

# The Importance of Environmental Awareness for Minimizing impacts in a Food Company

Érika Dávila Cardoso<sup>1</sup>, Waldinei Rosa Monteiro<sup>2</sup>, Tamilyn Alencar Fontes de Freitas<sup>3</sup>, Vanessa Martins Fernandes Pinheiro<sup>4</sup>

<sup>1,3,4</sup>Master's Student in Science and Environment from the Federal University of Pará - UFPA.

<sup>2</sup>PhD in Ceramic Materials at the University of Limoges (Unilim) - France and Professor of the Postgraduate Course in Science and Environment - Professional Master's Degree, at the Federal University of Pará - UFPA.

**Abstract**— Environmental management is a continuous and adaptive process, through which an organization determines its objectives, goals and strategies related to the protection of the environment and the safety of internal employees, customers and the community, based on the quality management of processes, products, services and interaction with the external environment. In this way, this work aims to raise awareness based on the relationship of environmental responsibility to minimize the organizational impacts on the lives of employees of a company in the food industry. The main interest is to examine in a more systematic way the perception of employees of a chain of sushi about their social responsibility in the activities they perform, in order to better understand their dynamics, their obstacles, possible solutions, as well as the reception of these employees for actions of this nature. First, there was a bibliographic survey of studies that discuss the issue of environmental education as well as the management of solid waste. Then, the chosen research sites were visited, in the Municipality of Manaus, capital of the State of Amazonas, where the way the employees perform their tasks and dispose of their waste was observed. At the same time, a questionnaire was applied to these professionals, in order to understand their knowledge about the theme. Lectures were also held in order to make them aware of the importance of their involvement in the processes and dynamics to be proposed. The study revealed that although there is a certain awareness about the negative impacts caused by the interference of solid and liquid waste, there is a gap between being aware of the problem and being aware that it is possible, with sincere dedication and few resources, to encourage some changes conducts, aiming at higher environmental quality, and even greater profitability for the company. The goal of being a green company must be incorporated into the future vision of the enterprise and that all employees are engaged in these results.

**Keywords**— Sustainability, Environmental education, Waste.

## I. INTRODUCTION

Recently, it is beginning to realize that the socio-ecological damage caused by the adopted model of capitalist development is significant. Therefore, the environmental issue has been gaining more and more space on the public agenda and is increasingly visible in the various sectors of civil society.

The indiscriminate use of natural resources, from obtaining raw materials, production processes and services to the final disposal of the product after use, and the consequent negative impacts that this causes on the environment, has caused society to worry more and more about the decrease in the quality and quantity of resources

available in the chain in which you live (REIS; QUEIROZ, 2002).

Growing environmental concerns around the world compel companies to engage in environmental education, solid waste management, such as reusing products and materials for recycling.

The environment has been attacked daily due to the various types of comfort and amenities required by human life, several sectors are involved, from clothing and technology to food, in this sense, on a punctually smaller scale, but worrying when considered as a whole macroscopic, restaurants are part of this problem.

Sustainability in a restaurant involves several issues in addition to simply providing a healthy diet, it is linked to recommendations for agriculture, suppliers, transport and product packaging until arrival at the restaurant, includes the standardization for handling procedures, portioning and management of the waste produced, involves the architectural planning of the site, energy saving and optimization in the use of natural resources (NUNES, 2012).

Several measures have been taken to remedy possible problems (waste of food, materials, indiscriminate use of chemicals, among others) and, in the case of restaurants, these are lately promoting and implementing sustainability initiatives. Entrepreneurs in the sector are beginning to realize that they must sustain the environment as a lifestyle and not as a problem, which increases the need to incorporate sustainability initiatives into their companies. Environmental sustainability is an important practice for this segment, mainly because they generate large amounts of waste, and still use a large amount of energy, thus using a large amount of natural resources (BRASIL, 2010; LEITE, 2005).

There are several ways for the food industry to contribute to environmental degradation processes, in the case of restaurants, they contribute through the operation, construction and design of their activities. The waste produced by restaurants includes: food scraps, paper and cardboard, plastics, metals and glass. In Brazil, food waste is the largest contributor to landfills and incinerators, with the restaurant industry representing 15% of this food waste (PORTO et al., 2011).

In terms of energy, a large amount of energy consumption in restaurants is due to long hours of operation, also considering a large amount of equipment using energy, most of which is often the result of waste. Reducing waste and energy use in restaurants is a fundamental issue that needs to be addressed by the sector, as these are contributing to the problems of depleting Earth's resources (SEBRAE, 2014).

