

Environmental deterioration: An investigation on the excessive consumption of single-use containers (expanded polystyrene) at Universidad de Sonora

Deterioro ambiental: una investigación sobre el consumo excesivo de recipientes de un solo uso (unicel) en la Universidad de Sonora

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Abstract

According to the World Bank Report, What a Waste 2.0 (2018b), 2010 million tons of solid waste are generated annually in the world and of these, at least 33% will not be treated. This waste is expected to increase in the next few years, which could mean that by 2050 3.4 billion tons will be generated. It is urgent to pay attention to the above and act accordingly.

The alert has reached Governments, Institutions and Organizations at the international and national level. The University of Sonora, responding to this call, began a Program for the treatment of garbage on the Campus of the City of Hermosillo, seeking the reduction and recycling of materials such as cardboard, paper, metal, plastic and others.

Among these materials is Expanded Polystyrene or UniceL, frequently used for packaging and safeguarding food and beverages, with an approximate time of 500 years for its degradation (UNAM, 2018). Hence the importance of reducing its use and, if possible, its elimination as packaging material for food consumed by the population.

The Division of Economic-Administrative Sciences of the University of Sonora, served as a focus of attention to observe the behavior assumed by students and teachers around the subject at hand.

Keywords: Environmental deterioration; Solid waste; UniceL. Sonora University

JEL Codes: Q5 Q53

Resumen

Según el Informe del Banco Mundial, What a Waste 2.0 (2018b), se generan 2010 millones de toneladas anuales de desechos sólidos en el mundo y, de ellos, al menos 33% no serán tratados. Se espera que esos residuos aumenten en los próximos años, lo que podría significar que para 2050 se estén generando 3400 millones de toneladas.

Es urgente prestar atención a lo anterior y actuar en consecuencia; la alerta ha llegado a Gobiernos, Instituciones y Organizaciones a nivel internacional y nacional. La Universidad de Sonora, atendiendo ese llamado comenzó un Programa para el tratamiento de la basura en el Campus de la Ciudad de Hermosillo, buscando la reducción y el reciclaje de materiales como cartón, papel, metal, plástico y otros.

Entre estos materiales se encuentra el Poliestireno expandido o UniceL, frecuentemente utilizado para empaque y resguardo de alimentos y bebidas, con un tiempo aproximado de 500 años para su degradación. De ahí la importancia de reducir su uso y, de ser posible, su eliminación como material de empaque de alimentos consumidos por la población.



La División de Ciencias Económico-Administrativas de la Universidad de Sonora, sirvió como foco de atención para observar la conducta que asumen los estudiantes y docentes en torno al tema que nos ocupa.

Palabras clave: Deterioro ambiental; Residuos Sólidos; Unicel. Universidad de Sonora.

Código JEL: Q5 Q53

Introduction

When we speak of the environment, we generally think of the surroundings that condition life and include natural, social, economic, and cultural values that exist in a specific place and time. Our permanence on the planet depends on its care and protection.

According to the World Bank, 2,010 million tons of municipal solid waste are generated annually worldwide. Moreover, with rapid urbanization, population growth, and economic development, this waste is expected to increase by 70% over the next 30 years, which compels us to pay attention and adopt urgent measures in the generation, collection, and treatment of such solid waste (Banco Mundial, 2018a). In particular, the excessive use of plastic today is alarming, as are its consequences for the environment. Therefore, as in the rest of the country and in some Latin American countries, Universidad de Sonora, responding to the alert issued by various organizations and institutions regarding the excessive generation of waste and its environmental impact, initiated a Program in 2013 for the treatment of waste generated on campus, seeking to reduce the use of non-hazardous solid waste such as cardboard, paper, metal, plastic, and other materials (Universidad de Sonora, 2018).

In particular, the excessive use of plastic today is alarming, as are its consequences for the environment. Therefore, as in the rest of the country and in some Latin American countries, Universidad de Sonora, responding to the alert issued by various organizations and institutions regarding the excessive generation of waste and its environmental impact, initiated a Program in 2013 for the treatment of waste generated on campus, seeking to reduce the use of non-hazardous solid waste such as cardboard, paper, metal, plastic, and other materials (Universidad de Sonora, 2018).

