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Community Perceptions of Instituto Evandro Chagas (IEC), Health Ministery´s Department, in Relation to Sustainability Practices

Percepções da Comunidade do Instituto Evandro Chagas (IEC), órgão do Ministério da Saúde, quanto às Práticas de Sustentabilidade

Percepciones de la Comunidad del Instituto Evandro Chagas (IEC), entidad del Ministerio de Salud, en Relación con las Prácticas de Sostenibilidad

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KEYWORDS
Sustainability. Knowledge, attitudes and practices. Socio-environmental responsibility.

Abstract: The objective of the study was to estimate the perception of the community of the Instituto Evandro Chagas (IEC), recognized as an Institute of Science and Technology (ICT) of the Ministry of Health (MS), regarding sustainability practices. The Knowledge, Attitudes and Practices (KAP) research on Socio-Environmental Responsibility (SER) was conducted, with data obtained through an online questionnaire, survey style, built on the Google Forms platform and structured in three parts, totalizing 31 questions distributed across the six thematic axes of the Environmental Agenda in Public Administration (A3P), based on the study by Freitas and collaborators (2011). 200 employees participated in the study, representing 17.81% (200/1,123) of the institutional community. Regarding the rational use of public goods, 75.5% (151/200) answered by turning off equipment when leaving work and 67.0% (134/200) printed "double-sided" documents. In relation to waste management, 56.0% (112/200) were unaware that the institution carried out solidary selective collection actions. Regarding quality of life, 78.5% (157/200) acknowledged working in a healthy environment. Regarding professional training aimed at sustainability, 60.0% (120/200) did not recognize internal awareness-raising initiatives on the topic. Regarding sustainable public purchases, 57.5% (115/200) were unaware that the institution had a preference for products manufactured from non-polluting sources. Regarding sustainable constructions, 93.5% (187/200) reported that there is no constructions or technological processes for better use of available natural resources. That being said, it is suggested to improve interventions aimed at expanding the development of skills in the area of

environmental sustainability, implementing the Environmental and Social Management Plan (ESMP) and strengthening institutional communication strategies related to sustainability actions.

PALAVRAS-CHAVE
Sustentabilidade. Conhecimentos, atitudes e práticas. Responsabilidade socioambiental.

Resumo: *O objetivo do estudo foi estimar a percepção da comunidade do Instituto Evandro Chagas (IEC), reconhecido como um Instituto de Ciência e Tecnologia (ICT) do Ministério da Saúde (MS), sobre as práticas de sustentabilidade. Conduziu-se a pesquisa de Conhecimentos, Atitudes e Práticas (CAP) sobre Responsabilidade Socioambiental (RSA), sendo os dados obtidos por meio de questionário on-line, estilo survey, construído na plataforma Google Forms e estruturado em três partes, totalizando 31 perguntas distribuídas nos seis eixos temáticos da Agenda Ambiental na Administração Pública (A3P), com base no estudo de Freitas e colaboradores (2011). Participaram do estudo 200 colaboradores, representando 17,81% (200/1.123) da comunidade institucional. Quanto ao uso racional de bens públicos, 75,5% (151/200) responderam desligar os equipamentos ao deixar o trabalho e 67,0% (134/200) imprimiam documentos "frente e verso". Em relação à gestão dos resíduos, 56,0% (112/200) desconheciam que a instituição executasse ações de coleta seletiva solidária. Sobre a qualidade de vida, 78,5% (157/200) reconheceram trabalhar em ambiente salubre. Quanto à capacitação profissional direcionada à sustentabilidade, 60,0% (120/200) não reconheceram iniciativas internas de sensibilização no tema. Sobre compras públicas sustentáveis, 57,5% (115/200) desconheciam que a instituição tivesse preferência por produtos fabricados por fontes não poluidoras. Sobre construções sustentáveis, 93,5% (187/200) relataram que não há obra ou processo tecnológico para melhor uso dos recursos naturais disponíveis. Assim, sugere-se o aprimoramento das intervenções que visem ampliar o desenvolvimento de competências na área de sustentabilidade ambiental, implantar o Plano de Gestão Socioambiental (PGS) e fortalecer estratégias de comunicação institucional relacionadas às ações de sustentabilidade.*

PALABRAS CLAVE
Sustentabilidad. Conocimientos, actitudes y prácticas. Responsabilidad social y ambiental.

Resumen*: El objetivo del estudio fue estimar la percepción de la comunidad del Instituto Evandro Chagas (IEC), reconocido como Instituto de Ciencia y Tecnología (ICT) del Ministerio de Salud (MS), sobre las prácticas de sostenibilidad. Se realizó la investigación Conocimientos, Actitudes y Prácticas (CAP) sobre Responsabilidad Socioambiental (RSA), con datos obtenidos a través de un cuestionario en línea, estilo encuesta, construido en la plataforma Google Forms y estructurado en tres partes, totalizando 31 preguntas distribuidas en el seis ejes temáticos de la Agenda Ambiental en la Administración Pública (A3P), con base en el estudio de Freitas y colaboradores (2011). Participaron del estudio 200 empleados, lo que representa el 17,81% (200/1.123) de la comunidad institucional. Respecto al uso racional de los bienes públicos, el 75,5% (151/200) respondió apagando los equipos al salir del trabajo y el 67,0% (134/200) imprimió documentos "por delante y por detrás". En relación a la gestión de residuos, el 56,0% (112/200) desconocían que la institución realizaba acciones de recolección selectiva solidaria. En cuanto a la calidad de vida, el 78,5% (157/200) reconoció trabajar en un ambiente saludable. En cuanto a la formación profesional orientada a la sostenibilidad, el 60,0% (120/200) no reconoció iniciativas internas de sensibilización sobre el tema. Respecto a las compras públicas sostenibles, el 57,5% (115/200) desconocía que la institución tuviera preferencia por productos elaborados a partir de fuentes no contaminantes. Respecto a las construcciones sustentables, el 93.5% (187/200) reportó que no existe obra o proceso tecnológico para aprovechar mejor los recursos naturales disponibles. Por lo que se sugiere mejorar las intervenciones encaminadas a ampliar el desarrollo de habilidades en el área de sostenibilidad ambiental, implementando el Plan de Gestión Socioambiental (PGS) y fortaleciendo las estrategias de comunicación institucional relacionadas con las acciones de sostenibilidad.*

Introduction

The adoption of socio-environmental governance in institutional environments becomes a fundamental instrument for promoting awareness among individuals regarding the application of sustainable practices in institutional work routine and establish a sustainable organizational culture (Craig et al., 2017; Boone et al., 2020). Therefore, it is essential to structure a socioeconomic model based on sustainability, that is, sustainable economy, also known as green economy or, simply, bioeconomy. The bioeconomy is a consequence of innovative initiatives, mainly in the areas of technology and health sciences, aiming to reduce dependence on non-renewable resources, reduce environmental impact, transform production processes, improve quality of life and guarantee the integral health of the population (Borowiecki & Philp, 2019), The archetype that underpins the socio-environmental theme is based on the legal standards relevant to the matter, listed by the program called Environmental Agenda in Public Administration (A3P), as well as on the corporate governance criteria and procedures presented by the Federal Audit Court (TCU) and provisions exposed by Decree No. 9,203 of 2017, which provides for the governance policy of direct, autonomous and foundational federal public administration (Federal Audit Court, 2014).

