



Sustainability in public organizations: study of a brazilian federal educational institute

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ABSTRACT

Study objective: was to verify the effectiveness of UFSM's (Federal University of Santa Maria) Sustainable Logistics Management Plan (SLMP) actions in the academic community, through the perception of its collaborators and students.

Methodology / approach: descriptive research with a quantitative approach.

Originality / relevance: this study presents its importance in the perspective of contributing with informations to base the adequation of the university's SLMP, as well as in expanding the practice of sustainable actions.

Main results: the results indicated the lack of knowledge expressed by a high percentage of the respondents about the SLMP implemented in the Institution as the main negative point, as well as about the webpage where are disclosed the actions already carried out and the actions foreseen about the environmental subject. However, the great majority affirms that it is important to practice sustainable actions and considers the subject to be relevant, which makes it possible to explore this positive tendency of acceptance and participation of the academic community to expand environmentally correct actions in the Institution.

Theoretical / methodological contributions: considering the importance of including sustainable practices in organizations, especially those of a public nature, the results of the study can be used by other public institutions, in order for the practices and projects developed aligned with sustainability.

Conclusion: the sustainability in public organizations has been practiced in a more embracing way with actions that include rationalizing the use of materials and services, and beyond that, can be perceived advances in the Brazilian legislation with sustainable regulations for proactive action, with the objective of optimizing the use of resources and providing benefits to society.

Keywords: Sustainability. Sustainable Logistics Management Plan (PLS), public organizations. Federal Educational Institute.

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Sustentabilidade em organizações públicas: estudo de uma instituição federal de ensino Brasileira

RESUMO

Objetivo do estudo: verificar a efetividade das ações do Plano de Gestão de Logística Sustentável (PLS) da Universidade Federal de Santa Maria na comunidade acadêmica, através da percepção de seus colaboradores e alunos.

Metodologia/abordagem: pesquisa descritiva, com abordagem quantitativa.

Originalidade/relevância: a importância deste estudo concentra-se na perspectiva de contribuir com informações para subsidiar a adequação do PLS da Universidade e, também, para a ampliação da prática de ações sustentáveis.

Principais resultados: os resultados apontaram como principal ponto negativo o desconhecimento de um percentual elevado de pesquisados sobre o PLS existente na Instituição e, também, da webpage em que são divulgadas as ações já realizadas e as ações previstas na temática ambiental. Porém, a grande maioria afirma ser importante praticar ações sustentáveis e considera relevante o tema, o que possibilita a exploração dessa tendência positiva de aceitação e participação da comunidade acadêmica para ampliar ações ambientalmente corretas nesta Instituição.

Contribuições teóricas/metodológicas: considerando a importância de incluir práticas sustentáveis nas organizações, destacadamente as de caráter público, os resultados do estudo podem ser utilizados por outras organizações públicas, no intuito de que as práticas e os projetos desenvolvidos estejam alinhados com a sustentabilidade.

Conclusão: a sustentabilidade nas organizações públicas tem sido praticada de forma mais abrangente com ações que englobam a racionalização do uso de materiais e serviços e, além disso, observa-se um avanço na legislação Brasileira com regramento referente a sustentabilidade para uma atuação proativa, com o objetivo de otimizar a utilização dos recursos e proporcionar benefícios para a sociedade.

Palavras chave: Sustentabilidade. Plano de Gestão de Logística Sustentável (PLS), organizações públicas. Instituição Federal de Ensino.

Sostenibilidad en organizaciones públicas: estudio de una institución federal de enseñanza Brasileña

RESUMEN

Objetivo del estudio: verificar la efectividad de las acciones del Plan de Gestión de Logística Sostenible (PLS) de la Universidad Federal de Santa María en la comunidad académica, a través de la percepción de sus colaboradores y alumnos.



Metodología / enfoque: investigación descriptiva, con abordaje cuantitativo.

Originalidad / relevancia: la importancia de este estudio se centra en la perspectiva de contribuir con informaciones para subsidiar la adecuación del PLS de la Universidad y también para la ampliación de la práctica de acciones sostenibles.

Principales resultados: los resultados apuntaron como principal punto negativo el desconocimiento de un porcentaje elevado de encuestados sobre el PLS existente en la Institución y también de la página web en que se divulgan las acciones ya realizadas y las acciones previstas en la temática ambiental. Sin embargo, la gran mayoría afirma que es importante practicar acciones sostenibles y considera relevante el tema, lo que posibilita la explotación de esta tendencia positiva de aceptación y participación de la comunidad académica para ampliar acciones ambientalmente correctas en esta Institución.

Contribuciones teóricas / metodológicas: considerando la importancia de incluir prácticas sostenibles en las organizaciones, destacadamente las de carácter público, los resultados del estudio pueden ser utilizados por otras instituciones públicas, con el fin de que las prácticas y los proyectos desarrollados estén alineados con la sostenibilidad.

Conclusión: la sostenibilidad en las organizaciones públicas ha sido practicada de forma más amplia con acciones que engloban la racionalización del uso de materiales y servicios, y además, se observa un avance en la legislación Brasileña con reglas relativa a la sostenibilidad para una actuación proactiva, con el objetivo de optimizar la utilización de los recursos y proporcionar beneficios para la sociedad.

Palabras-clave: Sostenibilidad. Plan de Gestión de Logística Sostenible (PLS), organizaciones públicas. Institución Federal de Enseñanza.

Introduction

The sustainability has been target of discussions and studies in world conferences, highlighting the United Nations Conference on Environment held in 1972, in which it was approached aspects referring to the pollution and it was pointed out as responsible for the degradation of the Planet Earth the origin of this problem added to the demographic questions, the shortage of natural sources and the human misery. From the 1990s, this theme has become more relevant with the increasing concern about preserving the environment for the future generations. One of the main moments in which the theme sustainability received worldwide spotlight was in 1992, with the performance of the United Nations Conference on Environment and Development (ECO 92), which had the participation of more than 150 countries and several NGOs, to discuss and present themes as climate changes and biological diversities.