Based on the above, the main objective of this paper is to analyze, within the Faculty of Economic and Administrative Sciences (DCEA) of Universidad de Sonora, the disposal given to Unicel (expanded polystyrene), generally used as packaging for food and beverages. Considering that its degradation takes approximately 500 years, and its environmental effect is highly harmful, this paper aims to offer some alternatives to the use of this material by students, faculty, and staff of said Academic Division.

To understand and analyze behavioral habits related to environmental care and the generation of solid waste, such as the case of Unicel, some descriptive statistics tools were employed, and a survey was also administered to students and faculty of the Division. One important result was that 50% of the DCEA community uses single-use containers (Unicel), mainly due to lack of time; 20% use them for their practicality, and 15% because of their low cost. This information will be reviewed in detail later.

Finally, the paper is organized into three sections. The first studies the environmental problem from the perspective of environmental economics to incorporate some basic concepts and guidelines regarding the analyzed phenomenon. It briefly reviews the situation of our country concerning environmental issues and presents a theoretical overview of what expanded polystyrene, commonly known as Unicel, is.

The second section refers to the recent history of the Universidad de Sonora and how, over the years, it has incorporated sustainability into its plans and strategies. Likewise, it outlines the zero-waste program at the University and presents some results of its implementation.

This paper concludes with a brief description of the unit of analysis, the DCEA of Universidad de Sonora, while also detailing the information derived from the application of the methodological instrument, ending with the data analysis and the formulation of some conclusions and proposals.

1. The environmental problem from an economic perspective

1.1 Environmental economy

Environmental economics is an applied social science that seeks to incorporate balance into the economic and social analysis of well-being through the economic valuation of environmental goods and services provided by ecosystems to society (Labandeira, León & Vázquez, 2007).

The rise of environmental economics in recent years has led to an expansion in the study of the environmental problem to include issues such as pollution, climate change, natural environment protection, and the conservation of scarce resources, through economic instruments—especially in those

areas where it is necessary to intelligently allocate the use of natural resources for the common good (Gilpin, 2003).

This discipline has existed for just over 50 years. However, it was not until the United Nations Summit in Rio de Janeiro in 1992 that it gained global recognition, largely due to the rise of ecological or environmental movements in more developed countries (ONU, 1992).

According to the World Economic Forum and Greenpeace (2018), among the most pressing environmental challenges we face today are the rapid loss of biodiversity, and the pollution of air, soil, and water—and most importantly, the failure to mitigate climate change. In the next 30 years, if the spiral of waste and garbage is not contained, 3.4 billion tons of waste will be generated annually worldwide (Banco Mundial, 2018c). According to the Global Risks Report published by the World Bank in 2018 (b), 33% of waste is dumped in open-air sites, and only about 19% is recovered through recycling and composting; 11% is incinerated, causing a vicious cycle of pollution.

Table 1 shows global waste generation by region, with East Asia and the Pacific being the largest generators with 23% of the total, followed by Europe and Central Asia with 20%.

Table 1. Waste generation by region

Region	Millions of tons per year	Percentage (%)
East Asia and the Pacific	468	23%
Europe and Central Asia	392	20%
South Asia	334	17%
North America	289	14%
Latin America and the Caribbean	231	11%
Sub-Saharan Africa	174	9%
Middle East and North Africa	129	6%

Source: Own elaboration based on figures from What a Waste 2.0. A Global Snapshot of Solid Waste Management to 2050. World Bank, 2018c.

As shown in the table above, the use of polluting materials and therefore the generation of waste is alarming, creating a problem that is reaching its limits. Its consequences are observed in the adverse effects on flora, fauna, water, air, and soil. Hence the urgent need to take measures to reduce its use—in this particular case, that of solid waste.

1.2 Expanded polystyrene (Unicel): Its impact on the environment and health

Expanded Polystyrene, EPS or Unicel “is a foamed plastic material derived from petroleum that is used in the construction sector as thermal and acoustic insulation and as packaging for different activity sectors” (Instituto para la Diversificación y Ahorro de la Energía (IDEA), 2007, p. 6). It is “a chemically inert, non-biodegradable material, meaning it does not decompose, disintegrate, or disappear in the environment, and is therefore considered an eternal material” (Martínez & Laines, 2013, p. 64). Some studies suggest that its life cycle could be around 1,000 years, although most agree on an average duration of 500 years.

