Implementing environmental management systems and lifestyles: a systematic review

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Abstract

This paper aims to determine the influence of environmental management systems on the lifestyle of the affected populations described and studied in academic and scientific publications. The specific objectives are to identify the variables and dimensions used in the research. The research was carried out using a systematic review methodology to identify the volume of publications. The following inclusion criteria will be taken into account: the period of analysis, from January 2017 to June 2022. The common aspect in the analyzed publications on the implementation of environmental management systems in Peru is to qualify this as adequate and responsible with its role of disseminating preventive and regulatory actions. It has not yet been established to what extent the quantity and quality of government policies on environmental management influence lifestyles. In this relationship, according to the selected publications, successful environmental management would be related to an impact on the lifestyles of the target population, since the implementation of environmental strategies generates an impact on the ecosystem of the locality where this environmental management plan is applied, therefore, this benefit positively influences the lifestyle of the person.

KeyWords: environmental management; implementation of environmental management systems; lifestyles; application of environmental management methodologies; environmental policy.

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Introduction

Over the years, various instruments have been developed to influence the behavior of those who contribute to environmental problems. Traditionally, theories of environmental management and public policy have focused on regulation, the flow of economic incentives and the availability of information as tools of government. However, new policy instruments such as performance requirements and the implementation of management systems have been used (Ocampo et al., 2018).

In most cases, environmental management seeks to prevent impacts on the environment, rather than elaborate plans focused on recovery and restoration. In other words, environmental management is more preventive, since it becomes more effective in this way. It is important to mention that most environmental management projects belonging to local communities and indigenous peoples have an agricultural-environmental bias as their main characteristic (López et al., 2020) since the agricultural sector is one of the most affected environments González et al (2017), (López et al., 2020).

Márquez (2017) mentions that it is of utmost necessity to democratize and have the participation of citizens when producing indicators that have an efficient response to what happens with development from sustainable environmental management. In addition, he argues that the problem is not centered on the type of environmental management, but on the extent to which the greatest number of citizens can be involved in the inventory and diagnosis of the steps to be managed.

On the other hand, Reyes et al. (2020) believe that environmental management has the same main objective as conservation biology and heritage management, which is the sustainable use and preservation of biodiversity. To achieve this, they are supported by methods and tools aided by the environmental laws that each nation has stipulated. Also, Alvarez et al. (2019) give another approach to environmental management, from a business point of view this can give an added value and a competitive advantage, presenting itself as an impulse for the modernization of activities to increase productivity.

It is important to define the meaning of an environmental management system (EMS) as the sector of the total management system, planning activities, responsibilities, practices, processes and resources to develop, innovate, realize, verify and sustain the environmental policy (Nieves et al., 2022).

Likewise, Jennifer (2020) contrasts environmental management with sport and tourism, as the control of environmental management aspects applied to a sports tourism context is considered an innovative strategy. She also mentions that sports tourism is key to the development of tourism in general. Furthermore, the fact that more tourism is generated as a result of good environmental management impacts the communities since the increase in tourism generates a benefit in the economy of the locality, this benefit produces an improvement in the quality of life of the people benefited, because they have more money.

Anampi et al. (2018) mention that the lifestyle of society is being affected, because environmental management is, at times, absent, however, this has caused different organizations to become aware of how important correct environmental management is since the behavioral tendency of people referring to the affectations of business activity that generates in the ecosystem are no longer tolerated.

The business sector is closely related to the communities and their ecosystem. They define the lifestyle and quality of life of these, as well as define the possibilities that these have to face the adversities that any type of industrial or business activity entails against the ecosystem. González (2019) emphasizes on SMEs, since being smaller organizations, usually do not have a planned environmental strategy to prevent the damages that may be caused by any activity they carry out.

Of equal importance, Castro and Suysuy (2020) comment that due to the constant growth of environmental problems, many of the dimensions of human life are harmed, one of them being education. Regarding it, it is mentioned that there is a social responsibility that focuses on the

formation of people committed to the welfare of the environment. That is to say, in the future, if this responsibility is taken consistently with the importance that should be given to it, there will be an improvement in people's lifestyles. A significant change in it.

For a State, having a healthy population is substantial for economic development, lower income populations are more exposed to environmental consequences and dangers, such as polluted air, lack of drinking water and ecological disasters. Consequently, diseases and disabilities related to polluted environments delay and postpone economic development projections. In addition to human suffering and resignation, physical and mental health conditions carry a significant economic burden in the form of investment in medical and hospital care. For example, younger students with an illness are unable to attend a school or perform well in their studies, and adults whose health is affected do not have sufficient means to continue their work or contribute to their household economy (Torres et al., 2019).

MATERIALS AND METHODS

A systematic review methodology was determined, according to researchers Rovetta and Bhagavathula (2020), these online tools allow identifying the volume of publications and, with a specialized search using keywords, it is possible to trace the referred researches.

In the current work of systematic review of scientific research in the "Scopus" database, theoretical research was carried out, for which strategies and processes were applied in the choice of scientific research, which are described in the following lines. Systematic reviews, have to be exhaustive including all articles that possess the instigation protocol and are reproducible, therefore, it is intended that in this research researchers can observe a model of a research protocol that ensures the systematicity of a referenced review (Cardona et al, 2016).