A3P is a program of the Ministry of the Environment (MMA) created in 2001, which aims to implement Socio-Environmental Responsibility (SER) in the administrative and operational activities of public administration, with the main objectives being to promote the internalization of socio-environmental sustainability principles in public bodies and entities, as well as encouraging reflection and changing attitudes among employees, so that they incorporate socio-environmental management criteria into their routine activities. To this end, as a prerogative for implementing A3P, there are six priority thematic axes: a) rational use of natural resources and public goods, b) adequate management of waste generated, c) quality of life in the work environment, d) awareness and training of servers, e) sustainable public purchases, and f) sustainable constructions (Brazil, 2022b).

Given this scenario, studies on Sustainability Knowledge, Attitudes and Practices (KAP) allow estimating the extent of the situation in relation to the theme in this area, in addition to identifying what is known and effectively carried out about sustainable practices and providing tangents of the observed reality (WHO, 2008). The format of KAP studies makes it possible to correlate cognitive, affective and/or behavioral components that can be intervened, based on communication strategies that contribute to increase the level of knowledge on the topic among the target population, changing attitudes, improving practices and planning activities appropriate and targeted to the respective population. Therefore, the methodological approach via KAP provides useful information on a given context, in addition to being easy to plan and execute (WHO, 2008;Jacobsen, 2016;Salas-Zapata et al., 2018).

As a public reference body in biomedical research, provision of public health services, science and technology linked to the Health and Environment Surveillance Secretariat (SVSA) of the Ministry of Health (MS), the Evandro Chagas Institute (IEC) must assume the role pioneering and sustainable also in relation to socio-environmental management and its complications, whether through the evolution of sustainability criteria already practiced in the institution, or through the implementation of a new internal socio-environmental agenda, aligned with the quality indicators required in specific legislation (Poza-Vilches et al., 2020). Hence, the present paper was designed with the main objective of estimating the perception of the IEC institutional community on sustainability and SER practices, in addition to identifying what is known and accomplished regarding this aspect in this institutional environment.

Theoretical Elements of Research

Sustainability and Socio-Environmental Responsibility (SER)

The complexity of the term sustainability is demonstrated in its more than three hundred alternative concepts already found (Correia, 2019). The concept of sustainable development was consolidated for the first time in the “Brundtland Report”, a document created in 1972, entitled Our Common Future, published in 1987, by the World Commission on Environment and Development (CMMAD) of Organizations of United Nations (UN). Coordinated by the then Prime Minister of

Norway, Gro Harlem Brundtland, the aforementioned document led to the dissemination of the idea of sustainable development as being: "That which meets the needs of the present without compromising the ability of future generations to meet their own needs" (CMMAD, 1991).

The report states that the principle of sustainability is directly related to the vision of human needs and well-being, incorporating non-economic variables, such as: education, health, clean water and air and the protection of the ecosystem. In other words, the main challenge of sustainable development is to harmonize human needs and aspirations, which are increasingly greater and more comprehensive as a result of accelerated population growth, with the preservation of the environment, respecting the limits of available natural resources (CMMAD, 1991).

In the same context, John Elkington, English sociologist, founder of the non-governmental organization "Sustainability", created the term "Triple bottom line", or "tripod of sustainability", in 1994, based on the three dimensions of sustainable development: environmental quality, equity social and economic benefits (Elkington, 1994). Elkington envisioned integration between the economic, human and environmental dimensions, with the aim of providing services to people, the planet and profit in a balanced way (Ipiranga et al., 2011). In a broader sense, it can be hoped that the objectives for sustainable development are based on a solid and robust strategy that integrates in a harmonious and balanced way all the systems that play a role in this relationship, namely: political system (which can ensure citizen participation in the decision-making process), economic (which generates profit and technical knowledge on a reliable basis), social (which solves problems by providing viable solutions to conflicts), production (which respects the limits of available natural resources), technological(that promotes innovation), international (that inspires sustainable trade agreements between nations) and administrative (that is flexible) (CMMAD, 1991).

The term "sustainable development" solidified and became popular through the United Nations Conference on Development and the Environment, held in Rio de Janeiro in 1992 (ECO-92). During the Rio/92 Conference, a document known as Agenda 21 was approved, which supported a comprehensive and flexible action program, in its 40 chapters of direction and guidance for humanity, aiming at socially fair and environmental sustainable development (Barbieri & Silva, 2011). Agenda 21 constituted a collective work program that intended to discipline and unite efforts in priority at (United Nations Conference on Environment and Development, 1995). It has, therefore, become a unique historical milestone in the definition of a set of objectives and planning instruments aimed at building sustainable societies, in different parts of the planet, reconciling and harmonizing methods of environmental protection, social justice and economic efficiency (Brazil, 2016).

In 2000, with the Millennium Declaration, created at an assembly of the United Nations (UN), 8 Millennium Development Goals (MDGs) were defined, which in turn established consensual commitments and goals among its 191 member countries. , with specific objectives being defined to be achieved by 2015 (Göttems et al., 2021). The global commitment to the MDGs resulted in the largest anti-poverty movement ever undertaken in history, seeking to concentrate efforts on liberating our fellow human beings, women and children, from the abject and dehumanizing state of extreme poverty (United Nations, 2015). From then on, the post-2015 Agenda emerged on the global stage, expressed in the Sustainable Development Goals (SDGs), which aspired to expand the MDGs until 2030. Then the 2030 Agenda, approved on 25/09/2015, by 193 Member States of the UN, was structured into 17 SDGs and 169 goals. It was a collaborative action plan with a global call to end poverty, protect the environment and climate, combat inequality and ensure people can enjoy peace and prosperity (United Nations Brazil, n.d.).