We highlight that the sustainability encompasses the management and preservation of resources for future generations and, in this perspective, contemplates harmony between what is necessary for the economical activity nowadays, without



compromising or restricting future options (Barbieri, 2007; Altieri, 2008; Kates et al, 2005).

In the organizations, the threat to human survival facing the degradation of natural resources, of species extinction and warming of temperature, due mainly to the emission of pollutant gases, have made the environmental issue become prominent in the world debates, providing the engagement of companies, governments and community. For Tachizawa and Pozo (2007), there is urgency for that the organizations realize that the sustainability must be understood as allied of business and that, in the future, it will be mandatory for their profitability and durability of them, that is, the sustainability will be a competitive opportunity for survival in the trade.

This way, the question of responsibility of organizations before the sustainability is diagnosed by the analysis of how the companies interact with the environment in which they inhabit and practice their activities. These practices, whether they are responsible or not, will define the decision making by the organization and the management strategy, that is, whether they will respect or not the applicable environmental and sustainable laws, also, what the gains and losses related to trade are.

Regarding the sustainability in public organizations, in 1999, it was implanted the Environment Agenda in Public Management (A3P) in Brazil, aiming at guiding the public managers for the adoption of principles and criteria of sustainability in their activities; supporting the incorporation of criteria of social and environmental management in public activities; promoting the reduction in the use of natural resources and efficiency in the institutional expenses; and contributing to the review of production and consumption standards and in the adoption of new referential of sustainability in the scope of public administration (Brasil, 2009). More recently, in the year of 2012, it became mandatory for all the public bodies and entities of Federal Public Administration (direct, autarchic, foundational and dependent state companies), the implementation of Sustainable Logistics Management Plan (SLMP), which aims at reducing negative social and environmental impacts through a tool of planning that the bodies and entities must elaborate for the implantation of practices that incorporate the sustainability and rationalization of public expenses (Brasil, 2012).

At Universidade Federal de Santa Maria (Federal University of Santa Maria – UFSM), besides the activities related to sustainability, which are performed in a disperse way and by different sectors, there is a Commission that is responsible by the Sustainable Logistics Management Plan (SLMP), implemented according to the IN 10/2012



(Normative Ruling) and created with the purpose of defining deadlines, responsibilities and objectives for that the Institution can estipulate practices of sustainability that reflect in the expenses and processes. The plan foresees to add new practices of sustainability and rationalization of uses of material and services, which include electric energy, material of consumption, sewage, water, selective collection, staff displacement and quality of life in the work environment.

Considering the relevance of this theme, this study aimed at verifying in the academic community the effectiveness of the actions of the Sustainable Logistics Management Plan (SLMP) of Universidade Federal de Santa Maria, referring to the period from 2013 to 2015, besides investigating the opinion of the collaborators and students of this University about the sustainable actions. The research concentrated in the referred SLMP, because it was the first one to be implemented and the data and information resulting from this research were used for the adjustments and improvements intended by the University in the discussion for the adequacy and expansion of actions of sustainability by SLMP of the following period 2016/2018.

The importance of this study concentrates itself in the perspective of contributing with information to subsidize the adequacy of SLMP from the University, and, also, for the expansion of practices of sustainable importance. Thus, the results of the study can be avoided by other public institutions, in order to the developed practices and projects have continuity, with periodicity of adjustments, with the necessary improvements and with the observance that they are aligned with the sustainability. We highlight that, besides implanting the Sustainable Logistics Administration, whose contribution is mandatory since 2012, the adequacy and expansion of practical sustainable actions are considered very important in all the public organizations and, prominently, in the teaching institutions, whose main attention concentrates in the training of people that, when appropriating of sustainable initiatives, can disseminate these ones in routine activities and in the society.

1 Sustainability in the Brazilian public organization

The sustainability gained more evidence in the 1990s; however numerous conferences had already approached the subject previously, as the United Nations Conference about the Human Environment, held in 1972 in the city of Stockholm. In this



Conference, issues related to pollution were treated, as well as it was emphasized that the origin of the problem was not only in the demographic questions, but also in the natural resources, and affirmed that the misery also sums for this degradation (Brasil, 2008).

The report obtained in this Conference affirms that the sustainability should not be understood only as a vision of poverty and environmental difficulties, but also as a new opportunity of economic growth using existent resources, highlights Donaire (1999). In 1992, one of the most important moments for the world sustainability occurred, which was the CNUMAD – United Nations Conference about Environment and Development, known as ECO 92 or as the Earth Summit, in which 150 countries and innumerable NGOs participated, with the purpose of discussing and presenting themes as the climate changes and the biological diversities (Brasil, 2008).

Since then, the sustainability has been defended more intensely, and it is one of the most discussed issues in several levels of knowledge. For Capra (2003 p.33), “the Earth is our common home, and creating a sustainable world to our children and future generations is a task to all of us”. Nevertheless, the population as a whole, or the majority of it, cannot identify clearly what it really means sustainability or how it can be useful nowadays. Therefore, we can verify that for the changes and attitudes happen, it is necessary greater knowledge of the individuals and a greater awareness, as well as new attitudes.

The sustainability, for Barbieri (p.37, 2007), is translated in “constant concern with the management and preservation of the resources for the future generations, and an inter-management pact that expresses itself in the concern regarding the attendance of basic needs of all human beings”. In a more extended way, for Altieri (p. 82, 2008), “sustainability means that the economical activity must provision the present needs, without restricting the future options.”