One of its main problems, in addition to the evident environmental impact, is its relocation, since it is a material composed of 5% plastic (raw material) and 95% air. This means not everyone wants to (or can) recycle it due to the high logistical and recycling costs involved in recovering such a small portion (5%), especially considering that in our country, there is only one Unicel recycling plant, located in the State of Mexico (Acosta, 2011).

Linked to its logistical limitations is the fact that one of the main requirements for recycling it is that the Unicel must be free of organic residues, given that it is mostly used for food consumption and transport (Hernández, 2018), which makes it practically impossible to keep it clean.

Since this plastic does not degrade, it is accumulative, and its disposal represents a major issue, especially regarding its containment and final destination. Generally, after its use, Unicel is discarded and ends up in landfills or incinerated, causing severe environmental problems.

There are also other reasons why Unicel is used for transportation, food product packaging, and more: it is a resistant, thermal insulating, lightweight, and very economical material; it adapts to different shapes and sizes, in addition to its unique characteristic of being white, a color generally associated with cleanliness.

In the case of Sonora, the situation is concerning, as this material is not recycled because there are no companies interested in transporting it to the central region of the country for recycling. The few companies recently joining this activity are only



beginning to research how to reuse this raw material. In the meantime, thousands of tons of this product end up on the streets, in uncontrolled landfills, or burned, releasing toxic substances.

At Universidad de Sonora, despite environmental care programs, there is still a high degree of plastic waste use, and of this, 22% is Unicef (Universidad de Sonora, 2018). As mentioned earlier, this is a problem that requires urgent action.

1.3 Mexico: One of the leading countries in waste generation

According to the World Bank (2018a), Mexico currently faces a serious environmental problem as it ranks third in global waste generation and first among Latin American countries. According to this report, Mexico generates 1.16 kilograms of garbage per capita per day. Each day, more than 100,000 tons of household waste are produced, equivalent to 37 million tons of municipal solid waste annually, which end up in the country's sewers, drains, or landfills.

One of the most concerning solid wastes in our country is Unicef and, as previously mentioned, the transportation and cleaning of these products are the most complex parts of their recycling process. For this reason, very few companies are interested, as it is not profitable to move it, considering that 95% of its composition is air and only 5% is plastic (Sánchez, 2014), and therefore recoverable in a second potential use.

Sonora is the state with the lowest recycling rate, ranking last at the national level. According to INEGI, the state has 812,500 households producing around 2,500 tons of garbage daily. Of these, only 162,000 households recycle, representing approximately 20% of the total population (González, 2017).

According to data from the INEGI (2015) report on the generation, composition, and management of solid waste, Sonora ranks 15th in waste generation. Among the municipalities that produce the most waste are Hermosillo, which generates 750 tons of garbage per day; followed by Nogales, with 380, and Cajeme with 345 tons per day. These three municipalities produce more than half of Sonora's urban solid waste.

2. Sustainability: a key component of the educational model at Universidad de Sonora

2.1 Some background

Available scientific evidence confirms the enormous risk posed by current production and consumption patterns to the planet's equilibrium and the development of future generations. The effects of species extinction, land and forest destruction, and the degradation of common goods (oceans, forests, polar caps, and the atmosphere) are already being intensely felt (CEPAL, 2017).

The Comisión Económica para América Latina (CEPAL) has stated that the environmental challenge may be the greatest opportunity for structural change and international cooperation for development in history. The technological revolution, the need for a new generation of policies for alternative energy sources, smart production processes, and environmental innovations open a potential horizon for expansion and growth that could have a low-carbon economic growth trajectory as its central axis (CEPAL, 2016).

In line with the above, the educational model of the Universidad de Sonora is a document that outlines the perspectives and orientation of the institution's development through the year 2030. It integrates philosophical values and principles to guide its path based on the most current international and local challenges (Universidad de Sonora, 2017).

Some of these challenges, established since 2009 at the World Conference on Higher Education, focus on food security, climate change, water management, intercultural dialogue, renewable energies, and public health:

In September 2015, more than 150 world leaders attended the United Nations Conference on Sustainable Development held in New York and approved what is now known as the Sustainable Development Agenda. (Universidad de Sonora, 2018, p. 5)

Universidad de Sonora, responding to sustainability demands, adopted a Sustainable Development Plan (Universidad de Sonora, 2012), where it commits to promoting among all its community members a deep sense of social and environmental responsibility. Some objectives of this plan include:

- a. Promoting the efficient and sustainable use of physical facilities and their surroundings, water and energy resources, and the inputs used in our activities.

