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Institutional philosophy and sustainable development goals: underlying linkages

Filosofía institucional y objetivos de desarrollo sostenible: nexos subyacentes

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Abstract

Three main documents: the General Law, the University Statute, and the Institutional Development Plan, describe the philosophy with which the Autonomous University of the State of Mexico (UAEMex), describes its contribution to society, through the advancement of knowledge and management actions. Because of the importance of Higher Education Institutions (HEIs) in the achievement of the Sustainable Development Goals (SDGs), the aim of this research is to analyse the philosophical framework of the UAEMex as a support for the fulfilment of the SDGs. Hermeneutics was used as a technique with the use of Atlas.ti® Software version 9.1.6, coding the documents from keywords that indicated a narrow relationship with the corresponding definition of one of the seventeen SDGs. It was found that the SDGs that appear most frequently are 1) education, 2) decent work and economic growth, and 3) peace, justice, and strong institutions. Water, energy, and climate action were found to have a weak presence. Based on the above, it is considered that there is a congruence of the SDGs in the philosophy and mission of UAEMex; therefore, HEIs can incorporate sustainability and SDGs within their normative framework. In addition, there is an opportunity to develop non-formal education.

Keywords: Philosophy, educational management, sustainable development, higher education, substantive functions, legislation.

Resumen

El marco filosófico de las Instituciones de Educación Superior (IES) debe implementar los Objetivos de Desarrollo Sostenible (ODS) para cambiar el entorno social, económico y ambiental de estudiantes, dentro y fuera del campus. Tres documentos principales: la Ley General, Estatuto Universitario y Plan Rector de Desarrollo Institucional, describen la filosofía con la que la Universidad Autónoma del Estado de México (UAEMex), da cuenta de su contribución a la sociedad, a través del avance del conocimiento y acciones de gestión; el objetivo de esta investigación es analizar el marco filosófico de la UAEMex como sustento para el cumplimiento de los ODS. Se utilizó la hermenéutica como técnica con el uso del Software Atlas.ti® versión 9.1.6, codificando los documentos a partir de palabras clave que indicaban una relación estrecha con la definición correspondiente de cada uno de los diecisiete ODS. Se comprobó que los ODS que aparecen con mayor frecuencia son 1) educación, 2) trabajo decente y crecimiento económico, y 3) paz, justicia e instituciones sólidas. La presencia del agua, la energía y la acción climática es escasa. Con base en lo anterior, se considera que existe una congruencia de los ODS en la filosofía y misión de la UAEMex; por lo tanto, las IES pueden incorporar a la sustentabilidad y ODS dentro de su marco normativo. Además, existe una oportunidad para desarrollar educación no formal.

Descriptores: Filosofía, gestión educacional, desarrollo sostenible, enseñanza superior, funciones sustantivas, legislación.

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1. Introduction and state-of-the-art

1.1 Theoretical frame

In 1968, the Report titled "The Limits of Growth" (Meadows *et al.,* 1972), mentioned sustainability as a guiding framework to mitigate the impacts on the environment and improve the quality of life of society.

There is ambiguity about sustainability and sustainable development. Andrade *et al.* (2017) indicate more than 100 definitions; some authors consider them synonyms, while others say these are different terms (Valenzuela, 2017; Martínez and Martínez, 2016; Jiménez, 2016; Cortés and Peña, 2015; Macías *et al.*, 2006), not being the purpose of this study to discuss this disambiguation, this paper will use them interchangeably.

The Brundtland Report describes sustainable development as an action that aims to balance economic, cultural, political, ecological and social resources and dimensions to achieve intergenerational and intragenerational equity (Brundtland, 1988).

Although sustainability has been approached following social, economic and environmental aspects (Nijkamp, 1990, in Zarta, 2018), architectural (Lazar and Chithra, 2021; Mickaityte *et al.,* 2008), business (Moufty *et al.*, 2021), transportation (Abdullahi *et al.*, 2021), political and axiological (Martínez and Martínez, 2016; Bell and Morse, 2008), emotional (Axon, 2020; Brow *et al.,* 2019), spiritual (Ratner, 2004), educational and philosophical (Martínez and Martínez, 2016; Gutiérrez-Barba and Martínez-Rodríguez, 2010), the environment is the main dimension (Moufty *et al.,* 2021).

