in relation to sustainability and the Sustainable Development Goals. Since 2017, the Institutional Policy on Internationalisation has established its main priority to be sustainable development as an inspiration for actions in this field. As stated in this document, the UDCA’s internationalisation activities are “based on a commitment to sustainable development” (U.D.C.A, 2017: 2).

As an important component of the first line of action described in this policy, as of 2018, the ‘SDG Awareness’ (*Conciencia ODS*) programme is being run as “a cross-cutting project run by the International Relations Department to encourage the members of the UDCA community to identify with the universal mandate for sustainable development” (U.D.C.A, 2018b: 1). The rationale for this initiative states that the University of Applied and Environmental Sciences is bonded by “responsibility and commitment to sustainable development,” which is the defining factor of its “inexorable relationship with the fulfilment of the SDGs,

established as the purpose and design of humanity, in order to guarantee positive and constructive subsistence on the planet and balanced coexistence among all species" (U.D.C.A, 2018b: 1).

The SDG Awareness programme is based on recognition of the fact that one of the main barriers faced by the UDCA in promoting "appropriation of the SDGs and the implementation of projects and actions that contribute to their fulfilment" is the existence of "disconnection and certain ignorance of the scope and amplitude of the goals and their targets", which "in many cases are perceived as an external phenomenon, and not directly related to the activities of the members of the university community" (U.D.C.A, 2018b: 1).

Faced with this negative situation, the SDG Awareness programme is aiming to "socialise and sensitise the members of the UDCA community with regard to the SDGs, their characteristics, scope and our responsibilities as an institution and as individuals." In general, its objective is "to help connect the university with the SDGs" (U.D.C.A, 2018b: 1).

The project is part of the Home Internationalisation Programme and is being run through a series of activities focused on the SDGs and Agenda 2030, including identification and socialisation of specific initiatives and projects; regular talks and forums; conferences on current international issues; and other actions with students, faculty and graduates (U.D.C.A, 2018b: 2).

Incorporating Sustainability in University Training, Research and Extension

The second recommendation, which derives both from the theoretical proposal of the University Environmental System and from the UDCA's experience, is that environmental, sustainability and SDG issues should be included as broadly and profoundly as possible in the core training, research and social projection functions of higher education institutions.

In the case of the University of Applied and Environmental Sciences, the systematic, permanent effort to train professionals and postgraduates in the social and environmental values, knowledge and skills required to contribute to sustainable human development began in 1994 with "a specialised postgraduate programme on Environmental Education and Management" (Anzola & Cabrera, 2005: 48).

The process of 'environmentalising' the curriculum was taken a large step further in 2002 with the involvement of all of the deans of the time in a Diploma entitled "Bases for the incorporation of the environmental dimension in environmental training programmes", offered by the Colombian Institute for the Promotion of Higher Education (ICFES). As a result of this training, "each dean produced a proposal to modify the course curriculum in order to foster the incorporation of the environmental dimension" (Anzola & Cabrera, 2005: 48-49)

To further develop this process, in 2004, a series of "institutional guidelines aimed at consolidating and specifying the incorporation of the environmental dimension in the curricula of academic programmes" were defined. These guidelines included "the incorporation of a complex view of the environment, the development of the special environmental course, the creation of optional, elective and expansion courses, training activities for teachers in the environmental context, the promotion of research and the extension of environmental issues, among other aspects" (Anzola & Cabrera, 2005: 48-49).

These guidelines were used to construct the Comprehensive Plan for the Incorporation of Environmental Knowledge (PISA), one of the two components of the Institutional Environmental Project (PAI). The PISA was structured into four lines of action, defined as:

- a) Programme for the incorporation of the environmental dimension in the curriculum;
- b) Programme for incorporation of environmental knowledge in course subjects;
- c) Promotion of research on environmental issues; and
- d) Projection to the community of environmental improvement strategies (Anzola & Cabrera, 2005: 48-49).