Informal Environmental Education works mainly through popular campaigns that aim to generate acts and attitudes that lead to knowledge and understanding of environmental problems and the consequent awareness for the preservation of natural resources as well as the prevention of risks of environmental accidents and correction of degenerative processes of quality of life on earth (DIAS, 2010). The author adds that these campaigns, most of the time, require the use of environmental marketing techniques, so that they use mass media a lot.

Dias (2010) also points out that it is noticed that many environmental campaigns are fleeting and only when a serious accident (pollution of rivers, soil, among others) is reported does it recognize that such a preventive attitude should have been adopted. Furthermore, the mass media are expensive instruments. Dias (2010) also mentions that "for the execution of an informal Environmental Education program that achieves the objectives of dealing with the focused theme in an efficient and practical way, it is necessary to elaborate the environmental profile of the community, group or institution for which the Environmental Education program will be planned, evaluated and executed" and for this reason it recommends an environmental perception survey.

Restaurants have found many ways to introduce initiatives that preserve the environment, but a challenge in the industry is to change the behavior and mentality of employees. Employees must be willing to follow the policies of the initiative and truly believe in the ideal of environmentalism to really make a change (SIROTA, MISCHKIND, & MELTZER, 2005). The success of the initiative depends on the employee's response and, without the support of the employees, the sustainability initiatives of the restaurants will not be successful (GOVINDARAJULU & DAILY, 2004). The Theory of Planned Behavior (AJZEN; 1985) states that broad work attitudes affect specific work attitudes, which lead to the intention of behavior. Attitudes at work may predict important behaviors, such as employee performance and employee misappropriation, but they are not about their behavior. The theory embraces the concept that human beings are rational and, in order to decide for their realization, they use the available information, evaluating the implications of their behaviors. In addition, as the name implies, it is assumed that human beings are sensible in their actions (JUDGE & KAMMEYER-MUELLER, 2012).

Work attitudes are feelings about points of view on a given subject, and the connection to work and the attitude of job satisfaction is the expression of gratification and positive feelings towards employment. Attitudes towards behavior can predict intention, which includes action including action to properly follow policies and procedures (JUDGE & KAMMEYER-MUELLER, 2012). Individual differences make human beings practically unique and that some behaviors that could be similar are different between individuals.

Using this logic, it was assumed in this study that employees who have a positive attitude towards sustainability will support the policies and programs of a

possible proposed initiative (EDWARDS & CABLE, 2009).

It is assumed in this study that employees who value environmental sustainability and work in companies that also value environmental sustainability will have greater job satisfaction. Greater employee involvement with the organization will lead to supportive behaviors for the organization. This study assumes that employees who have an environmental conscience will behave positively in restaurants that share the same beliefs about the environment and defend environmental sustainability initiatives.

Environmental sustainability is defined as maintaining or at least not depleting natural resources and their capital, which includes environmental assets such as soil, atmosphere, forests, water and wetlands that provide a flow of useful goods and services that can be renewable or non-renewable, and marketed or not marketed. The restaurant industry can focus on environmental sustainability through responsible purchasing, efficient construction and materials, waste management, water conservation and energy management (LEWIS, CACCIOLA, & DENNILL, 2011).

Thus, this work aims to raise awareness based on the relationship of environmental responsibility to minimize organizational impacts on the lives of employees.

## II. MATERIALS AND METHODS

The applied methodology employed involved research techniques which were used for data collection and results tabulation. Initially, a bibliographic search was necessary, among other attributions, to define the parameters to be monitored so that a field research was structured, where the sustainable practices of a chain of fast-food restaurants were raised, offering data for the chapter results and analysis.

Literature prescribes that research is the set of systematic procedures based on logical reasoning. It aims to find solutions to problems proposed through the use of scientific methods (ANDRADE, 2006).

According to Vergara (2014), bibliographic research is a study developed through material published in books, newspapers, magazines, electronic networks, that is, material accessible to the general public. In the view of Lakatos (2010 p. 166) "Its purpose is to put the researcher in direct contact with everything that has been written, said or filmed on a given subject". Such a precept was applied to this study.

Among the types of research are: exploratory, descriptive and explanatory. In Vergara's (2014) view, exploratory research is carried out in a field of little accumulated knowledge. It has a probing nature and does not contain a hypothesis. In descriptive research, the study, analysis, recording and interpretation of the facts are carried out, without interference from the researcher (BARROS and LEHFELD, 2006). The explanatory one is a research that identifies the facts that determine or contribute to the occurrence of the phenomena (GIL, 2008).

The type of research addressed was descriptive, as according to Gil (2008) it is a research that describes the characteristics of certain populations and consists of the use of standardized data collection techniques, such as a questionnaire and systematic observation.