Described succinctly, the sustainability advocated by Sachs (2002) must have eight dimensions: (a) social (reflecting social homogeneity at a reasonable level); (b) cultural (with balance between tradition and innovation and the conception of integrated and endogenous national projects); (c) ecological (preserving the potential of natural capital and limiting the use of non-renewable resources); (d) environmental (with the preservation of natural ecosystems); (e) territorial (predicting the balance between urban rural and environments and develop considering the preservation of ecologically fragile areas); (f) economical (economic development between different sectors of a balanced way, with food security and continuous modernization of production processes and



insertion into the global economy preserving the nationality); (g) national policy (implementing and developing national projects); and (h) international policy (guaranteeing the peace and the international cooperation and development with observation of equality of condition among the countries)

Specifically in the business organizations, the sustainability became an issue that originates great social and environmental discussions and evinces an intense and concrete image: sustainable organization is the one that generates gains for the shareholders, at the same way in which preserves the environment and increases the progress of people. With this emphasis, the “sustainability is the business management, in a way of promoting the growth and generating profits, recognizing and making it easy the performance of economic and non-economic aspirations of people from whom the company depends on, inside and outside the organization” (WEBER, 2007, p.30). According to Buainain (p.51, 2006),

the notion of sustainability embraces a clear social dimension and implies in attending also the needs of the poorest nowadays, another extensive environmental dimension, once that it seeks to guarantee that the satisfaction of the needs of today cannot compromise the environment and create difficulties for the future generations. In this sense, the idea of sustainable development carries a strong environmental content and a clear appeal to preservation and recovery of ecosystems and natural resources.

The organizations have perceived that the sustainability is relevant in the business environment to meet the expectations of the consumers and, also, when they noted that the productions could be affecting the environment, which possibly could put in risk the necessary natural resources. According to Kotler and Keller (2010), in the long-term is that the organizations perceive the relevance of sustainability, because it is through the sustainability that can survive the trade, meeting its demands.

From the 1980s, with Brazil inserted in the new order, the business concern was to maintain the focus on social problem management. The Ethos Institute, which is a non-profit organization, helps the organizations to maintain their business more sociably responsible, making that the community surrounding these companies become more sustainable. In this perspective, there are several sustainability standards that the organizations can adhere for adopting better processes and become more sustainable. In Table 1, some standards are quoted, related to sustainability, current in Brazilian legislation about the environment



Table 1 – Sustainability standards

MANAGEMENT STANDARD	SCOPE	NATURE
NBR ISO 9001	Management of quality: regulates the client and supplier relations.	Economical
NBR ISO 14001	Environmental management: guides the continuous improvement by means of mitigation of environmental impacts	Environmental
AS 8000	It regulates the relations between the organizations and their internal environment.	Social
OHSAS 18001	It guides the continuous improvement of health and security by means of minimization of risks.	Social
AA 1000	It regulates the relations between organizations and their external environment.	Social
GRI	It establishes patterns for communication of sustainable development.	Social

Source: Barbieri, 2009.

As it can be observed, the concept of sustainability has been treated in a strategical way by companies in the whole world, with the purpose of maintaining themselves consolidated in the trade. According to Assaf Neto (2010), in a general way, the business sustainability protects the objective of potentializing the profit, in a way that this does not interfere on the environment.

In this sense, the companies have to become visible and serve as examples for that other ones also adapt their management with regard to sustainability. It is essential, for the companies, to have sustainability involved in their processes, because, this way, it is easier for them to become active in the field that they act, and then, the companies are well seen by the society. According to Fortes (1999), the practices of business sustainability must be released publically in the perspective that they contribute for the company to have its image, its brand and its name exposed in a positive way for the consumers, clients, suppliers and other interested parts, in a way that the practices that the companies adopt can be profitable, not only for the environment, but also to maintain themselves more consolidated in the operation market.

In Brazil, the legal norms belonging to the environmental issues began in 1981, with the National Policies of the Environment and, throughout the time included specific regulations also for the public organizations. In Board 1 some of the main legal Brazilian tools that contemplate normative related to environment are presented.



Board 1 – Brazilian Legislation about environment from 1981 to 2016

Norms	Description
Law number 6.938/81	It institutes the National Policy of Environment and establishes legal definitions about environment, degradation of environmental quality, pollution, pollutant and environmental resources. This Law predicts the demand of previous Statute of Environmental Impact (EIA) and its respective report (RIMA).
Federal Constitution of 1988	In the article 225 there is the affirmation of the right of society to have an ecologically balanced environment and affirms the role of the collectiveness and Public power to defeat and preserve it.
Law number 9.605/98	Law of environmental crimes that discusses about effective protection of the environment.
Decree number 5.940/06	It establishes the demand of separation of recyclable waste of the bodies and entities of indirect and direct federal public administration, and its destination to the associations and cooperatives of recyclable material collectors.
Law 12.187/2009	It institutes the National Policy of Climate Changes.
Law number 12.349/2010	It alters the Law number 8.666/93 (the Bidding Law), and the promotion of national sustainable development becomes the objective of bidding.
Law 12.305/2010	It institutes the National Policy of Solid Residues (PNRS).
Normative Instruction number 1/2010	It was instituted by the Ministry of Planning, Budget and Management (MPOG), establishes criteria of environmental sustainability in acquisition of goods, contracting of services or work in Federal Public Administration;
ISO 2600	It establishes guidelines about social responsibility.
Law 12.462/2011	It established the Regime differentiated from public contracting.
Recommendation CONAMA N° 12/2011	It indicates to the bodies and entities of the National System of the Environment (Sisnama) the adoption of norms and standards of sustainability.
Decree n° 7.746/2012	It determines the adoption of initiatives, among them, the A3P, referring to the theme of sustainability by the federal bodies and entities as well as their affiliated ones.
Normative Instruction N° 10/2012 do MPOG	It establishes the rules for elaboration of Management Plans of Sustainable Logistics by the federal public administration as well as their affiliated.

Source: MMA (n.d.)