Additionally, from the mid-nineties, the UDCA began to offer different undergraduate and graduate programs specialised in environmental and sustainability issues. Since 1997, it has offered a degree in Geographical and Environmental Engineering and, since 2008, has trained professionals in Environmental Sciences. For postgraduates, it offers courses on Specialisation in Social and Environmental Management and Specialisation in Climate Risk Management. At a higher level, work began in 2012 on the Master's Degree in Environmental

Sciences. More recently, the Master's Degree in Environmental Education, the Master's Degree in Socio-environmental Management and the Master's Degree in Solid Waste Management have been created.

The most important actions in the area of specific training on the environment and sustainability include the Special Environmental Course (*Cátedra Ambiental*), which was created in 2001 by the Academic Board and regulated by an agreement of the same in 2004, according to which, "the Environmental Course is an academic requirement for all university training programmes that must be fulfilled within the first three academic periods."

The curricula of each degree course must seek to "promote awareness among students of environmental problems" and "encourage intellectual change in an environmental context so as to significantly affect the building of knowledge and skills that enable these students to develop valid solutions for the problems around them"

(U.D.C.A, 2004: 3).

As a concrete expression of its commitment to the 2030 Agenda, in 2017 the UDCA governors decided to include the SDGs as one of the central themes of the Environmental Course. In compliance with this directive, since the first semester of that year students on all academic programmes perform a variety of training activities in relation to the Sustainable Development Goals. On average, around 500 students per semester take this compulsory course that is common to all degrees. Through mid-2019, the total number of students who have taken the special course on the SDGs is almost 2,500, representing nearly 50% of the whole student community at this university.

As in the field of teaching, the University of Applied and Environmental Sciences has also begun work on relating its research activities to the Sustainable Development Goals. Since 2016, lines of institutional research have been formulated in direct relation with the National Development Plans and SDGs. Bids for the internal funding

of research projects are now required to indicate the goals and corresponding targets of the 2030 Agenda to which they contribute (Cifuentes, 2019: 1).

As a result of this process, all new research projects carried out at the UDCA have clearly identified how they link to the Sustainable Development Goals. To further strengthen the implementation of this institutional policy, there are plans for an internal call for research projects on economic, social and environmental issues raised in the SDGs that are of particular interest to the university (Cifuentes, 2019: 1).

A similar line of work will be developed with respect to research nurseries, where the university's research professors guide groups of students with their own research training activities. One of the requirements of the next internal call for support for these nurseries will be for every study proposal to clearly indicate the goals and targets of the 2030 Agenda that they expect to contribute to (Cifuentes, 2019: 1).

Of particular note among the research and extension activities that are directly related to the SDGs and are already underway at the UDCA is the design and implementation of the "Observatory of Sustainability in Higher Education in Latin America and the Caribbean."

The OSES-ALC is an "inter-institutional research, extension and continuing education programme on the commitment of higher education institutions in the region to the environment and sustainability." It was created in late 2018 as a cooperation agreement between the University of Applied and Environmental Sciences and the Colombian Environmental Training Network (U.D.C.A & RCFA, 2018: 4).

This agreement is open to the participation of other higher education institutions and university networks. To date, the Association of Latin American and Caribbean Universities for Integration (AUALCPI), the Francisco José de Caldas District University (UDFJC), the Technological University of Pereira (UTP) and the Institute for Research on University and Education (IISUE) at the National

Autonomous University of Mexico (UNAM) have all joined. Other higher education institutions and university networks are currently advancing the process of formal adherence to the observatory.

The OSES-ALC is continuing the shared efforts undertaken since 2012 within the framework of the Alliance of Ibero-American University Networks for Sustainability and the Environment (ARIUSA). The first stage of this process was dedicated to the construction of a system of sustainability indicators for use at higher education institutions in Latin America and the Caribbean. This work was conducted by an international team of researchers from the Network of University Sustainability Indicators (RISU), one of ARIUSA's project networks. As a result of the RISU Project, a total of 114 indicators were defined and tested in the form of a regional survey (Benayas et al, 2014).