In the same context, also with similar and similar functions, principles, and prerogatives, which complete and complement each other, which finalize and integrate each other, the concept of Socio-Environmental Responsibility (SER) emerges as the main tool necessary to achieve sustainability properly speaking. Everyone is responsible for environmental preservation: public authorities, companies, and citizens, with SER being directly linked to actions that respect the environment and policies that aim to achieve sustainability. SER is, therefore, a continuous and progressive process of developing citizen skills to advance towards sustainability within the scope of

public administration (Brazil,, 2016).

In Brazil, the Ministry of the Environment (MMA) is the body responsible for developing public policies that aim to promote sustainable production and consumption. "Sustainable production" is understood as the incorporation, during the life cycle of a good or service, of the best possible alternatives to reduce environmental and social costs. As "sustainable consumption", according to the United Nations Environment Program (UNEP), it is defined through the use of goods and services that meet the basic demands of society, seeking a better quality of life, while reducing the use of natural resources and toxic materials, as well as the generation of waste and the emission of pollutants during their life cycle, thus preserving the needs of future generations (Brazil, 2016). According to Law No. 6,938, of 08/31/1981, which provides for the National Environmental Policy, in its art. 3rd, I, environment is the "set of conditions, laws, influences and interactions of a physical, chemical and biological order, which allows, shelters and governs life in all its forms [...]".

Environmental, Social and Corporate Governance (ESG)

Another important agenda, also aimed at private and public institutions whose objectives are related to SER and sustainability, is ESG, an acronym for Environmental, Social and Corporate Governance, translated into Portuguese as Environmental, Social and Corporate Governance (ESG). The parameters and metrics of this agenda comprise a set of management practices related to sustainable development as a strategy for financial attractiveness and consolidation of an integral governance culture. Here, public institutions have an even more relevant factor of responsibility, namely, the public interest.

In this sense, the need for internal policies aligned with ESG values stands out, with a focus on transparency in decision-making processes, the presence of internal control bodies, periodic accountability, and metrics for analyzing socio-environmental impacts. Therefore, the application of this concept is essential for the survival of institutions and is important for building a culture of sustainability. This concept can be adapted for both the private and public sectors, encouraging the creation of public policies that promote good environmental and governance practices. To this end, the conduct of managers must also be in accordance with these values and each institution must seek a model that applies to its reality, aligned with its objectives and internal policies (Widyawati, 2020).

Therefore, the review, update, or elaboration of an institution's internal policies, aligned with the pillars of ESG, must ensure the culture of environmental, social and corporate governance sustainability and not merely be a framework for responses to short-term and ephemeral requirements. In this way, the principles of ESG will also be incorporated into all institutional decision-making processes, providing solidity and longevity to the implemented work plans (Correa-García & Vásquez-Arango, 2020).

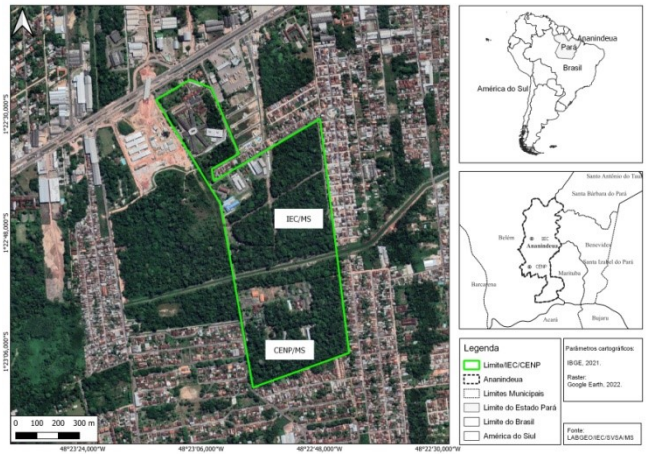
Research Methodological Elements

Location and scope of the study

This paper proposal was carried out at the Evandro Chagas Institute (IEC), a public body recognized as a Science and Technology Institution (ICT), belonging to the direct administration of the federal executive power, subordinate to the Secretariat of Health and Environmental Surveillance (SVSA) of the Brazilian Ministry of Health (MS). At the time of the study, the National Primate Center (CENP) was also included in the KAP research, as it was technically and administratively subordinate to the IEC, however, in January 2023, the CENP will be directly subordinate to the SVSA and no longer to the IEC. Therefore, it must be clarified that the present work encompassed both bodies, and throughout the study, when mentioning the Evandro Chagas Institute, the National Primate Center was necessarily included. The headquarters of IEC and CENP are in the municipality of Ananindeua, Metropolitan Region of Belém (RMB), in the north of Brazil, specifically in the state of Pará and in the middle of the Amazon region, as shown in the map in Figure 1.

Figure 1

Location of IEC/SVSA/MS and CENP/SVSA/MS in the state of Pará, Amazon region, Brazil



Source: prepared by the authors with the support of the IEC Geoprocessing Laboratory – LABGEO/IEC/SVSA/MS, 2023.

The IEC's institutional community is made up of statutory employees (including seconded and requested employees), students (including students from the Institutional Scientific Initiation Scholarship Program – PIBIC, the Medium Level Technical Course in Clinical Analysis – CTLAB, Master's Degree in Postgraduate in Epidemiology and Health Surveillance – PPGEVS and in Virology – PPGV, PhD from PPGV, Post-Doctorate and Residency Program in Veterinary Medicine from CENP), FIOTEC scholarship holders (collaborators who work on specific work plans, as needed institutionally) and employees of outsourced companies (who work in the cleaning, conservation and hygiene services of the institution's movable and immovable assets, property security, IT infrastructure, specialized services in quality management, biosafety and the environment, administrative support and maintenance of real estate). The composition of the institutional workforce can be seen in Table 1, according to information obtained at the time the study was carried out.

Table 1

Categories that make up the IEC workforce, 2021

COLLABORATORS	IEC	CENP	TOTAL	%
Servers	427	68	495	44
FIOTEC scholarship holders	96	7	103	9
Students	246	0	246	22
Outsourced employees	185	94	279	25
TOTAL	**954**	**169**	**1,123**	**100**

Source: own elaboration.

Kind of study

The descriptive observational study was carried out using the Knowledge, Attitudes and Practices (KAP) research method, applied to the institutional community of IEC and CENP at the time of its implementation.