In fact, the predominance of this dimension is such that environmentalism is a factor that originated the typology of weak sustainability and strong sustainability. The first, also called moderate environmentalism, in which the environment has little relevance and is more important than economics (Michelsen *et al.,* 2016; Pierri, 2005). Strong or conservationist ecological sustainability considers that there is harmony between the components of the Earth (Michelsen *et al.*, 2016; Gutiérrez and Pozo, 2006; Pierri, 2005). The strong or critical humanistic sustainability stream believes that society needs to be re-educated to use natural resources responsibly (Michelsen *et al.*, 2016).

To achieve sustainability, political, cultural, educational, economic and technological strategies have been developed, among which the Sustainable Development Goals (SDGs) stand out.

The 17 SDGs - no poverty, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible production and consumption, climate action, life below water, life on land, peace, justice and strong institutions, partnership for the goals - aim to measure progress toward sustainability quantitatively.

The SDGs are developed under the three most main dimensions of sustainability (economic, social and environmental) (Mohamed and Noguchi, 2019; Barbier and Burgess, 2019), and should be met considering the 2030 Agenda (Lange *et al.,* 2019), involving all governments, non-governmental organizations, the private sector and civil society (Barbier and Burgess, 2019; Gusmão *et al.,* 2018). Higher Education Institutions (HEIs) can help because of their duty to society (Covas, 2004) because they promote a better quality of life, and awareness in favor of sustainability (Pizzutilo and Venezia, 2021) and promote the 2030 Agenda (Etse and Ingley, 2016).

In this regard, the Sustainable Development Solution Network (SDSN) mentions success stories, in Australia there is the creation of the PhD in Sustainable Development by the SDGs at Curtin University and the Student Leadership Forum on SDGs at Monash University, among others

(SDSN, 2017). Lehigh University, Pennsylvania, stands out in the United States (United Nations, 2021). Fihlo *et al.* (2019) analyze the curriculum of 167 universities in 17 countries and point out that the fight against poverty, health and quality education in Latin America is in the first places.

In Mexico, the Autonomous University of the State of Mexico and the Monterrey Institute of Technology and Higher Education stand out as coordinating institutions of the SDSN to incorporate the SDGs in Mexican HEIs (SDSN México, 2021).

HEIs can create strategies based on their roles in meeting the SDGs. Garcia-Arce *et al.* (2021) analyzed the proposals of UNESCO (1998), ARIUSA (2014), UNEP (2014), UN (2015) and CRUE (2018), ANUIES (2000), COMPLEXUS (2013), SEP (2020) and found that all 17 SDGs are present, albeit unevenly in the four substantive functions of the HEIs.

1.2 Literature review

From the Talloires meeting in 1990 to the present day, universities have carried out actions aimed at sustainability. Mendoza-Cavazos (2016) mentions some systems that evaluate sustainability in HEIs: the Three-Dimensional University Ranking (TUR), University Sustainability Policy Evaluation (AUSP), Sustainability Monitoring and Evaluation System (STARS) of the Association for the Promotion of Sustainability in Higher Education Institutions (AASHE), and Greenmetric. There is the RISU PROJECT in Latin America, of the Ibero-American Networks Alliance of Universities for Sustainability and the Environment (ARIUSA).

Some countries have done the same: the Netherlands is developing the Audit Instrument for Sustainability in Higher Education (AISHE); there is the working group in Spain called Sectoral Commission on Environmental Quality, Sustainable Development and Risk Prevention in Universities (CADEP).

In Mexico, the Mexican Consortium of Environmental Programs for Sustainable Development (COMPLEXUS) (CRUE, 2018; Alba *et al.*, 2012) and the National Association of Universities and Higher Education Institutions (ANUIES), which promotes an Institutional Environmental Plan (PAI, by its acronyms in Spanish).

1.3 Institutional philosophy and regulatory framework

The sustainable strategies of HEIs include parameters related to the green campuses, interdisciplinarity of sustainability, pedagogy, learning and instruction, community outreach, institutional policy, auditing, evaluation, quality control, curriculum, research and professional development, as well as philosophy and principles (Wals, 2014). Given the current moment, it is advisable to consider the fulfillment of the SDGs and their relationship with philosophy, considering that "Philosophy is the broadest of disciplines and explores the basic concepts that accompany our thinking and talks about any subject" (Kenny, 2006, p. XI) and consequently our action. As for higher education institutions, philosophy is consistent with its substantive functions; the philosophy related to government is called political philosophy (Miller, 2003), as for the HEIs it can be defined as philosophy of micropolitics but does not lose importance in relation to the way that the government affects the well-being of people (Miller, 2003).