- b. Improving the comprehensive management of non-hazardous solid waste.
- c. Ensuring, in accordance with environmental regulations, the proper handling of materials, hazardous waste, and safety in university laboratories and workshops.
- d. Promoting communication and dialogue between university students and the community around the challenges of Sustainable Development.

As can be read, special attention is paid to the comprehensive management of non-hazardous solid waste, with a proposal for sustainable management and responsible consumption, while also encouraging effective communication as a way to raise environmental awareness in terms of sustainability.

Based on these guidelines, Universidad de Sonora aims to promote the reduction, reuse, and recycling of non-hazardous materials and waste, materialized through the implementation of a Non-Hazardous Waste Management Program called Zero Waste (Basura Cero) at Universidad de Sonora.

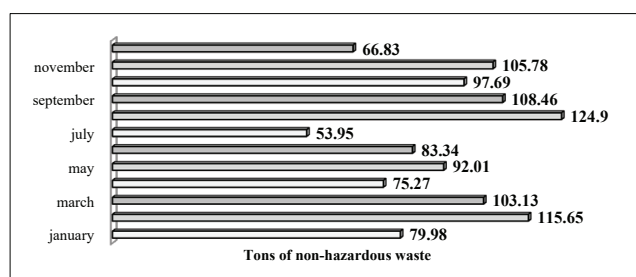
The main objective of this program is to reduce the final disposal of solid waste in landfills through its comprehensive management. It speaks of an educational and cultural shift through awareness campaigns and waste management policies. Alongside integrated waste management, awareness campaigns are to be promoted to enable the program's sustainability goals and actions.

Starting in 2014, this program was implemented at the main Campus of the Institution: Unidad Centro in Hermosillo, where, according to data available up to 2018, in the Informe Sustentabilidad UNISON. Basura Cero: Programa para la gestión integral de residuos sólidos y de manejo especial (Universidad de Sonora, 2018), there are 410 recycling points at the University, with containers for separating recyclable waste (plastic, paper, cardboard, aluminum), in addition to the installation of containers for other types of non-reusable waste.

Graph 1 shows the amount of non-hazardous solid waste generated by the institution in 2018. The average was 92.25 tons per month (Universidad de Sonora, 2018).

One of the main problems highlighted in the report

Graph 1. Generation of non-hazardous waste at Universidad de Sonora



Source: Own elaboration based on data from the report Sustainability at UNISON. Basura cero: programa para la gestión integral de residuos sólidos y de manejo especial. Universidad de Sonora, September, 2018

is that the university community does not separate waste: recoverable elements such as plastic, paper, aluminum, etc., from non-reusable ones (organic waste, greasy paper, food, etc.). However, it is worth adding that the project places special emphasis on recoverable solid waste, addressing this through the installation of a series of exclusive containers to collect it. These containers are cage-type and are already functioning on the Unidad Centro campus. For example, for paper collection, there are containers specifically designated for that purpose.

As a parallel activity, recycling campaigns have been implemented, which, according to the report, take place at the beginning of each semester. As the report states, out of the average 92.25 tons of solid waste generated monthly, 37% is recoverable (Universidad de Sonora, 2018), which makes it possible to estimate that, if the waste were recycled, recovered, or reused, Universidad de Sonora could be receiving an approximate monthly income of 114,481.22 pesos. This is a significant amount, especially considering that it would contribute to environmental protection and care.

3. Discussion of the data and some results

3.1 Methodology and data collection

With the aim of understanding the habits and behaviors of the student and teaching population of the Faculty of Economic and Administrative Sciences of Universidad de Sonora (DCEA), regarding environmental care and, mainly, the generation of solid waste through the indiscriminate use of Styrofoam within university premises, information was collected, processed, and analyzed.

To collect information from the DCEA, whose academic activity is organized around 7 undergraduate programs and 6 graduate programs, a 25-question questionnaire was designed, considering its application only to undergraduate students and their professors. The logic and validity of the instrument were evaluated by a panel of experts from the Universidad de Sonora, and a pilot test was conducted to correct possible deficiencies with 40 students from the International Trade and Business undergraduate program of the DCEA.