Data collection and research participants

The present study obtained authorization from the Human Research Ethics Committee of the Evandro Chagas Institute, according to the Certificate of Presentation of Ethical Appreciation (CAAE nº 51081121.5.0000.0019) and Approval Opinion nº 5.083.902.

The data were obtained through a structured online questionnaire, survey style, built on the Google Forms platform (translated into Portuguese: Google forms) for the purpose of dissemination and application to the institution's employees, with the purpose of obtaining information about Knowledge, Attitudes and Practices (KAP) of the institutional community, focused on sustainability and Socio-Environmental Responsibility (SER) practices, based on the study by Freitas and collaborators(Freitas et al., 2011). A semi-probabilistic sampling by quotas was carried out, in which the participation of people with specific and stratified characteristics of the population was obtained, whose sample was composed of: civil servants, collaborators, students, FIOTEC scholarship holders and outsourced employees, thus allowing greater representation and

maintaining the characteristics of the institutional population (Vieira, 2016).

The questions in the questionnaire were organized based on the six thematic axes of A3P: 1) Rational use of public goods, 2) Adequate management of waste generated, 3) Awareness raising and training of employees, 4) Quality of life in the work environment, 5) Sustainable public purchasing and 6) Sustainable constructions. The questionnaire was structured in 1 (one) question with acceptance or not to participate in the research and authorization for the publication of data, 2 (two) questions about the participant's placement in the institution and 28 (twenty-eight) questions distributed among the axes A3P themes. All these questions were closed, mandatory and multiple choice (with only one possible answer). After the multiple-choice questions phase, the questionnaire presented 1 (one) final open question, of an optional nature, in which the participant could express, in their own words and freely, their opinion on the topic addressed.

The methodology used for answer options to the closed questions in the questionnaire was the 5-point Likert scale. For the only open question, at the end of the questionnaire, the methodology used was "word clouds". The data was grouped and subsequently released on a platform for specific creation, at the electronic addresshttps://wordclouds.com/ (Word Cloud Technologies, Inc.) (Aaker et al., 2001).

Data analysis

Firstly, the database was checked to detect possible inconsistencies and anomalous data, to assess the need for imputation of this data. After this verification, the approach adopted allowed us to obtain strata of data by thematic axis, being the result of the sum reached by the answer options provided for each of the questions listed by the different axes of A3P. Subsequently, simple descriptive statistics were used, using Excel spreadsheets, followed by analysis with the software R (version R-4.1.3, 2022-03-10 for Windows) and RStudio Desktop (version 2022.02.1+461 for Windows), with a Likert package, to compile the responses and, through them, a concentrated bar graph was constructed, used for general analysis of the study results.

Presentation and Discussion of Results

From November 2021 to January 2022, emails were sent to the institutional community, containing a link to access the online questionnaire. A total of 200 responses were obtained, which represented 17.81% (200/1,123) of the target population. The majority were servers, totaling 57.5% (115/200). Regarding the area of activity, almost 80% (156/200) worked in the final/technical area (research, laboratory, biosafety, and teaching, etc.). The presentation and discussion of the results obtained is described by thematic axis.

Axis 1 – Rational Use of Public Goods

The rational use of public goods includes, among other strategies, energy conservation. This, in turn, can occur in two ways: 1) The structuring route, which requires investments in tools, new technologies and demands a significant contribution of financial resources and 2) The non-structuring route, which implies the promotion of behavioral changes in the consumer. It is worth highlighting that the application of energy conservation concepts in the public sector allows both to reduce the consumption of natural resources and the public costs linked to this topic (Huang et al., 2022;Wen et al., 2021;EPE. Energy Research Company, 2020;Söderholm, 2020). Table 2 shows the questions and answers obtained by the community, for the respective thematic axis.

Table 2
A3P Axis 1 Questions: Rational Use of Public Goods

1) Rational Use of Public Goods	**S**	**AV/P**	**NSA/SO**	**NS/D**	**N**
1.1) Does IEC take any action to monitor the consumption of paper, energy, water and/or disposable cups?	26 (13%)	58 (29%)	5 (2.5%)	85 (42.5%)	26 (13%)
1.2) Do you usually print your work documents "front and back"?	134 (67%)	47 (23.5%)	7 (3.5%)	0 (0%)	12 (6%)
1.3) How often do you turn off equipment, such as air conditioning units and lamps, when leaving the work environment?	***S** 151 (75.5%)	***AV** 34 (17%)	***SO** 6 (3%)	***R** 6 (3%)	***N** 3 (1.5%)
1.4) Has the IEC already carried out a campaign, advising how to properly use public assets?	26 (13%)	31 (15.5%)	11 (5.5%)	104 (52%)	28 (14%)

Source: research data.
Caption: S – Yes; AV/P – Sometimes/Partially; NSA/SO – Not applicable/No opinion; NS/D – I don't know/I don't know; N – No. *Legend: S – Always; AV – Sometimes; SO – No opinion; R – Rarely; N – Never.

The present study indicated that most of interviewees have a sustainable practice regarding energy conservation management, since the act of turning off equipment when leaving the work environment and printing documents in "front and back" format was reported as "always" in 75.5% and 67%, respectively.

The research carried out the functional classification of these interviewees and found that more than 92% of those who answered "yes/always" for "front and back" printing was "servers/assigned/requested" and "outsourced employee".

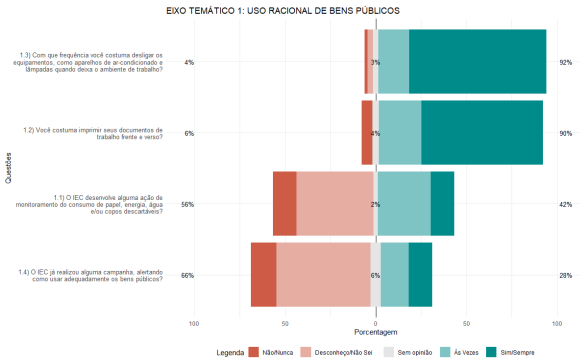
In corporate environments, there are several factors that can contribute to the user's practice regarding energy conservation, among them: 1) The employee's involvement with the institution, 2) The level of awareness, 3) Individual versus collective interest, 4) Age and gender, 5) Experience, 6) The sector (public or private) and 7) Motivation(Radzi et al., 2018;Seniwoliba & Yakubu, 2015;Szostek, 2021;Rebelatto et al., 2022;Nguyen et al., 2021;Akbar & Abdullah, 2021). It was not possible to specifically identify the factors that influenced the interviewees' attitude towards energy conservation. However, the present study was able to indicate that individuals with a more stable and long-lasting employment relationship with the institution presented more sustainable practices than those with less stable and/or transitory relationships.