In a worldwide scope, there is the Agenda 21 which is “a tool of planning for the construction of sustainable societies, in different geographic bases, which conciliates methods of environmental protection, social justice and economic efficiency” (MMA, n.d.). Constructed from the global Agenda 21, the Brazilian Agenda 21 was given to the society in 2002 and was consolidated through the consultation to the population from the country. It also can be elaborated the named Local Agenda 21, which foresees a participative planning of a determined territory for the implementation in this geographic space of a Forum of Agenda 21, which is responsible for the construction of a Local Planning of Sustainable Development, with definition of the local priorities by means of projects and actions of short, medium and long term. This Forum must be composed by the government and by the civil society and have to determine the means of implementation and the responsibilities of the involved authors.

The practices of business sustainability verified in the private initiative were, concomitantly, disseminated also in the public institutions. According to Birney at al. (2010) the organizations of the public sector are fundamental for the dissemination of the sustainable development and must assume a leader role in the sense of proportionate to the citizens actions related to sustainability, both in relation to the education of the population, and also to the increment of sustainable practices in the public bodies that provide services. For this, the authors suggest the adoption of a systemic approach to the sustainable development for that the sustainable thought be disseminated in the whole organization. When analyzing the organizations in the public sector of the world that lead the sustainability, the authors identified nine key-actions for the public bodies, which are: (i) deciding precisely the concept of sustainability and the reasons of importance for the public sector; (ii) constructing nets inside the organization, both vertical and horizontal, for sharing the learning and propagate the necessary changes; (iii) performing what is promised to instill confidence in the process; (iv) sharing the experiences to develop a culture of sustainability with other organizations, including the construction of a community of practice for mutual learning of experiences; (v) creating a culture of learning, allowing that the people assume risks, experimenting and learning with different approaches; (vi) executing demonstrative projects to give practical visibility, engaging and creating confidence in the participants of the process; (vii) constructing the capacity of the people to involve the interested parts, through the agreement or management of the conflict; (viii) incorporating the actions of sustainability in accordance of the financial structure, to demonstrate the compatibility between the financial sustainability and the



environment and the social sustainability; and, (ix) using the sustainable development as a tool of innovation for projecting more efficient services, I collaboration with the involved people and other interested parts (BIRNEY ET AL., 2010).

The role of the organizations of the public sector in relation to the social responsibility can be verified in two dimensions: external and internal. In relation to the external dimension four institutional models of public sector organization responsibility are identified: (a) observed, in which there is not a leader responsible for the coordination of activities related to the corporative social responsibility and the onus of promoting these concepts relies on the socioeconomic partners; (b) patron, in which there is not a leader either, but the burden of promoting the concept of corporative social responsibility depends on the public administration; (c) promoter, which is characterized by governmental coordination of activities promoting the concept of corporative social responsibility (CSR) by the institution, acting as leader, besides of being responsible by guidelines of publication, standards and other forms of support for the development of social responsibility; and, (d) partner, whose main characteristic refers to the presence of governmental leaders and institutions that coordinate the activities of other ministries, as well as bodies or consultative centers for the promotion of social responsibility. Simultaneously, the actions of the government create the board for ascendant initiatives of socioeconomic partners involved, leading to greater coherence of activities and synergy effect. The internal dimension applies to the organization of the public sector, as entities socially responsible, because of the efforts to construct confidence and mutual transparency, both in the relations with the external environment, and the internal environment of organization. These activities are projected to create and establish a solid conviction that the funds allocated for the administration must be used in an efficient way, providing maximum benefits for the society (HAWRYSZ e FOLTYS, 2015).

In Brazil, considering the external and internal dimensions of social responsibility in the public sector, an tool of great value and repercussion and related to sustainability in public organizations, it is found in the Environmental Agenda in Public Administration (A3P), whose program has as objectives the orientation to public managers for the adoption of sustainability principles and criteria in their activities; support to the incorporation of socio-environmental management criteria in public activities; promotion of reduction in the use of natural resources and efficiency of institutional expenses; and contribution to the revision of production and consumption standards and the adoption of new sustainability guidelines in the scope of public administration (Brasil, 2009).