The philosophy of the HEIs, understood as the ideology that brings a level of maturation (Aguilar and Chicaiza, 2011), has an influence through the generation of strategies, and fulfills the development of objectives (Díaz, 2019). In addition, institutional philosophy can generate awareness, improve the environment (Aguilar, 2020), and provide better living conditions (Gokalp, 2012). This institutional philosophy can be contained in the normative framework (Díaz, 2019) of the HEIs, which must have a solid ideology to "guide" (Pazmiño, 2008), in addition to enable dialogues between educational author-

ities and the university community to establish proposals for training (Nanclares and Tobón-Marulanda, 2021), management and research for the benefit of all involved.

The guiding documents as expressions of the institutional philosophy and its articulation with the SDGs will show the solidity of the current and future actions that the UAEMex-pledge to comply with responsible management in the educational, labor, technological, economic and environmental aspects to favor sustainability (Morales and Villa, 2018, cited in Cruz and Serrano, 2020); where the philosophy of the HEIs guarantees the management towards sustainability, regardless of the administrative changes, since philosophy is in science (Vaesen and Katzav, 2019), in climate change (Foster, 200 20) or any other area for making decisions, measuring the consequences (Vaesen and Katzav, 2019) and creating utopias (Foster, 2020).

The philosophical attitude enables HEIs to intervene in the long term, to achieve sustainability and assume their responsibility as agents of change (Mariño, 2012).

1.4 Sustainable Higher Education Institutes (HEIs) in Mexico

Eight IES signed the Talloires Declaration in Mexico (of 417 universities from 79 countries), there are 18 HEIs partner in COMPLEXUS; 15 HEIs participate in the RISU PROJECT and in GreenMetric that ranks 912 universities from 84 nations, only 24 universities are within the ranking, one of them is the Autonomous University of the State of Mexico (UAEMex).

Likewise, many HEIs have included environmental issues in their institutional plans (Green, 2013), which according to Peer and Stoeglehner (2013) and Larrán *et al.* (2015) green universities or sustainable universities not only focus on environmental aspects but also social, cultural and economic aspects; they consider green campus, sustainable research, public participation, cooperation between institutions and sustainable results (Freidenfelds *et al.,* 2018; UNEP, 2014).

Out of the 3100 Mexican HEIs (Gobierno de México, 2021), only 70 have registered their PAI (2018), in which the proposed strategies cover all the substantive functions, while the philosophy of the institutions has not been analyzed from the perspective of sustainability and it is relevant to know if the SDGs have a place in it.

1.5 Autonomous University of the State of Mexico (UAEMex)

The UAEMex is one of the main public universities in Mexico, it has a baccalaureate, two university technical programs, 84 of bachelor programs; 41 specialties, 35 masters and 23 doctorates. It has liaison programs in Germany, Argentina, Spain, Italy and the United States of America.

The UAEMex has several certifications that recognize its prestige:

- In 2020, Green Metric ranked 12th out of 24 Mexican universities.
- Webometrics ranks 2951 worldwide, 709 in the North American Region and 26 nationally.
- The QS World University ranking in 2021 is in the range 801-1000, the 70th position in Latin America and 11th in Mexico.
- Times Higher Education World University Rankings placed it in the 78th position of Latin America, five nationally and 1201 worldwide.

2. Methodology

The institutional philosophy of UAEMex is contained in 159 documents, the most outstanding are: the Law of the Autonomous University of the State of Mexico (UAEMex Law), the University Statute (UAEMex Statute) and the Institutional Development Master Plan (PRDI), the current

one is 2017-2021, and constitutes the top-down vision of this HEIs.

Since the unit of analysis is the philosophical discourse contained in the regulatory framework, the visibility of the SDGs is done from a hermeneutic descriptive approach without pretending to stablish causes and effects. The 17 SDGs are considered as categories of analysis, which means that each paragraph was labeled with the SDGs that, from the interpretative view of the writer, was related. Subsequently, the categories were recorded as codes for the analysis with Atlas.ti® version 9.1.6. Software that allows grouping, identifying frequencies and co-occurrences among the rhetorical selections made. Given the timing of the documents, they do not explicitly indicate the SDGs, so this is an interpretative analysis.