Regarding the respondent's perception regarding the actions developed in the institution regarding energy consumption, most of interviewees, 42.5%, "do not know or are unaware" whether the institution carries out any monitoring action on the consumption of energy, water and/or disposable cups. 52% of those interviewed "do not know or are unaware" whether the institution has already carried out a campaign warning about how to properly use public assets.

The IEC/CENP has some initiatives that are related to Axis I "rational use of public goods", such as: the implementation of the Electronic Information System (SEI), configuration of printers for printing documents "front and back", automatic shutdown of some equipment at scheduled times, use of timed taps and distribution of porcelain mugs to employees. The present study shows that such institutional actions, despite being unknown to the interviewees, can play a fundamental role, resulting in more sustainable practices by employees. Observe Figure 2, which shows the concentrated bar graph with the result obtained for thematic axis 1.

Figure 2

1st Axis - Rational Use of Public Goods



Source: research data.

Axis 2 – Adequate Management of Waste Generated

Questions were asked regarding the appropriate management of waste generated and the answers are shown in Table 3.

Most of respondents, 52%, stated that they dispose of their waste in trash bins, according to the standard colors and symbols provided by the institution. It is interesting to note that most of interviewees, 57%, reported that the institution had bins with color patterns for selective collection. Once again, it is reiterated that institutional initiatives can encourage the promotion of more sustainable actions among its employees.

Despite the interviewees' broad recognition of the presence of bins for selective collection, the majority, 56%, responded that they "do not know" whether the institution carries out selective collection to separate waste at source and donate it to cooperatives and associations. collectors. Thus, it was found that more than half of the interviewees do not realize the existence of a process of continuity in the act of separating waste using bins with colors and symbols. Only 22% of those interviewed stated that "sometimes/partially" and only 11.5% answered "yes", that they are aware that the institution carries out this process.

Still on the appropriate management of waste generated, the majority, 33% responded that they "do not know" that the institution practices and encourages the 5R's policy, 28.5% responded that "sometimes/partially", 18.5% responded "no", 16.5% responded "yes" and 3.5% responded "I do not know".

Table 3

A3P Axis 2 Questions: Adequate Management of Waste Generated

2) Adequate Management of Waste Generated	S	AV/P	NSA/SO	NS/D	N
2.1) Does IEC practice and encourage the 5R's policy (Rethink, Reduce, Reuse, Refuse and Recycle)?	33 (16.5%)	57 (28.5%)	7 (3.5%)	66 (33%)	37 (18.5%)
2.2) At IEC, are there bins that meet the color standard for selective collection?	61 (30.5%)	114 (57%)	1 (0.5%)	11 (5.5%)	13 (6.5%)
2.3) Do you dispose of your waste in the bins, according to the standard colors and symbols available at the Institution?	104 (52%)	75 (37.5%)	5 (2.5%)	3 (1.5%)	13 (6.5%)
2.4) Is the IEC required to separate discarded solid waste?	54 (27%)	41 (20.5%)	6 (3%)	50 (25%)	49 (24.5%)
2.5) Do you know if IEC carries out selective collection to separate waste at source and donate it to cooperatives and waste picker associations?	23 (11.5%)	44 (22%)	6 (3%)	112 (56%)	15 (7.5%)

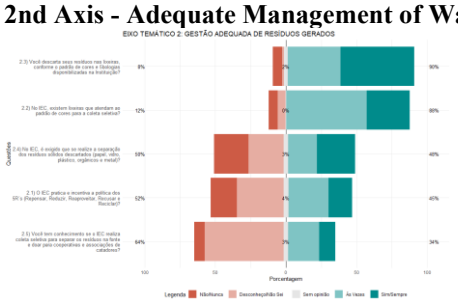
Source: research data.

Caption: S – Yes; AV/P – Sometimes/Partially; NSA/SO – Not applicable/No opinion; NS/D – I don't know/I don't know; N – No.

Regarding the second thematic axis, it was observed that most of participants (52%) stated that they disposed of their waste in the institution's standardized waste bins, although they were unaware (56%) that the organization has solidarity selective collection actions, where waste is sent to cooperatives. Figure 3 represents the concentrated bar graph with the result obtained for thematic axis 2.

Figure 3

2nd Axis - Adequate Management of Waste Generated



Source: research data.

Axis 3 – Quality of Life in the Work Environment

The third thematic axis analyzed involved the quality of life of employees in the workplace. Eight questions were created to provide better detail on the topic, as shown in Table 4.

The percentage data obtained in Table 4 attest to a reasonable balance between the institutional commitment to quality of life in the workplace and the absence or even non-existence, according to a large part of its employees, of any initiative focused on the issue. The most positive point was item 3.4, which asked about the healthiness of work environments, which were recognized by most of the institutional community as satisfactorily "healthy". As a negative aspect, we can mention the absence of actions aimed at increasing and stimulating the promotion of worker health, such as workplace gymnastics programs, nutritional guidance and other related activities, in addition to the percentage of 49% of respondents who stated that they did not know or even if there is no incentive or respect for impersonal treatment within the institutional scope.

Table 4

A3P Axis 3 Questions: Quality of Life in the Workplace

3) Quality of Life in the Work Environment	**S**	**AV/P**	**NSA/SO**	**NS/D**	**N**
3.1) Does IEC offer workplace gymnastics activities, nutritional guidance programs or other similar activities to its employees, with a view to promoting worker health?	7 (3.5%)	53 (26.5%)	4 (two%)	67 (33.5%)	69 (34.5%)
3.2) Does IEC meet accessibility requirements in its facilities for People with Disabilities (PwD)?	29 (14.5%)	111 (55.5%)	5 (2.5%)	19 (9.5%)	36 (18%)
3.3) Is the IEC concerned about the ergonomics of furniture and equipment used by employees and interns?	28 (14%)	63 (31.5%)	4 (two%)	27 (13.5%)	78 (39%)
3.4) Are IEC environments, especially work environments, healthy?	55 (27.5%)	102 (51%)	6 (3%)	4 (two%)	33 (16.5%)
3.5) Does IEC have a worker health program that monitors the health of its employees?	29 (14.5%)	48 (24%)	4 (two%)	69 (34.5%)	50 (25%)
3.6) Does IEC encourage the development and training of its employees?	80 (40%)	74 (37%)	10 (5%)	15 (7.5%)	21 (10.5%)
3.7) Does the IEC encourage and promote internal social integration through the interaction of employees in common areas and events for this purpose?	31 (15.5%)	69 (34.5%)	12 (6%)	36 (18%)	52 (26%)
3.8) Does the IEC encourage and respect impersonal treatment (impartial or non-personalized)?	30 (15%)	46 (23%)	26 (13%)	53 (26.5%)	45 (22.5%)

Source: research data.