The second phase of the process focused on a series of "Diagnostics of the Institutionalisation of Environmental Commitment at Universities in Latin America and the Caribbean," supported by the 19th Forum of Ministers of the Environment in Latin America and the Caribbean (PNUMA, 2014: 3) and involving a survey containing 25 basic questions taken from the system of indicators defined by the RISU project. To date, responses have been received from 328 higher education institutions in 10 countries in Latin America and the Caribbean: Colombia, Peru, Ecuador, Mexico, Argentina, Venezuela, Chile, Nicaragua, Panama and Guatemala.

The goal of the current stage of the process is "the establishment of an information system for permanent monitoring of advances in universities' commitment to sustainability", as decided in 2012 at the First Latin American Forum of Universities and Sustainability (Sáenz, 2015: 127). Work towards this objective has already begun with the design and publication online of the Observatory Platform for Sustainability in Higher Education in Latin America and the Caribbean (OSES-ALC). This was possible thanks to financial support from the RCFA and the Regional Office of the United Nations Environment Program (UN Environment).

This platform now offers the possibility for higher education institutions to respond online to the "Basic Form for the Diagnosis of the Institutionalisation of Environmental Commitment at Universities" and immediately receive a comparison between their answers with the regional averages produced by the OSES-ALC research team. Plans for the Observatory of Sustainability in Higher Education in Latin America and

the Caribbean include the development and provision of other online forms focusing on various aspects of sustainability at higher education institutions. The immediate priority is the design and offer via the platform of a survey to assess the degree of knowledge and commitment among universities with regard to the Sustainable Development Goals.

Diagnosis and Monitoring of Compliance among Universities with the 2030 Agenda

Monitoring of progress in the commitment of higher education institutions to the environment, sustainability and the SDGs cannot be limited to a regional and national level, as the OSES-ALC is showing. It is even more important to assess and monitor the process at every university.

Therefore, a third general recommendation for higher education institutions that decide to contribute to the fulfilment of the SDGs is to start with a thorough assessment of their initial situation and continue with systematic monitoring of all developments in this area. Diagnosis and follow-up must be performed both generally throughout the whole institution and in each of its main administrative and academic units.

This is what has been done at the University of Applied and Environmental Sciences ever since it started to institutionalise its commitment to the environment and sustainability. In 1997, the "first diagnosis of environmental impact on the university campus" was performed in accordance with the prevailing approaches of that time. Similar diagnoses were repeated in the following years. From a broader perspective, and by decision of the Academic Board, work began in 2000 on a series of Environmental Forums dedicated to institutional assessment of the achievements of each academic unit in terms of environment and sustainability. These events are held each year on June 5, to coincide with World Environment Day (Anzola & Cabrera, 2005: 48).

Along with the creation of the Comprehensive Environmental Management System, its Technical Secretariat was assigned the responsibility of "leading annual accountability processes." In compliance with this requirement, since 2015, the former Environmental Forums were replaced by Environmental Accountability events, which continue to be held every June 5, and where a general review is presented of the activities and results in the framework of SIGA during the previous year.

Having assumed its institutional commitment to the 2030 Agenda, the UDCA also sensed the need to begin assessing the current level of knowledge of the SDGs among its governors, administrative staff, faculty and students, as well as the specific ways in which different academic and administrative units contribute to their fulfilment," observing the need "to understand the status of this matter from the perspectives of training, research, innovation and social projection, in consideration of institutional capacities, realities and priorities, in order to define a course of action" (Cardoso, 2019: 2).

This work is starting at the university's management level. In May 2019 the "Institutionalisation of the Sustainable Development Objectives" survey was applied, aimed at evaluating the incorporation of the topic across all academic units and in some administrative units. The purpose of this survey was "to obtain essential information for understanding the contributions made by academic units and administrative areas to the SDGs and to establish strategies to intensify the application of the 2030 Agenda within the university" (U.D.C.A & AUALCPI, 2019: 3).