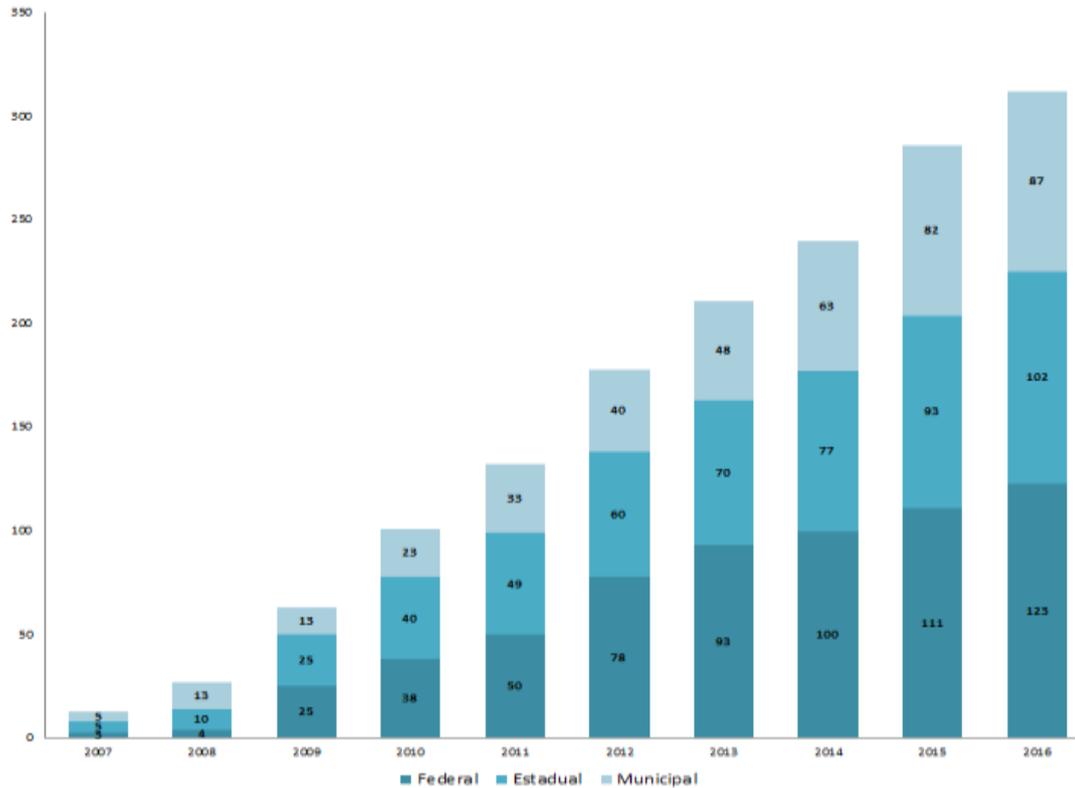


The commitment to A3P can be done by any federal, district, state and municipal public institution; it is voluntary and begins with the signing of an Accession Term, valid for a period of five years that cannot be extended, with the possibility to be celebrated again at the end of period. In this adhesion, the Ministry of Environment provides technical support for the implementation and operation of the Agenda, free information material, access to the A3P Network to exchange experiences among members and access to Ressoa (A3P monitoring tools) and server training events without financial compensation. There is also an award called Best Practices Award from A3P that recognizes the best projects and aims to give visibility to the initiatives and encourage other public institutions to join the A3P. The award extends to four categories: Waste Management; Innovation in Public Management; Sustainable Use/Management of the Natural Resources; and Highlights of the A3P Network.

Based on the 5 R's policy: Rethinking, Reducing, Reusing, Recycling and Declining the consumption of products that generate significant socio-environmental impacts, A3P is structured in six priority thematic axes: rational use of natural resources and public goods; adequate management of waste generated; quality of life in the work environment; sensitization and training of the servers; sustainable public procurement; and sustainable constructions. In a positive way, there has been observed a constant growth in the adherence of Brazilian public institutions to this Agenda, with an equitable distribution between the federal, state and municipal levels, according to it is verified in Figure 1.



Figure 1 – Terms of Adhesion to A3P from 2007 to 2016



Source: MMA (n.d.)

More recently, in the year of 2012, it became mandatory for all the public bodies and entities of Federal Public Administration that is direct, autarchic, foundational and state-owned companies, the implementation of the Sustainable Logistics Management Plan – SLMP, which is:

a planning tool that will permit to the bodies and entities to establish practices of sustainability and rationalization of expenses through a set of projects and guidelines for the insertion of sustainable attributes in the management of the logistics of the Institution, seeking to reduce negative socio-environmental impacts (Brasil, p. 01, 2012).

The establishment of the rules for elaboration of the SLMP is given by the Normative Instruction 10/12, which describes that goals, actions and deadlines of execution must be determined, as well as mechanisms of monitoring and evaluation of the implemented actions in the referred Plan. As content, it must contain an update of the inventory of goods and materials and identification of similar things of minor environmental impact for replacement; practices of sustainability and rationalization of the use of materials and services; responsibilities, methodology of implementation and evaluation of the Plan; actions of release, awareness and training (Brasil, 2012).



The Normative Instruction 10/12 foresees that the practices of sustainability and rationalization of the use of materials and services must contemplate, at least, the themes: (a) material of consumption having, at least, paper for printing; recyclable cups and printer cartridges; (b) electric power; (c) water and sewer; (d) selective collection; (e) life quality in workplace; (f) sustainable procurement and contracting, comprising, at least, works, equipment, security services, cleaning, telephony, data processing, administrative support and building maintenance services, and (g) displacement of people, considering all the means of transportation, focusing in the reduction of expenses and emission of pollutant substances (Brasil, 2012).

The initiatives of the Brazilian public power to promote in its public organizations sustainable practical actions correspond to a movement found in the public sector of many countries, and the approaches of implementation in public institutions can be using the own government as a model, as an example Netherlands, or delegating to the public organizations the responsibility to elaborate plans of actions with the purpose of more sustainable practices in its routine activities, such as Germany (Brasil, 2012; HAWRYSZ and FOLTYS, 2015).

In the USA, there has been an advance in the implementation of sustainable practices among the organizations, however, “the literature suggests that the private sector is more advanced than the public sector in the approach of these challenges”, and the study conducted by the author proved this premise, because “there is evidence that the public sector is late (...), particularly in relation to the measurement, generation of reports and benchmarking of the results of sustainability” (LONDON, 2012, p. 147).

In the United Kingdom, according to Birney et al. (2010) most of the organizations of the public sector agree with the premise that the organizations of the public sector are fundamental to delivering sustainable development and, over the past two decades, has developed series of policies and strategies for demonstrating this commitment, and some development a truly integrated approach, with policy, strategy and resources, in a process in which all found themselves aligned to achieve sustainable.

Confirming the importance of public sector participation in favor of sustainability, according to study conducted by Hawrysz, Foltys (2015), performed with 118 European public organizations, it was noted that 57% of these ones have the environmental policy clearly defined based on the Principles of Sustainable Development; 58% declared that they developed a program to analyze and reduce the negative impact of their activities in the environment; and 56% affirm that they treat as a priority in their actions the projects



or programs focused on a more efficient use of the natural resources. As a final result, the authors affirm that most of the half of the public organizations researched has environmental policies defined about the intentions of the organization in relation to the environment, and these policies are fundamental for the whole movement of implementation of the sustainability and, inclusive, they are used as a starting point for performing environmental actions and establishing principles that will guide the organization in issues related to the environment.

2 Methodological Procedures

In order to reach the objectives proposed in this study, a bibliographical and documentary research was initially carried out to understand the general aspects related to the sustainability theme and, more specifically, its insertion in Brazilian public organizations. In the sequence, the main characteristics and elements that are part of the Sustainable Logistics Management Plan (SLMP) 2013/2015 of the institution surveyed were identified. The research focused on this SLMP because it is the first and only implemented at UFSM and, also, due to the intention to contribute in the discussion for the adequacy and the extension of sustainability actions for the writing of SLMP 2016/2018 and, therefore, data and information resulting from the research were used in the improvements intended by the University.