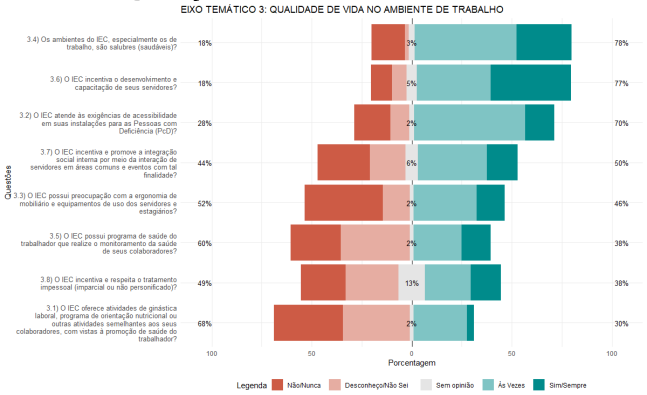
Caption: S – Yes; AV/P – Sometimes/Partially; NSA/SO – Not applicable/No opinion; NS/D – I don't know/I don't know; N – No.

It is also worth highlighting that the body has fulfilled its role in encouraging the training and development of its employees, as evidenced in item 3.6. The majority recognized (fully or partially) the institution's relevant initiatives relating to the matter, totaling 77% of participants' agreement. This perception can be justified by the fact that both IEC and CENP bodies have a Personal Development Plan (PDP) in progress, prepared and reviewed annually.

Figure 4 presents the concentrated bar graph with the result obtained for thematic axis 3.

Figure 4

3rd Axis - Quality of Life in the Work Environment



Source: research data.

Axis 4 – Awareness and Training of Servers

Next, Table 5 is presented, which specifically addresses the responses regarding the awareness and training of employees focused on the topic of sustainability.

Table 5

A3P Axis 4 Questions: Awareness and Training of Servers

4) Awareness and Training of Servers	**S**	**AV/P**	**NSA/SO**	**NS/D**	**N**
4.1) Does IEC develop awareness and training actions aimed at environmental sustainability?	23 (11.5%)	52 (26%)	5 (2.5%)	68 (34%)	52 (26%)
4.2) At IEC, is there encouragement to use mugs, bottles or other ecological utensils?	88 (44%)	78 (39%)	two (1%)	16 (8%)	16 (8%)
4.3) Does IEC produce and disseminate educational material focused on sustainability, preservation, and conservation of the environment?	16 (8%)	68 (34%)	two (1%)	64 (32%)	50 (25%)
4.4) How often does IEC promote actions that encourage environmental education?	***S** 14 (7%)	***AV** 68 (34%)	***SO** 27 (13.5%)	***R** 67 (33.5%)	***N** 24 (12%)

Source: research data.

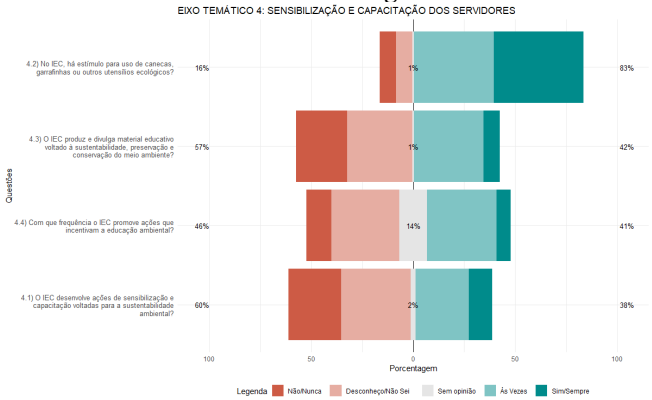
Caption: S – Yes; AV/P – Sometimes/Partially; NSA/SO – Not applicable/No opinion; NS/D – I don't know/I don't know; N – No. *Legend: S – Always; AV – Sometimes; SO – No opinion; R – Rarely; N – Never.

Within this thematic axis, the institution's encouragement of the use of ecological mugs and bottles stood out positively, with 83% of employees stating that the institution encourages (fully or partially) the use of these utensils. This result reflected the initiative of the Selective and Solidarity Collection Committee, created in 2015, where mugs with the institution's logo were distributed to all employees, with the aim of discouraging the use of disposable cups.

On the other hand, the majority (60%) did not recognize the institution's initiative of awareness-raising and training actions aimed at environmental sustainability, as evidenced in item 4.1. In a similar way to what was observed in items 4.3 and 4.4, in which 57% and 45.5% reported that they were unaware of or did not publish educational material focused on sustainability, preservation and conservation of the environment, and actions that encouraged environmental education on the part of IEC/CENP, respectively. Figure 5 shows the concentrated bar graph with the responses obtained for thematic axis 4.

Figure 5

4th Axis - Awareness and Training of Servers



Source: research data.

Axis 5 – Sustainable Public Procurement

Regarding the thematic axis focused on the institution's tenders, it was clearly verified that the majority of the research participants were unaware (percentages of responses varied from 34%, in the case of ignorance of the priority to quality and durability of products, up to 57, 5% in response to the preference for products manufactured from non-polluting sources), regarding the institution's practices aimed at sustainable bidding, as shown in Table 6.

Table 6

A3P Axis 5 Questions: Sustainable Public Procurement

5) Axis 5 – Sustainable Public Procurement	S	AV/P	NSA/SO	NS/D	N
5.1) Is preference given to products manufactured from non-polluting sources, as well as materials that do not harm nature?	15 (7.5%)	26 (13%)	13 (6.5%)	115 (57.5%)	31 (15.5%)
5.2) Is priority given to purchasing products that contribute to lower water and energy consumption (automatic taps, energy-saving light bulbs, etc.)?	30 (15%)	37 (18.5%)	12 (6%)	84 (42%)	37 (18.5%)
5.3) Does IEC purchase recycled products?	13 (6.5%)	41 (20.5%)	6 (3%)	107 (53.5%)	33 (16.5%)
5.4) Does IEC prioritize the quality and durability of purchased products?	32 (16%)	48 (24%)	12 (6%)	68 (34%)	40 (20%)

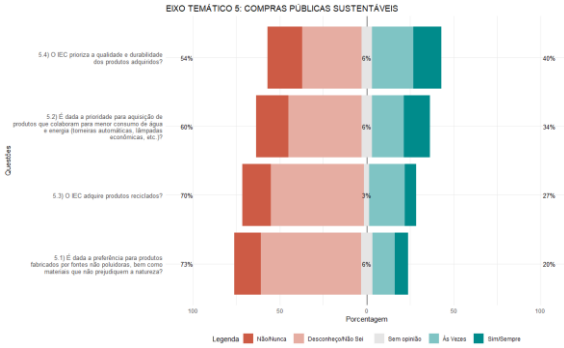
Source: research data.