For the search of national and international scientific articles, the SCOPUS database was consulted. The following terms were used as search criteria: "environmental management", "implementation of environmental management systems", "lifestyles", "environmental management strategies", "application of management methodologies" and "environmental policy". After applying the filters, 22 articles were selected. The 22 articles selected for this research are shown below:

Table 1 Articles that make up the database

N°	Title	Author	Year of Publication	Country of Origin
1.	Landscape Unit Analysis and Environmental Impact Assessment as Tools for Municipal Environmental Management, Case Study: Municipality of Tona, Spain.	Rivera y Senna	2017	Spain
2.	Drivers, Barriers and Benefits for the Implementation of Environmental Management Systems in Industries in Caldas, Colombia.	Ocampo *et al.*	2018	Colombia
3.	Biocultural indicators in environmental management projects. The case of meliponiculture in Yucatan.	López and Pinkus	2020	México
4.	Citizen participation in the development of indicators for the evaluation of sustainable environmental management	Márquez	2017	Colombia

5.	Conceptual model of natural heritage in environmental management management for the conservation of ecosystems	Reyes *et al*.	2020	España
6.	Environmental management accounting in agro-industrial sector companies	Álvarez *et al.*	2019	Venezuela
7.	Design of an Environmental Management System in the Provincial Historical Archive of Granma, Cuba.	Nieves *et al.*	2022	Cuba
8.	The ecological aspects of environmental management are the most important national priority.	Luneva	2018	Russia
9.	Environmental Management Strategy Based on Ecosystem Services of the Caño Siete Vueltas (Villavicencio, Colombia)	Mojica *et al.*	2019	Colombia
10.	Evaluation of sports tourism in the city of Cartagena-Colombia from the perspective of environmental management and information and communication technologies.	Gracia *et ál.*	2020	Colombia
11.	Environmental management in organizations: analysis from environmental costs	Anampi *et al.*	2018	Venezuela
12.	Environmental management and competitiveness of SMEs in the commerce sector in Machala canton, El Oro Province, Ecuador	González	2019	Venezuela
13.	Environmental Management and Sustainability in Oil Sector Companies in the State of Zulia, Venezuela	Meleán and Luna	2021	Venezuela
14.	Environmental management, sustainability and mining competitiveness. Contextualization of the situation and challenges of an approach through life cycle analysis.	Carmona-García *et al*.	2017	Colombia
15.	Managing the environmental dimension for sustainable development in Cuban higher education	Castro *et al.*	2020	Cuba
16.	Environmental management tools to reduce the impact of environmental costs in a construction company.	Castro and Suysuy	2020	Cuba
17.	Implementation of good agricultural practices for rural environmental management	Somoza *et al.*	2019	Argentina
18.	Importance of environmental education in socio-natural risk management in five Latin	Ordóñez *et al.*	2018	Costa Rica

	American and Caribbean countries.			
19.	Strategic planning for environmental management in the municipalities of southern Guajira-Colombia.	Fuentes *et al.*	2017	Venezuela
20.	Cost-benefit ratio of environmental management systems in Venezuelan manufacturing companies	Díaz	2019	Venezuela
21.	Theoretical Approach to an Economic-Environmental Management Model for Mining Rehabilitation	Torres *et al.*	2019	Colombia
22.	Assessment of the elements to be considered in the design of an environmental management model in watersheds from a socially responsible approach through the application of the individual aggregation expert selection method.	Arteta *et al.*	2018	Venezuela

Table 2 Classification of selected items by territory

Continents: Search	n	n%
Europe	3	14%
Latin America	14	63%
Central America	5	23%
N	22	100%

Source: Own elaboration

Table 2 shows that, of the 22 articles included, 14% correspond to Europe (Spain and Russia), then 23% represent the search for articles in Central America (Mexico and Cuba), followed by 63% representing Latin America (Argentina, Venezuela, Colombia).

Table 3 Classification of articles by research approach

Research Approach	n%
Qualitative	60%
Quantitative	20%
Mixed	20%
N	100%

Source: Own elaboration

Table 3 shows that, of the 100% of the articles, the articles with a qualitative research approach were taken into account in a greater number, representing 60%, since they give greater relevance to the variable "Environmental Management", similar in approach to the current work. Then, research with a quantitative and mixed approach was also reviewed, representing 20% each, respectively.

RESULTS AND DISCUSSION

The common aspect in the analyzed publications on the implementation of environmental management systems in Peru is to qualify this as adequate and compliant with its role of disseminating preventive and regulatory actions. On this specific point, Rivera and Senna (2017) determines that a Municipal Environmental Management Plan (PGAM) is the main tool to prevent, decrease, control, even out and correct negative environmental impacts. That is, the PGAMs are tools that guide community administrations on the fact of protecting, conserving, and improving environmental conditions and therefore, benefiting the lifestyle of local communities.

Luneva (2019) mentions that sound environmental management through the growth of sustainability of ecological systems helps to maintain a respectful environment, also, on some occasions the reproduction and restoration of

this. This has a direct impact on a cleaner ecosystem and offers a better lifestyle to people.