Subsequently, inferential statistics were used to establish some associations between the observed data and the topic at hand, in order to draw more general conclusions applicable to the university context and not only to the selected unit of analysis. The data collection instrument was applied between October and November 2019. The target population consisted of 3,802 individuals (3,518 students and 204 professors), resulting in a representative sample of 347 individuals.

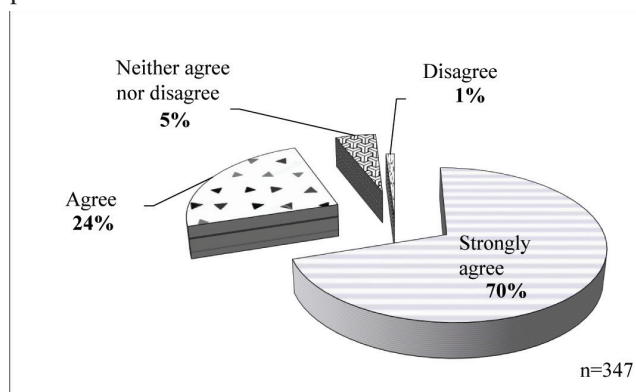
The questionnaire was applied in the undergraduate programs of Administration, Accounting, Economics, Tourism, Finance, Marketing, and International Business and Trade, considering students and professors from all semesters and programs. Student participation was high, while professor participation was significantly lower.

Initially, participation was identified by sex: 57.6% male and 42.4% female. Of this total, 87% were between 17 and 23 years of age; 7% were between 24 and 30 years old, and the remaining 5% were over 30 years old. Of those surveyed, 95% were students and the remaining 5% were professors.

One consistent finding in the survey responses is that there is strong agreement (70%) that the Universidad de Sonora should remain free of Styrofoam and other plastics, as they are perceived to pollute the environment. 24% expressed agreement, and 5% maintained a more neutral stance (Graph 2).

On the other hand, within the DCEA, it is believed that the problem of the large amount of waste generated at the University is everyone's responsibility, since students, staff, and professors are the ones who consume on campus. Therefore, the solution must come from oneself, according to the respondents. The community's assessment regarding responsibility for the generation of solid

Graph 2. Use or non-use of the Styrofoam and other plastics at Uni-Son.

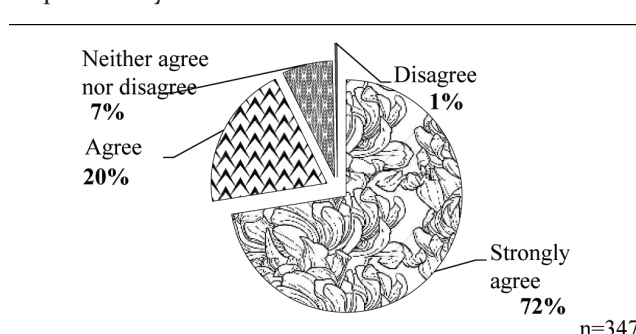


Source: Own elaboration based on the results obtained from the survey on the use of Styrofoam applied in DCEA from October to November 2019.

waste—which they affirm is shared by all—was very high (92%), reflecting a university community that sees itself as part of the problem (Graph 3).

When asked about the responsibility of Universidad de Sonora regarding the use of single-use containers, 40% of the respondents did not take a stance, as

Graph 3. The prevention of waste generation is everyone's responsibility



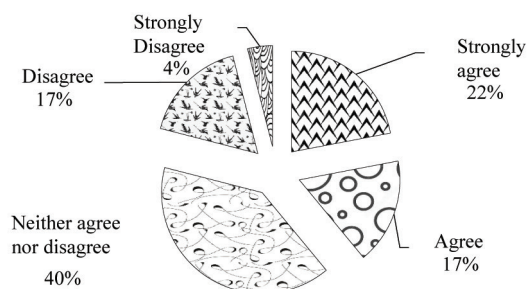
Source: Own elaboration based on the results obtained from the survey on the use of Styrofoam applied in DCEA from October to November 2019.

shown in Graph 4.

This places a significant proportion of students, faculty, and other members of the university community in this Faculty as examples of a low level of responsibility regarding the use of such containers, as 39% of respondents are seen shifting the responsibility to the Institution (22% strongly agree and 17% agree), in addition to those who did not express an opinion.