Subsequently, a descriptive research was carried out, which according to Bervian (2007) is used to observe, record, analyze and correlate facts or phenomena without manipulating them, trying to discover, as accurately as possible, the frequency with which a phenomenon occurs, and its connection with others. This research had a quantitative approach (Malhotra, 2006), and the target audience was the students, teachers and technical-administrative servers of UFSM, which totaled 34,135 people. The sample was chosen by probabilistic technique for convenience and totaled 483 respondents (sample error of 5% and 95% confidence level). The data collection was done by sending a structured questionnaire through the Google Docs tool, in which an electronic form was elaborated, made available to the entire academic community. The questionnaire was sent in April 2016 and was deactivated after two months, when the minimum number needed to set up the desired sample was reached. For the analysis of the quantitative data the SPSS Software was used.



3 Analysis of the results

The results of this study are presented in two blocks, and the first one describes the main elements of the SLMP 2013/2015 of the Institution and, subsequently, the opinion of the employees in relation to the Plan referred and about general aspects related to sustainability.

3.1 Sustainability at UFSM – SLMP 2013/2015

At the Federal University of Santa Maria (UFSM), in addition to activities related to sustainability that are carried out in a dispersed manner by different sectors, there is a Sustainable Logistics Management Plan Commission (SLMPC) that is responsible for the elaboration and adequacy of Sustainable Logistics Management Plan (SLMP). The Sustainable Logistics Management Plan, SLMP 2013/2015 was prepared in accordance with NI 10/2012, and its purpose is to define deadlines, responsibilities and objectives so that it can stipulate sustainability practices and reflect on expenses and processes (UFSM, 2013).

Because it is a plan that encompasses the whole Institution, the objectives, guidelines and principles demonstrate that the SLMP intends not only to integrate the various actions carried out by the Institution into a unified management proposal, but also to support the company's strategic planning of the University and benefit it with a structure suitable for managing and coordinating the flow of materials, information and services. Proposing strategies to reduce the waste of resources in its activities and to support the University with regard to Sustainable Management are also objectives included in the Plan (UFSM, 2013).

The plan foresees to add new sustainability practices and was elaborated from the following stages: preparation, diagnosis, planning, preparation of the reference document, approval at the University Council and implementation and follow-up (UFSM, 2013).

The SLMP 2013/2015 contains 16 objectives and 39 goals, and each one of the goals has indicators and a set of actions to be carried out. The topics included in the Plan are: rationalization of uses of materials and services, reaching aspects related to electricity, consumption material, sewage, water, selective collection, personnel displacement and quality of life in the workplace, the services of surveillance, cleaning



and maintenance of buildings and landscaping, works and services of engineering and equipment. These topics, with their respective objectives, are described in Table 1.

Table 1 – Summary SLMP 2013-2014 - UFSM

Topics	Objectives
Consumption Material	Increase and Procurement and the consumption of sustainable products
Electric Energy	Rationalize the consumption of electric energy
Water and Sewage	Rationalize the waste with water and sewage
Selective Collection	Allocate correctly the residues
Quality of Life in the Workplace	Sensitize and make the university community aware in relation to the socio-environmental issues
	Increase the security in the workplace
Procurement and Sustainable Contractions	
General Goals	Implement sustainable public procurement
	Foster the shared procurement
Mobile Telephony	Rationalize the use of mobile telephony
Fixed telephony	Rationalize the waste with services of fixed telephony
Security services	Review the contracts and the internal norms of security
Cleaning services	Review the contract of service provision of cleaning
Services of Maintenance of Buildings and Landscaping	Review the services of maintenance of buildings, reforms and landscaping
Displacement of People	Reduce the waste and emission of pollutant substances
Works and Services of Engineering	Extend sustainable criteria in works and services of engineering
Equipment	Extend the acquisition of efficient ecological equipment

Source: UFSM (2013).

Parallel to the implementation of SLMP, the Institution carries out a campaign called UMA - Sustainable University that is hosted in a webpage of the Institution's website and informs about its actions in the preservation of the environment. This campaign intends to warn about the importance of valuing water and energy, avoiding excessive consumption and also be a space to disseminate everyday actions related to the environment of the community directly linked to the Institution, such as research projects, work groups and actions of extension, as well as individual attitudes of users of the public spaces of the University. It also emphasizes that the Institution is committed to developing actions that diminish the environmental impact of the activities on the campuses and that environmental responsibility is a collective and individual task, since it depends on each server, student and visitor, considering the way in which it performs daily, its activities (UMA, 2016).

The activities of this page include the promotion of institutional initiatives, with specific actions of sustainability in the Institution's campuses, coordinated by the Sustainable Logistics Management Plan Commission (SLMPC) and the Environmental Planning Commission (COMPLANA) (UMA, 2016).



3.2 *The perception of the serves of UFSM about the practices of sustainability and about the SLMP 2013/2015*

The results of the quantitative research on the perception of the UFSM servers on sustainability practices and on the SLMP 2013/2015 were analyzed in relation to the questions: knowledge on sustainability, description of sustainable practices in the domestic and workplace environment / study and suggestion of sustainable actions that the Institution can / should adopt.

a) Knowledge about the sustainability theme and the SLMP/UFSM

The questionnaire about the knowledge of the university community about sustainability showed that, although the great majority considers it important to practice sustainability (96.7%), only 75% answered that they are fully aware of the meaning of the term sustainability. Regarding the Sustainable Logistics Plan implemented in the Institution in 2013, it was observed that, after 3 years of implementation, it is still necessary to expand its dissemination so that an appropriate dissemination of its precepts occurs. The results of the research demonstrated a low adhesion of the servers, which can hinder its application in full form. It was observed that 85% of the respondents had no knowledge about SLMP and that 83% had never heard of SLMP.