Caption: S – Yes; AV/P – Sometimes/Partially; NSA/SO – Not applicable/No opinion; NS/D – I don't know/I don't know; N – No.

In Figure 6, the concentrated bar graph with the result for axis 5 can be seen.

Figure 6

5th Axis - Sustainable Public Procurement



Source: research data.

Axis 6 – Sustainable Constructions

The last thematic axis addressed was the topic of sustainable constructions, with a single question being asked to objectively identify what the community observed in the institution regarding this topic, as shown in Table 7.

Table 7
A3P Axis 6 Questions: Sustainable Constructions

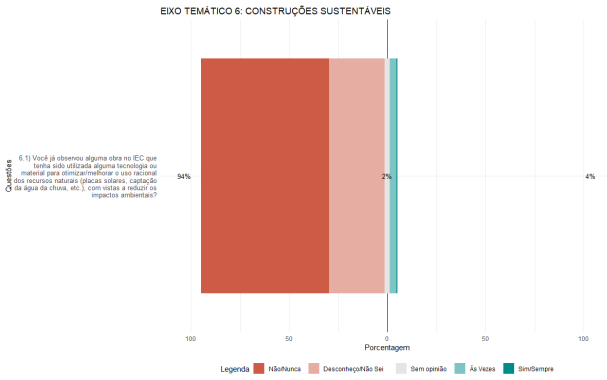
6) Axis 6 – Sustainable Constructions	S	AV/P	NSA/SO	NS/D	N
6.1) Have you ever observed any work at IEC where any technology or material has been used to optimize/improve the rational use of natural resources (solar panels, rainwater capture, etc.), with a view to reducing environmental impacts?	1 (0.5%)	7 (3.5%)	5 (2.5%)	57 (28.5%)	130 (65%)

Source: research data.
Caption: S – Yes; AV/P – Sometimes/Partially; NSA/SO – Not applicable/No opinion; NS/D – I don't know/I don't know; N – No.

The use of alternative and/or high-technology materials for sustainable construction purposes is already a reality in some sectors, such as agribusiness, sport, and the judiciary. In Brazil, there are already several initiatives focused on generating results with high efficiency and savings in the use of natural resources, i.e., solar energy and water (Oliveira & Faria, 2019;A3P. Environmental Agenda in Public Administration, 2022a). Despite the advances observed on a national scale, the present study identified that the majority (93.5%) reported that they were unaware or even recognized that there is no work or technological process to better utilize available natural resources, such as solar energy and rainwater harvesting. It is likely that this observation by users is linked to the fact that most sustainable construction initiatives are located in the south and southeast regions of the country (Eduardo et al., 2014).

When carrying out the last analysis of the research, globally and considering all the thematic axes covered, therefore all the closed questions in the questionnaire, it was observed that the highest level of agreement among respondents was for question 1.3) of Thematic Axis 1: " How often do you usually turn off equipment, such as air conditioning units and lamps, when leaving the work environment?", with 92% agreement (185/200). Regarding the level of disagreement, most of the community disagreed with the question in Thematic Axis 6: "Have you ever observed any work at IEC/CENP in which any technology or material was used to optimize/improve the rational use of natural resources (plates solar panels, rainwater capture, etc.), with a view to reducing environmental impacts?" For this question, 94% of participants (187/200) reported not identifying any work or technological process to better use the natural resources available within the institution. Such perceptions are demonstrated in Figure 7, which shows the concentrated bar graph with the answers for thematic axis 6.

Figure 7
6th Axis - Sustainable Constructions



Source: research data.

Open ended question

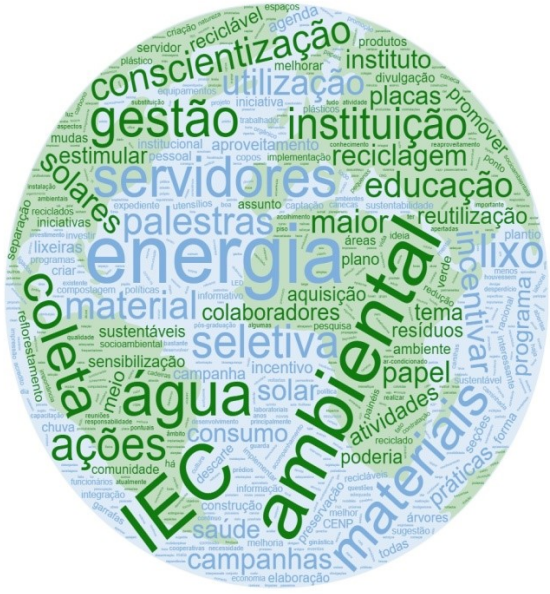
As set out in the “methodology” item, previously described, the form brought one last question, the answer to which was open and optional. A percentage of 39.5% of responses was obtained (79/200) and the technique used for analysis was the “word cloud”. The data was grouped and subsequently released on a platform for specific creation, at the electronic addresshttps://wordclouds.com/.

The result obtained from the participants' responses made it possible to visualize the real demands and desires of the research participants. In addition to visually representing the main words used by the institutional community, it represented the importance that the theme brought to the collected manifestations.

Figure 8 graphically demonstrates the “word cloud” constructed from the responses obtained in the questionnaire and can be accessed at the link:https://imgur.com/ffWG8Lj.

Figure 8

Word cloud obtained from participants' responses to the only open-ended question in the questionnaire.



Source: own elaboration with the help of the Word Cloud platform.

Analyzing the result, the word that had the highest frequency in the responses was “energy” with 25 appearances, in 2nd place the word “environmental” with 24 records and in 3rd place the word “IEC” with 23 repetitions. Next, the other words that stood out the most are listed: “water” (19), “collection” (17), “materials” (17), “servers” (17), “management” (16), “ actions” (14), “trash” (14), “selective” (14), “institution” (13), “awareness” (12), “material” (12), “lectures” (12), “education ” (11), “solar” (10), “solar” (9), “rain” (8), respectively.