On the other hand, it is important to mention that Mojica, Ortiz-Moreno and Gnecco (2019) emphasize how the population should be included and have a correct execution of environmental strategies. In this way, the community gets involved with the environment that surrounds them and preserves the environment they own. Environmental management plays an important role since people with correct management can positively impact their quality of life, thus improving their lifestyle.

The authors also highlight their findings related to environmental management in local governments in neighboring countries. They expose the presence of several inconsistencies and deficiencies related to environmental management, among which stand out the absence of effective state plans and policies, lack of knowledge and preparation of authorities and local officials, lack of actions and strategic measures to strengthen care and reduce environmental impact.

Faced with this problematic reality, there is a need to design and implement methodologies and tools that contribute to increasing the potential, performance and lifestyle of workers and the population. However, it is of vital importance to improve the control of instruments, materials and economic resources, to guarantee their efficient use and to comply with environmental objectives and programs.

In addition, Meleán et al. (2021) conclude that environmental management in companies related to the oil industry shows a reactive tendency in the development of environmental management plans. That is, there is an awareness on the part of oil organizations regarding the negative effects that oil activity can generate on the environment or ecosystem.

On the other hand, Carmona-García et al. (2017) emphasize and reinforces the idea of environmental management seen as a means that leads to competitiveness, or in other words that grants a competitive advantage, to mention more precisely, it can also be an added value to the final product. It means that these three facts benefit the creation of environmental management systems, since, at a certain point it will be indispensable to compete in the market against organizations that are already providing that added value, having an environmental strategy that reduces the negative impact on the ecosystem and improves the quality of life of the community.

Castro-Torres (2020) suggests that the lack of implementation of environmental management systems increases the negative effects of economic and social activities that damage the environment. He also points out that the emergence of state policies, whose purpose is to regulate environmental behavior, corresponds to a coping mechanism to reduce the environmental impact in the medium and long term.

Similarly, the interaction of a person with a polluted environment immediately generates a great influence and significant changes in their healthy lifestyle, ranging from diet, physical exercise routines and performance in their workplaces. Along with a polluted ecological environment, there are currently other factors that have a negative influence on the lifestyle of the population, among them are electronic devices, the work routine prolonged to more than 10 hours per day and increased responsibilities with the family load.

Ordóñez et al. (2018) argue that it is important, within an Environmental education system, to generate responsible knowledge in people about their surroundings with a perspective of care and protection of the environment. Regarding lifestyle, it would be necessary to educate from the social dimension, physical well-being dimension and occupational health dimension at school or other educational centers and expose all people to a set of behaviors that are developed daily to preserve an optimal state of health in harmony with the environment.

The drivers for the implementation of environmental management systems depend on the size of the organization they are part of, and are also limited by the sector or area where they belong. For example, large companies are driven to implement an environmental management system by legal requirements and access to

markets, while in SME companies, the possibility of process improvement and sustainable production (Ocampo, 2017).

Fuentes et al. (2017) emphasize the revaluation of the sense of a truly democracy-based environmental management for the collective welfare of communities and not motivated by particular benefits. That is, environmental management and its implementation should be motivated by a common good. For example: improving the quality of life and prolonging life expectancy in a community by focusing on reducing and preventing negative impacts on the ecosystem.

Diaz (2019) states that the person sustains a close connection of dependence on nature. The balance between that man with the environment in which he finds himself is of vital importance to achieving the development of his person in different aspects, among them, the lifestyle. The Peruvian territory has been affected continuously by environmental pollution, showing, in the foreground, the affectation of the vulnerable population.

According to Arteta et al. (2018), environmental management models require a social responsibility approach. That is, such an approach has an impact on the quality of life of the locality where the implementation of the environmental strategy takes place. On the other hand, the author also argues that environmental awareness and education are complemented by good practice of perception and understanding of the issues in the environmental setting.

CONCLUSIONS

The extent to which the quantity and quality of government policies on environmental management influence lifestyles have not yet been established. In this relationship, according to the selected publications, successful environmental management does have an impact on the lifestyles of the target population. People's perception of environmental care and awareness depends on their lifestyle and habits.

According to the research, environmental management has a very relevant impact on people's lifestyles since environmental management plans are implemented to reduce and prevent negative impacts on the environment or ecosystem that surrounds humans; this ecosystem is part of the environment; therefore, it modifies their quality of life; if it is damaged, their health will consequently deteriorate. However, if it has a good implementation of an environmental strategy, the target population will obtain a more adequate environment for the development of their daily life and therefore the life expectancy of the locality will increase.

In addition to a polluted ecological environment, there are currently other factors that influence the lifestyle of a person, among them, are electronic devices, work routinely prolonged to more than 10 hours per day and increased responsibilities with the family load. Therefore, it is important to generate responsible knowledge in people about their environment with a perspective of care and protection of the environment, it is necessary to educate from the social dimension, physical well-being dimension and occupational health dimension at school or other educational centers and expose to all people a set of behaviors that are developed daily to preserve an optimal state of health in harmony with the environment.

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