The UMA webpage, which is a joint action with SLMP, also proved to be harmless, since 84% of the respondents stated that they have never accessed and even know about this page in which information and information materials on sustainability are disclosed.

b) Sustainable practices in the daily routine and in the Institution

In the questions that deal with the daily practices of action considered sustainable, according to the result of the research, it was verified that economizing and electric energy are actions, often or always, performed by more than 80% of the researched ones. In contrast, the actions of separation of recyclable waste and use of recyclable paper during the day-to-day showed low adhesion with percentages of 31% and 57%. There was also a low number of people who never buy green products during the day (15%), who do not seek to reduce consumption of superfluous goods (8%), as



well as the lack of adherence to walking or cycling , since it was pointed out that only 10% of people use these types of means of locomotion (Table 02).

Table 2 – Routine practices in actions related to sustainability

Actions	Frequency of practices				Total
	Never	Eventually	Frequently	Always	
Save water	0.2	9.5	50.5	39.8	100
Save electric power	1.4	15.7	44.7	38.1	100
Use recyclable paper	20.1	48.9	21.3	9.7	100
Separate the recycable garbage	17.6	25.7	24	32.7	100
Buy products considered ecologic	15.5	49.9	28.8	5.8	100
Reduce the consumption of superfluous goods	7.9	41	34	17.2	100

Source: Research data.

Practical actions related to sustainability in the workplace have proven to be adequate for the majority of those surveyed in energy-saving items, with the assertion that the lights, fans and / or air conditioner and the computer monitor are turned off when not used. Concern and care was also taken with waste of water and disposable cups and optimized use of paper for printing and document copies. The items with the lowest adherence were the use of recycled paper and the use of washable and reusable towels to avoid the use of paper towel in the Institution's restrooms (Table 3).

Table 3 – Practices related to energy, water, garbage and recycling in the workplace (%)

Actions	Frequency of practices				Total
	Never	Eventually	Frequently	Always	
Turn off the lights, fans, and/or air conditioning when leaving the room	1.2	6.2	20.3	72.3	100
Turn off the monitor of the computer when the person makes a break to rest	11	23	24.6	41.4	100
Close the tap of the sink of the bathroom when find it opened	0.2	2.5	2.5	94.8	100
Use recyclable paper in prints	36.6	41.6	16.8	5	100
Print or make a copy of most of the documents dual sided	6.4	23.8	34	35.8	100
Use mug, cup, teacup or reusable bottles in the place of disposable cups	7.5	16.1	37.5	38.9	100
Bring towel from home to avoid using paper towel in the restrooms of the Institution	65.6	18.8	5	10.6	100

Source: Research Data.

The motivation/non-motivation to separate garbage in installed collectors showed high percentages of non-use of this important question for sustainable practices in the Institution. The main reasons cited were: 34.6% of the total surveyed believe that the big



problem is the long distance to the collectors installed on campus; 31.7% show that they have doubts about the real effectiveness of this action; and 28.4% stated that there is a lack of hygiene in the collectors.

c) Sustainable actions that the Institution should adopt

With regard to the actions that the Institution can / should implement, in order to disseminate environmentally correct practices on campuses, 48% of the total considers the organization of periodic events on environmental issues very important, and 44% believe that it would also be very important to implement an environmental education center to help raise awareness of the academic community. Regarding the implementation of EAD courses directly related to sustainability, 41% said to be very important. Actions aimed at increasing technical visits to companies that have an environmental focus and the existence of research groups focused on the environmental theme were the items with the highest percentage of the respondents' understanding as very important. Finally, sending periodically, via e-mail, texts and suggestions on environmentally correct practices was the question with the lowest percentage of importance registered among the respondents. Regarding leaf consumption and the use of prints, most respondents consider it very important not only to optimize these practices, reducing consumption and waste, but also to use recycled paper, reusing disposable papers to make notebooks and sketches. The use of islands of impressions for the reduction of cartridges and tonners was also considered an important and necessary practice (Table 4).

Table 4 – Activities to disseminate the awareness and the practice of sustainable actions (%)

Actions	Grau de importância				Total
	Without importance	Less important	Important	Very important	
Organization of periodical events about environmental themes – Campaign of sustainability	0.2	10.1	41.6	48	100
Implementation of an environmental educational center	2.1	13.7	40.2	44.1	100
Campaigns of site promotion: ufsm.br/uma	1.9	12.8	39.5	45.8	100
Technical visits of the students to companies that practice sustainability	0.8	5.4	28.8	65	100
Existence of research groups oriented to environmental theme	0.8	6.6	30.8	61.7	100



Periodically referral, by e-mail, texts and suggestions about correct environmental practices	4.8	20.9	38.5	35.8	100
Use of recyclable paper	1	6.2	25.3	67.5	100
Reused paper to make notepads/scratch paper	0	2.1	19.5	78.5	100
Use of print islands to decrease the consumption of cartridge and tonners	1.7	7.5	36.4	54.5	100
Creation of EAD courses of sustainability in Public Administration	3.7	15.3	39.8	41.2	100

Fonte: Dados da pesquisa.

With regard to the reduction of water and electricity consumption, it is very important for most respondents to have sensor faucets that reduce water waste, along with the reuse of rainwater for cleaning and irrigating gardens. The use of low consumption lamps, the implantation of presence sensor control to automatically switch on the ambient light and the presence of water and electricity meters in the main buildings are considered necessary and very important actions (Table 5).

Table 5 – Actions to reduce the consumption of water and electric power (%)

Actions	Degree of importance				Total
	Without importance	Less important	Important	Very importante	
Sinks with sensor/timer that reduces the waste of water.	0.6	5	16.8	77.6	100
Reuse the rain water to clean and irrigate the gardens.	0	1.4	8.5	90.1	100
Implementation of water meters and electric energy meters in the main buildings.	0.4	6.8	23.8	68.9	100
Light bulbs of low consumption of energy (led).	0.2	1	10.1	88.6	100
Control of sensor of presence, to turn on automatically the light of the environment.	1.7	5	17	76.4	100

Source: Research data.