3. Results

The UAEMex Law was updated in 2005, the UAEMex Statute in 2007, and the PRDI in 2017. The SDGs that appear most frequently are the objective linked to education (SDG 4) with 161 co-occurrences, secondly, the objective of decent work (SDG 8) with 131 co-occurrences and third the objective of peace, justice and solid institutions (SDG 16) with 113 co-occurrences.

While the SDGs with the least presence are clean water and sanitation (SDG 6) with a co-occurrence, affordable and clean energy (SDG 7) and climate action (SDG 13) with two co-occurrences each (Table 1).

Table 1

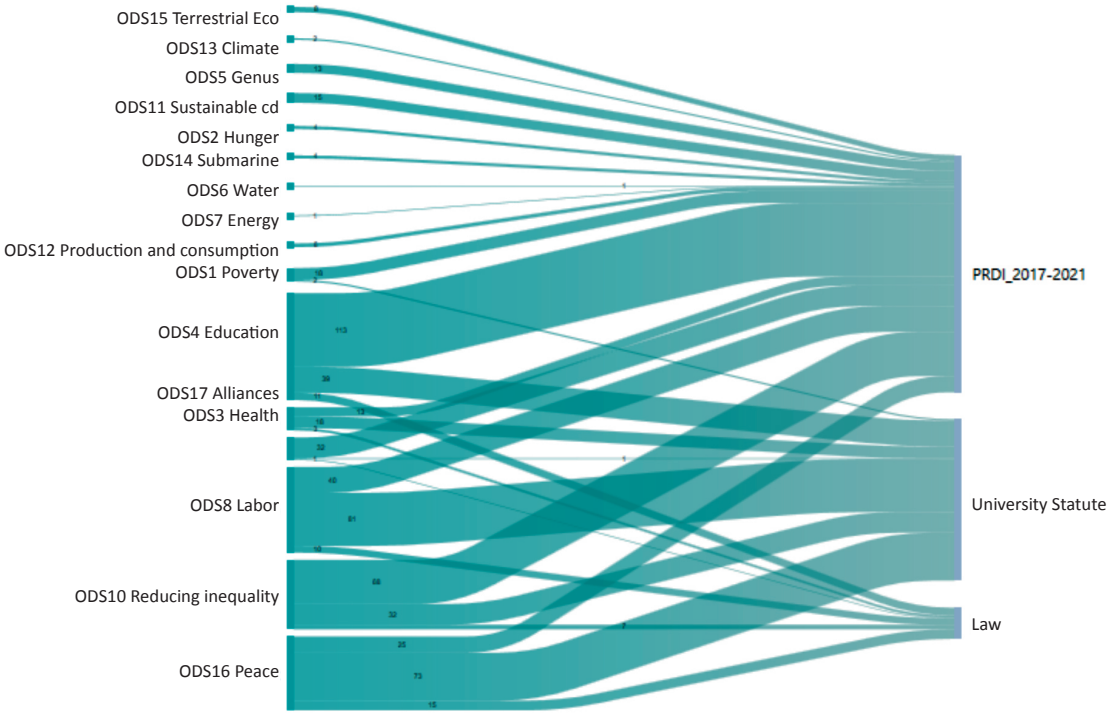
Co-ocurrences in the regulatory framework of UAEMEX and SDGs

	UAEMex-Law	UAEMexStatus	PRDI 2017-2021	Totals
SDG1 End Poverty	0	2	18	20
SDG2 Zero hunger	0	0	4	4
SDG3 Health and Wellness	1	1	32	34
SDG4 Quality education	11	39	113	163
SDG5 Gender equality	0	0	13	13
SDG6 Clean water and sanitation	0	0	1	1
SDG7 Affordable and clean energy	0	0	1	1
SDG8 Decent work and economic growth	10	81	40	131
SDG9 Industry, innovation and infrastructure	7	10	40	57
SDG10 Reduction of inequalities	7	32	68	107
SDG11 Sustainable cities and communities	0	0	15	15
SDG12 Responsible production and consumption	0	0	6	6
SDG13 Climate action	0	0	2	2
SDG14 Underwater life	0	0	4	4
SDG15 Life of terrestrial ecosystems	0	0	8	48
SDG16 Peace, justice and strong institutions	15	73	25	113
SDG17 Partnerships to achieve the Goals	3	18	13	34
Totals	54	256	403	713

The Sankey Diagram (Figure 1) shows that the PRDI has more mentions of SDGs than the Law and Statute; however, in the last two documents they have almost the same proportion as the PRDI, documents with fewer pages and longer updating time.