This in-house survey is based on the Global Survey on Higher Education and Research for Sustainable Development (HESD) that was designed and applied by the International Association of Universities (IAU) in 2016. The following year it was translated into Spanish by the Conference of Rectors of Spanish Universities (CRUE). In 2018, the same survey was adapted and sent to the universities of Colombia by the Ibero-American General Secretariat (SEGIB) and the Colombian Association of Universities (ASCUN).

The in-house survey at the UDCA was answered by 12 directors of academic units and 2 of administrative units. The results are being used to produce a preliminary SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of the initial stages of the incorporation of the SDGs into the five defined areas of institutional action.

One of the noted strengths is that for more than two decades the university has been expressing its commitment to Sustainable Human Development in the texts of its Mission and Vision and this concept has guided several of its Development Plans. In addition, the "commitment from the top management of the UDCA to appropriation and implementation of the SDGs" is well known. Also important is the fact that there is a "multidisciplinary team with knowledge of the SDGs" and with "lines of research that make direct contributions to the achievement of the SDGs" (Phillips & Nieto, 2019: 5).

Acknowledged weaknesses are the "lack of cross-cutting articulations of the issue across all the academic programmes at the UDCA" and the fairly widespread idea among administrative and academic staff that the SDGs are an area exclusive to the Environmental Science Faculty and Program. Likewise, the lack of planning and systematic follow-up of the process of incorporating the goals in core university functions and the "lack of indicator-based evidence of progress in this area" have been highlighted. With regard to connections with society, it is noted that, until now, "few actions have focused on extension" and there is a "lack of socialisation of actions dealing with the matter" (Phillips & Nieto, 2019: 6).

The first of the identified opportunities is the highly favourable "national and international context regarding the fundamental role of universities with respect to the SDGs." For this same reason, major "national and international sources of cooperation and funding in the area" are emerging. Likewise, it is emphasised that the 2030 Agenda offers higher education institutions an excellent opportunity to foster and consolidate their "relations with the private sector and government" in terms of joint ventures to achieve the 17 goals and 169 targets (Phillips & Nieto, 2019: 6).

Finally, the obstacles involved in incorporating the SDGs into the University of Applied and Environmental Sciences include the suggestion that this work may go no further than the "discussion and diagnosis" stage without leading to actual results. The needs to avoid "individualistic work" and internal "competition" are also noted (Phillips & Nieto, 2019: 6), for institutional commitment to the achievement of the Sustainable Development Goals requires shared efforts based on cooperation among all members of the university community.

In order to overcome the identified barriers, work has begun on a process to identify the actions that could be most significant and have the greatest effects from among all those proposed by the directors who answered the survey. The first step is to continue and consolidate the work on appropriating the SDGs and approving the corresponding policies among the university's top management.

Based on the results of the seminar on "Capacities for Implementing the SDGs in Higher Education" and the survey on the "Institutionalisation of the Sustainable Development Goals", a "Strategy for Institutional Readiness for the 2030 Agenda and SDGs at the University of Applied and Environmental Sciences" is

being compiled, which will be included as an appendix to the “Institutional Development Plan 2019-2024” (Phillips & Nieto, 2019: 8).

Final Recommendations

In addition to the central recommendations formulated in the three sections of this document, two other recommendations could be made, based on the particular experience of the University of Applied and Environmental Sciences, but also of many other higher education institutions in Latin America and the Caribbean.

The first is the convenience of developing the process of institutionalising the SDGs on the basis of the progress that each university has most probably already made in terms of social and environmental responsibility. This will enable us to build upon whatever has already been achieved at each university. In the case of the UDCA, the work that is now being done to contribute to the achievement of the Sustainable Development Goals is based on its earlier progress in terms of its institutional commitment to the environment and sustainability, resulting from a collective effort that began in 1995 and is still being developed systematically.

One final recommendation that should always be borne in mind is that the institutionalisation of commitments to the environment, sustainability and the SDGs are always medium and long-term processes. Significant results cannot be achieved in just a few months; it takes years and even decades to achieve them. Consequently, both universities that are only just starting out and those that already have a long background in the area, still have a long way to go.

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