Among the items that can be implemented by the Institution in the opinion of a high percentage of respondents are actions related to the infrastructure, such as the implantation of solar panels, the adoption of forms of obtaining energy (biomass, solar and wind), the use of green roof and rainwater harvesting systems, creation of green areas and paving for rainwater infiltration. The use of adequate infrastructure to implement effluent and sewage treatment systems, renewable energy and ventilation, natural lighting and the provision of collection points for the recycling of electronic scrap were also considered as very important.



Briefly, considering the results of the research, it can be stated that the SLMP of the Institution is adequate to Brazilian legislation, according to the provisions of Normative Ruling 10/2012 and that the servers of the Institution, although they issue opinions favorable to the subject of sustainability and many suggestions of improvement in issues and aspects related to adequate environmental practices, they still lack information about the SLMP implanted and also, in routine activities, collaborate in a limited way with practical actions related to sustainability in the Institution.

The results of the study demonstrate that UFSM, through the implementation and continuous improvements of the Sustainable Logistics Management Plan, collaborates in the internal dimension with the precepts of social responsibility, in addition to using a systemic approach, with the inclusion of the entire academic community, contributing to sustainable thinking for that it is disseminated throughout the organization (Hawrysz and Foltys, 2015). Complementarily, it meets the premise of Birney et al. (2010), which considers the involvement and leadership of public organizations in the process of sustainable development to be fundamental and, in the specific case, to be an educational institution, more importantly, in the role of providing education to the population. It is also added that the researched Institution, following the example published by Hawrysz and Foltys (2015) carried out in European public organizations, is following the worldwide trend of implementing an environmentally defined policy on the intentions of the organization in relation to the environment, particularly in public organizations.

Final Considerations

When verifying the effectiveness of actions of SLMP/UFSM among the integrants of the academic community of the Institutions and the opinion of them about the sustainable actions, it was noted, as positive points, the knowledge, by part of the majority of the universe researched, in relation the meaning of the term sustainability. The results indicated that almost the totality of the interviewers affirm to be important to practice the sustainability and considers this theme one of the most relevant of the present.

Reinforcing sustainable practices on a day-to-day basis, most respondents stated that they save water and electricity in their daily lives. With this, it is noticed that, besides considering sustainability important, there is also reflection in routine actions.



Complementarily, the interviewees demonstrated that, also in the work environment or study, they practice actions that imply reduction of water and energy more routinely.

In order to disseminate sustainable practices, the main actions that the Institution should adopt, cited by the interviewees, were to organize periodic events on environmental issues, to institute campaigns on sustainability and campaigns to publicize the sustainability of the website of the Institution; carry out technical visits and encourage the organization of research groups on the subject.

Regarding the infrastructure, the majority of respondents consider the items to be very important: use of solar panels, green roofs, ventilation and natural lighting, alternative ways of obtaining energy, sewage treatment system, furniture with certified wood, implementation of ramps and elevators for the disabled and provision of collection point for recycling of electronic scrap. It should be noted that the items that were the most significant percentage refer to the improvement of access for the physically handicapped, to the collection of electronic scrap and to the implementation of treatment of sewage effluents.

However, negative points were observed, such as the low utilization of the selective separation of garbage, motivated by some factors that can be controlled and discharacterized by the Institution, increasing the full implantation of this practice. Another fragile aspect refers to the lack of knowledge about the SLMP of the Institution. This is considered a worrying finding, because it is believed that in public educational institutions there is a more propitious environment to disseminate positive practices, ideas and actions, with the aim of preserving the environment. In order to minimize or resolve this fragility, it is suggested that an effective plan for comprehensive communication be developed and that the academic community should be aware of, participate in and practice the actions foreseen in the said SLMP. Just as it would be interesting to publicize SLMP more, it is also necessary to spread more widely the campaign UMA - Sustainable University and the link of the site where it is hosted, where there are actions already taken and actions foreseen in the environmental theme.

One point of relevance to the study was the significant number of spontaneous suggestions, which reveals a great interest of the academic community for the subject of sustainability. In this sense, the Institution can exploit this positive tendency of acceptance and participation of the academic community to expand environmentally correct actions in its dependencies, disseminating in a comprehensive way, with its students and employees, the practice and culture of sustainability. Interdisciplinary



research groups (among several courses) can also be induced, enabling projects to be tested with sustainable alternatives (green roof, sustainable buildings, wooded areas, etc.) on campus.

More broadly, we highlight the progress made in Brazilian legislation related to the country's environmental security and, more specifically, the rule regarding the conduct of environmental care in public organizations, as in other countries (LONDON, 2012; HAWRYSZ and FOLTYS, 2015). In this perspective, the implementation of the Sustainable Logistics Management Plan (SLMP) in public agencies and entities of the Federal Public Administration (direct, autarchic, foundational and state-owned Brazilian state-owned companies) can be considered as an advance for the introduction of social responsibility in internal dimension of Brazilian public sector organizations (HAWRYSZ and FOLTYS, 2015) and is reflected in the expansion of the inclusion of sustainable practices in public administration, both in terms of consumption and in the processes of the activities carried out. SLMP becomes relevant, especially in public educational institutions, due to the role they play in the dissemination of awareness and engagement of citizens who serve as servants (teachers and technical-administrative) and also in students, for whom positive examples can be drivers of sustainable practices in the environments in which they will share in the future as professionals, which corroborates with Birtey et al. (2010) and Hawrysz & Foltys (2015), which state that public organizations should act proactively, assuming sustainability practices, and that public sector activities should optimize resource utilization to provide maximum benefits to society.

In addition to this, it should be emphasized that ensuring that the practices and projects developed continue, with periodicity of adjustments and necessary improvements, as well as to value initiatives that are aligned with sustainability, can contribute in a significant way in the dissemination of actions sustainable practices in the academic community, achieving the results sought by the Institution, with positive impacts also on the daily lives of people who interact with the Institution and in society.

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