Another interesting finding from the recorded results shows that the majority has been informed

Graph 4. Universidad de Sonora as the main responsible party



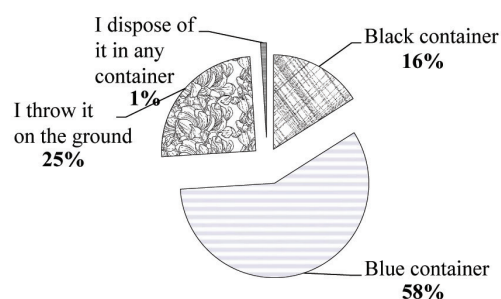
n=347

Source: Own elaboration based on the results obtained from the survey on the use of Sytrofoam applied in DCEA from October to November 2019.

about the separation of solid waste, as around 60% responded affirmatively to a direct question on the matter. The rest acknowledged that they have not been informed about waste separation, and this same percentage is reflected in those who answered incorrectly when asked which container is used for recyclable solid waste at Universidad de Sonora, stating that they do not know the color associated with recycling—for recyclable solid waste, the designated color is blue. In Graph 5, 42% of respondents report disposing of their solid waste in any available space or container, while 58% claim to be familiar with the designated recycling bins.

On another note, respondents were asked about

Graph 5. Where do you dispose of your waste?



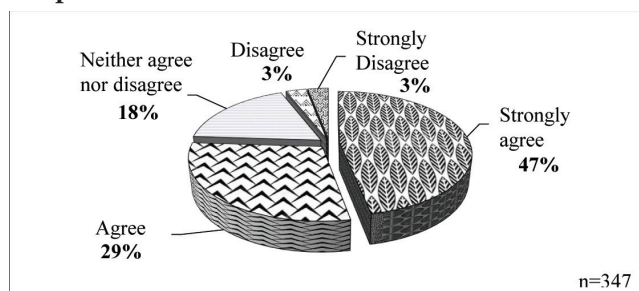
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Source: Own elaboration based on the results obtained from the survey on the use of Sytrofoam applied in DCEA from October to November 2019.

their willingness to bring their own reusable containers for food or drink to the University, and the majority responded positively (Graph 6), with a negative response of 6%.

Furthermore, “if food vendors offered a discount

Graph 6. Own containers



n=347

Source: Own elaboration based on the results obtained from the survey on the use of Sytrofoam applied in DCEA from October to November 2019.

for it, I would always carry it with me,” commented 90% of the respondents.

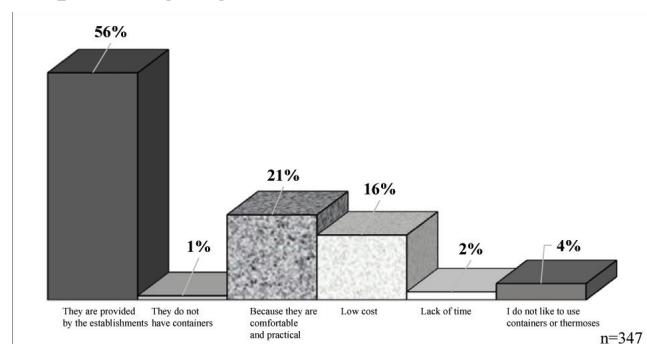
The above reveals an indicator that the university community, at least within this Faculty, is willing to change habits and contribute their capacity and willingness to quickly adapt to new consumption patterns within the University.

The results would be even more favorable if discounts were proposed for consumption, revealing that an awareness campaign should be accompanied by incentives, especially for students, as they are the most vulnerable population. Favoring them in this regard could lead to better practices for the environment and its care.

The majority of respondents agreed that they would always use and bring their own utensils to the University if a discount were granted when ordering food and/or beverages under this modality. However, it should not be overlooked, according to Graph 7, that 37% of the community of the Faculty of Economic and Administrative Sciences uses single-use containers (unicel) due to their practicality, low cost, and convenience. Nevertheless, if we analyze the 56% response stating that they use them because that is what the establishment provides, the Institution faces a considerable challenge in implementing prevention measures or administrative policies that raise awareness among those who sell food and beverages on campus. This could be an excellent path to explore.

Finally, in an attempt to characterize the population of the DCEA regarding their education, culture, and environmental respect—especially in the use and reduction of unicel (Table 2)—respondents were asked how the community contributes in this regard, and the following answers were obtained:

Graph 7. Why do you use unicef containers?



Source: Own elaboration based on the results obtained from the survey on the use of Styrofoam applied in DCEA from October to November 2019.