After content analysis with a quantitative characteristic, where we sought to verify the frequency with which words were included in the message, translated into the “word cloud” in Figure 8, the qualitative phase of the content analysis itself was followed up, where sought to categorize and interpret, in the search for text units that were repeated, through words or phrases, for possible framing and establishment of the faithful expression that could represent them(Bardin, 2016). Table 8 was prepared, discriminating, and relating similar messages and their implicit and qualitative content to each thematic axis of A3P.

The significant repetitions of the words “energy” and “water” seemed to express the employees’ intense desire for solutions to be proposed by the institution for the rational use of these natural resources. This feeling of the participants is not only associated with the 1st thematic axis (which is the main axis linked to the theme), but also largely converges with the need for investments in infrastructure for the evaluated institution. This perception occurs, for example, when the words in question are associated with “solar panels” and “rainwater harvesting”, thus appearing in records associated with the 6th thematic axis: Sustainable Constructions. The intense frequency of the word “environmental” was also observed in the responses, in which participants expressed their desires by envisioning institutional actions aimed at both “management” and “education”, which further reinforced the relevance of the topic.

Table 8
Thematic Content Analysis

THEMATIC AXIS	MESSAGE
Axis 1 – Rational Use of Natural Resources and Public Goods	*"review infrastructure, manage waste and carry out constant campaigns, investment in solar panels to reduce energy consumption, implement awareness policies [...]"* *"use of solar panels, reuse of rainwater, continuous delivery of mugs to avoid the use of disposable cups"*
Axis 2 – Adequate Waste Management	*"implement sustainable management with the construction of a monitoring and treatment plan for laboratory effluents, combined with better waste management [...]"* *"stimulating actions to preserve the environment, selective collection, water saving, reuse and recycling initiatives"*
Axis 3 – Quality of Life in the Work Environment	*"[...] implement programs to care for workers' physical and mental health (lectures, training, dynamics, etc.)"* *"incentive lectures and dissemination of information, worker health to act more directly in this sense, as it is limited only to medical expertise"*
Axis 4 – Awareness and Training of Servers	*"promote environmental education campaigns and encourage the rational use of materials in the workplace, but also provide employees with knowledge of what is being done. It looks simple, but it doesn't run on IEC"* *"stimulate frequent meetings involving the topic of environmental education [...]"*
Axis 5 – Sustainable Public Procurement	*"improve water management and environmental sanitation, creation and management of clean energy, improvement of waste management, sustainable public procurement and contracting, green consumables, personnel displacement with clean energy [...]"* *"[...]priority in works and acquisition of less polluting products [...]"*
Axis 6 – Sustainable Constructions	*"solar energy installation; installation of works to use rainwater; constructions that make better use of light and ventilation where possible"* *"[...] adapt the buildings to clean architecture with the use of solar energy and greater integration with nature [...]"*

Source: search data.

The words "actions" and "awareness" appeared, similarly, in a relevant and significant way, with many records and citations, which revealed and referred, by a large part of its collaborators, to an appeal to the "IEC" and "CENP" institutions. in their role as protagonists in the planning and execution of initiatives focused on the topic, contributing to the dissemination of both knowledge and the education of employees and the encouragement of individual and collective "awareness" in the community.

Final considerations

Socio-environmental Responsibility (SER) is a continuous and progressive process of developing citizen skills to advance sustainability within the scope of public administration, which requires commitment and full engagement from the community. In Brazil, the Ministry of the Environment (MMA) is the body responsible for developing public policies that aim to promote sustainable production and consumption. The article in question had the general objective of estimating the perception of the Instituto Evandro Chagas community regarding sustainability and SER practices. To this end, research was carried out on Knowledge, Attitudes and Practices (KAP) regarding SER in an Institute of Science and Technology (ICT) of the Ministry of Health, based in the state of Pará, northern region of the country. This KAP questionnaire was structured in 3 parts, totaling 31 questions distributed across the six thematic axes of the MMA's Environmental Agenda in Public Administration (A3P).

The descriptive observational study was conducted with the main aim of identifying the basic knowledge, attitudes and behaviors of the institutional community in relation to sustainability practices; analyze situations of interest related to the study theme; provide information on needs and barriers that can impact the development of assertive interventions in the field of knowledge, attitudes, behaviors and sustainability practices at the institutional level.

Considering all six thematic axes evaluated globally, it was possible to verify, as an example, that 92% of the study respondents used to turn off

institutional equipment when leaving the work environment and approximately 90% have the habit of discarding waste generated in selective collection bins existing in the institution. However, regarding the observation of the existence of investments in works at IEC and CENP, with a focus on technology or material to optimize/improve the rational use of natural resources (solar panels, rainwater capture, etc.) and reduce impacts environmental issues, 94% of participants reported not identifying any current initiative to better use the natural resources available within the institution.

It is necessary to highlight that the majority of suggestions, comments and criticisms were faithfully connected to the six thematic axes of A3P and exposed, in a positive way and meaning, an institutional community that denotes knowledge of the topic in question and that demonstrated legitimate concern about the lack of more integrative and effective actions by IEC and CENP, recognizing the urgent need to propose environmental planning, management and governance initiatives, calling on the community, in turn, to participate fully and as a citizen, publicizing the respective to the results achieved.

Therefore, thematic content analysis made it possible to transcend individual citations through the organization, coding, categorization and inference of their contents, linking them to the respective contexts and connections of the messages themselves. Through the respective empirical and methodological treatment of the results obtained from the participants' responses, the content analysis made it possible to visualize the real demands and desires of the research collaborators. In addition to visually representing, through the "word cloud" tool, the state of the art on sustainability and SER practices of the IEC/CENP community.

Given this panorama of institutional perception about sustainability practices, it is suggested to improve interventions aimed at expanding the development of skills in the area of environmental sustainability, implementing the Socio-Environmental Management Plan (PGS) and strengthening internal communication strategies related to actions of sustainability. Finally, it is also recommended that new explanatory research be conducted to deepen the knowledge involved in the theoretical-practical relationship of this topic in the institutional context. This research could also contribute to providing possible explanations about the causes of the observed behaviors, identifying the reasons for the observed problems, among others, in order to analyze the evidence of weakening or strengthening sustainable practices at the institutional level.

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