Figure 1

Sankey Diagram, SDGs and UAEMex Regulatory Framework



Note. Elaborated using Software Atlas.ti® version 9.1.6.

4. Discussion

In the literature analyzed regarding the SDGs and their link with education and philosophy, it was found that SDG 1 involves various aspects, not only in economic, but is linked to health, nutrition, crime, and employment (Filho *et al.*, 2021) where education can provide opportunities for economic growth, promote values, attitudes and skills to students (Sanz *et al.,* 2017), and UAEMex strengthens its commitment to society in the PRDI by carrying out health groups to marginalized areas of the State of Mexico and supports micro-entrepreneurs in the region, while the Statute presents two mentions that refer to scholarships for students, and the Law does not mention any; so it is considered an area of improvement for the institution, which established support from its philosophy, not as part of a unit but is guaranteed from the Law.

The SDG 2 considers malnutrition and eating disorders of individuals, in addition to strategies to combat hunger, such as agriculture (Vogliano *et al.*, 2021). In this regard, the UAEMex through the PRDI develops nutrition groups and support projects in the country, while the Law and Statute does not provide it, so, it can set the challenge of ensuring food for the uni-

versity community and society. SDG 3 concerns about good health and well-being, which refers to combating discrimination, racism, violence (Durmush *et al.*, 2021), sexuality, drug addiction (Byrne *et al.,* 2018), hygiene, safety, risk areas, health, psychology (Swuste and Sillem, 2018), in which the PRDI mentions a civil protection plan according to its environment, organizing some health groups. The UAEMex Statute provides for safety in relation to their work activities and the UAEMex Act establishes a co-occurrence related to the absence of the Rector and Directors related to health problems.

SDG 4 evidences teaching techniques, curricula, workshops, procedures, and alphabetization programs, among others; this is the most mentioned SDG in the ScienceDirect platform under the search "education and universities" as it yields more than a million related articles. Among the many co-occurrences found, the one that stands out is that in the PRDI, which states that the university has campuses located in various areas of the State of Mexico to bring higher education closer to marginalized communities and develops curricula that include sustainability. In the UAEMex Law, for example, the use of creative teaching techniques is highlighted; while in the Statute economic supports and scholarships are mentioned for the university community to fulfill its responsibilities. SDG 5 is linked to gender equity with women's rights, as they make their way in the workplace, in education, in decision-making, in politics (Zabaniotou, 2020), especially in the rural area (Luo *et al.*, 2021); however, this inequality is not present in the Law or Statute of the UAEMex, while the PRDI shows it in an incipient way, mentioned only in the number of women working in the institution, as well as female students, so it is relevant to establish a clear and energetic policy that addresses the perspective of gender equality.

SDG 6 aims to combat water scarcity that depends on access and quality of water to improve the quality of life and human well-being (Price *et al.*, 2021), while SDG 7 considers efficiency and clean energy to reduce greenhouse gases, in addition to changing habits of energy consumption (Pereira *et al.,* 2021); for both SDGs, the PRDI provides saving water and electric energy, while the UAEMex Statute and Law show no co-occurrences, so it is important to establish a framework of environmental management and communication for the efficient use of water, conversion to use clean energy and saving them as part of its institutional philosophy.

SDG 8 considers economic growth, decent and safe work, opportunities and productivity (Rai *et al.,* 2019), and this SDG is mainly linked to the University Statute and the UAEMex Law which establish the rights and obligations of the university community. While the PRDI shows an overview of the employment environment of the UAEMex, both have pros and cons, which is interesting because graduates, students, current and future collaborators know the job offer of the UAEMex. SDG 9 deals with technological progress and innovation, where students understand a sustainable industrialization and identify new job opportunities in areas related to information technology, transport, industry and infrastructure (UNESCO, 2017), where the UAEMex places technology in these three documents at the service of administrators, professors and students, in addition to encouraging scientific, technological and humanistic production. Therefore, it can be glimpsed that there is concern, at least in the documents, to offer technological advances to everyone.