Table 2. Ways of contributing to reduce the use of unicef

Activity/Action	Percentage (%)	Number of people
Use my thermos and containers	53%	184
Avoid consuming in unicef containers	19%	66
Raise awareness among my peers about environmental care	15%	52
Support activities in favor of the environment	13%	45
Total	100%	347

Source: Own elaboration based on the results obtained from the survey on the use of Styrofoam applied in DCEA from October to November 2019.

3.2 Conclusions

Undoubtedly, reviewing the situation of the immediate environment—whether family, social, or work-related—and its relationship with the environment is of utmost importance today. The population is increasingly aware of the implications that the use or abuse of certain materials can have on nature and its sustainability. It is not surprising that interest in the topic continues to grow, as our continued presence on the planet depends on it, as mentioned earlier.

Higher education institutions, with their teaching styles and cultural dissemination, can be very effective pathways in building skills, strategies, and abilities for environmental care among students and professors. To the extent that this culture of learning becomes attractive and stimulating, results will undoubtedly become evident, manifesting in cleaner, greener spaces free from highly contaminating waste such as solid waste, especially unicef, the case study in this work.

A constant premise observed in the data from

the applied instrument is that Universidad de Sonora should remain free of unicef and other plastics because they pollute the environment. Approximately 94% of respondents hold this position. It can be inferred that university students (and others not so young) support proposals that repair the environment and, more importantly, are willing to collaborate in this regard.

However, it is interesting to note that despite the positive attitude the community of the Faculty of Economic and Administrative Sciences seems to show towards environmental issues, few translate that attitude into practice when it comes to recycling or reuse, since only 30.5% of respondents usually recycle paper or take it to a collection center. The rest are not interested in performing this activity.

A fundamental critical point to consider if one wishes to begin reducing unicef use in the DCEA and the University in general is the management of reusable containers. This could be put into practice, for example, in the academic or social events frequently held where the indiscriminate use of cups, especially, has become customary. It is imperative to implement measures to reduce this issue, since unicef is continually used when a good solution could be to invite the academic and student community to bring their own reusable containers.

This should be considered in the administrative policy, not only of the DCEA but also of Universidad de Sonora, to encourage the use of thermoses and other containers brought from home—an issue that is beginning to become routine. It is important to mention that the use of these containers is increasingly widespread, basically for the consumption of beverages such as coffee or water.

This makes sense when paying attention to the fact that the perception of the interviewed community tends to see sustainability as a matter that depends on the individual and their education. This is an opportunity that should not be missed to increase culture and awareness on environmental care and the improvement of consumption habits.

Moreover, an interesting and paradoxical fact should be considered: 47% of respondents at the DCEA (in addition to 15% who did not answer) are unaware of the “Basura Cero” program, promoted by Universidad de Sonora to raise awareness about solid waste generation on campus. This suggests that beyond the work the Institution may have done

on the topic, the university community obtains information through other means or sources, possibly family, social networks, friends, or other forms of communication.

Finally, to close this section, the student and faculty community presented suggestions and measures to help care for the environment and reduce the use of unicef. As the main proposal to the Institution, 27% of respondents suggested banning the use of unicef in food booths and especially in the university cafeteria; 25% suggested that the University provide a kit of containers and thermoses to students at the beginning of each school year while offering incentives (such as discounts on purchases) for their use.

Another participation suggestion that could be very effective is holding awareness talks for students and professors, along with greater promotion of the “Basura Cero” project as an essential strategy, given the still limited environmental education context. Finally, as a containment measure, they suggest trying to apply some sanctions—strictly necessary—for littering or polluting.

Given this mixture of expressions from the university community and their apparent interest in learning about and understanding the environmental impact caused by the excessive use of materials that could be recycled or eliminated from use, it is time for the Institution to heed their voices and develop further actions and efforts around this issue.

For the case of the DCEA, some proposals emerged:

- Implement an awareness program for new students and replicate it through workshops in the final semesters.
- Increase promotion of the Basura Cero program and emphasize waste separation.
- Promote recycling through various campaigns organized by students themselves, supported by faculty staff.
- Use the last Friday of each month to inform and raise awareness.
- Promote environmental care in middle and high schools through social service and/or professional practices.

Attention to these considerations could initiate a favorable change in the student and faculty

community, especially in their culture and environmental education.

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