SDG10 proposes to implement strategies to reduce inequality in education, occupation or income between nations or within a country (UNESCO, 2017), and this aspect is well exploited by UAEMex by having several campuses in remote areas to offer middle and higher education, which is reflected in the three documents analyzed. The SDG11 is linked to sustainable cities that are safe and inclusive, and education can create opportunities for recovering areas for recreation or conservation (Wolsink, 2016). Through the PRDI, the UAEMex aims to pre-

serve natural areas within the fields, to have a sustainable infrastructure, among others, while for the Law and Statute no link was found with this SDG, so the university can consider the creation of green campuses and contribute to the sustainability of cities inside and outside the fields. SDG 12 involves a change of habits in terms of consumption and production with the purpose that they are responsible of the environment (Castillo *et al.,* 2021). The UAEMex PRDI directs actions regarding water, energy, and brigades related to environmental awareness; the Law and Statute do not consider this SDG relevant, but could generate actions aimed at modifying habits related, for example, to stationery and other office supplies.

The SDG13 considers generating strategies for climate change to make new generations less vulnerable (Gerald *et al.,* 2021); UAEMex mentions to mitigate climate change in the PRDI university projects in favor of the environment, while the Law and Statute do not make this section visible, so the university is invited through its regulations to establish actions to stop, mitigate and help populations adapt to climate change. Regarding SDG14, the United Nations Decade of Ocean Sciences for Sustainable Development (2021-2030) foresees that ocean-related studies are still emerging; in this regard, Claudet *et al.* (2020) consider that SDG 14 can facilitate the achievement of the other SDGs by contributing to the preservation of marine biodiversity (Diz *et al.*, 2018). This SDG is not explicitly present in the UAEMex, since it is understandable that there are no strategies not being near the ocean, but it is an area of opportunity for UAEMex; however, the ocean issue was considered within the brigades that contemplate the environment. SDG15 considers that the importance of terrestrial biodiversity must be understood, and conservation practices should be carried out (UNESCO, 2017), and only this SDG is contemplated in the PRDI, where various species are conserved through the care of biodiversity of the State of Mexico; it would be interesting to consider it in the Law and Statute.

SDG 16 could be considered as one of the most relevant since there must be a synergy between the institutions in order to achieve the others (Yarnall *et al.*, 2021). In this regard, the UAEMex in the three documents analyzed considers the university community and the population to comply with specific strategies such as the UAEMex Law and the Statute that consider the job and student opportunities that can be granted by the UAEMex, and in the PRDI, the actions carried out in favor of the community are contemplated. Finally, SDG17 emphasizes the global alliance to comply with sustainability (UNESCO, 2017); in this regard, the PRDI contemplates actions in a regional and international way. The UAEMex Law and Statute only consider the work-as-a-team of the university community; as Jonas (2000) said on a collective level, in which the common good and the good of nature is ensured, the latter is not considered as an object but as part of an ethical and critical human being (Gavilanes and Tipán, 2021), through a principle of responsibility (Jonas, 1995).

5. Conclusions

In practice many things are done, whether certifications, curricular innovations, environmental plans, improvement of infrastructure, border research, but these are not explicit in the normative documents and the challenge is that the institutions incorporate a holistic vision from its foundation and include sustainability as part of their guidelines, which obeys a philosophy that responds to sustainability in a permanent way, as systematically posed by Acosta and Martínez (2009) through the *sumak kawsay* or Good living.

Some future lines of research could be to analyze what students, teachers and collaborators think about the regulations of HEIs and their relationship with sustainability.

The results are consistent with the findings of Fihlo *et al.* (2019) regarding quality education,

but not in relation to the fight against poverty and health that the authors point out.

UAEMex's PRDI considers sustainability as part of its strategies, even if the SDGs are not mentioned as such; in addition, the UAEMex Law and Statute focus more on the labor policies of employees. With these results, UAEMex, as a humanist institution, must emphasize on developing strategies for the SDGs that are not mentioned in the documents: zero hunger, clean water and sanitation, affordable and clean energy, climate action, underwater life

A limitation of the study is that it only focuses on three documents that, although they are the guidelines to be followed by the HEIs, they leave aside other institutional aspects that could affect the results, such as academic research, learning unit agenda, administrative management, dissemination activities, among others.

The qualitative analysis has some subjectivity, so the results should be taken with caution, since they could not be extrapolated to other HEIs, due to the diversity of characteristics, structure, normative framework and philosophy. However, it is a first approach to the relationship between the SDGs and the philosophy of the HEIs, making it the basis for other research, to model and support long-term actions rooted in the substantive functions of UAEMex.

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