Descriptive research exposes characteristics of a specific population or a specific phenomenon. You can also establish correlations between variables and define their nature. They have no commitment to explain the phenomena it describes, although it serves as the basis for such an explanation (VERGARA 2014, p. 42).

This descriptive design uses a case study approach to illustrate sustainability initiatives on the attitude and behavior of its employees. The scope of the research included environmental sustainability initiatives, waste management and reduction, recycled and biodegradable disposable products, pollution reduction, sustainable food and sustainable furniture, as well as employee attitudes and behaviors, including work and attitudes towards the initiative, job satisfaction, initiative, subjective norms related to the initiative, perceived behavioral control and performance behaviors in the initiative.

Regarding the type of research approach, it can be qualitative or quantitative. The qualitative approach is characterized by the attempt to deeply interpret the meaning and characteristics of the information collected (OLIVEIRA, 2008).

According to Oliveira (2008 p. 62), quantitative research consists of "quantifying data obtained through information collected through questionnaires, interviews, observations (experiments) and the use of statistical techniques".

The analysis of the results was made through the quantitative method through the application of a structured questionnaire, with fifteen questions applied to the employees of the chain's restaurants.

Japanese fast-food restaurants were chosen, as they are considered a current trend and are subject to generating

more waste, as they produce a large amount of food daily (AMORIM; JUNQUEIRA; JOKL, 2005). Which can generate greater environmental impact.

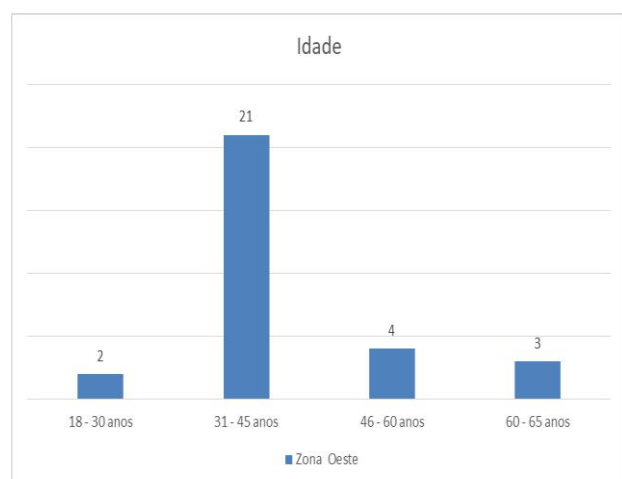
The samples were chosen due to the easy access to the managers so that the research could be carried out and, thus, obtain the expected results to encourage the discussion of the proposed theme. The investigator approached the samples via an email requesting permission to interview her restaurant employees, obtain documents and observe employees and management. After permission was granted, the researcher made an appointment with restaurant managers to visit for observation and interviews.

The interviews took place at the restaurant site for several days on several occasions during the day and night and depended on the convenience of the staff and management. At the beginning of each interview, the interviewer explained to the interviewee that his identity would be kept confidential and participation would be voluntary and extremely appreciated. Participants' rights were explained and participants were informed that the interview would be recorded and transcribed. In addition to the interviews, data collected by the Investigator was sought. The observation of the restaurant was conducted by the researcher over the course of several during several shifts to observe the duties, operations, attitudes and behaviors of management and employees.

### III. RESULTS

First, we sought to outline a socioeconomic profile of the employees interviewed, as shown in the graphs below.

Graph 1 shows the age of the professionals.



Graph 1: Age of respondents.

Source: Field research, 2019.

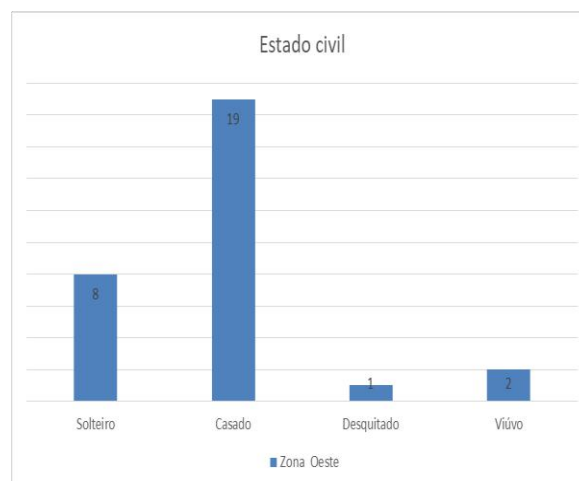
As shown in Graph 1, the prevalence of employees is in the age group from 31 to 45 years old (21); four are in the 46 - 60 age group; three from 60 to 65 years old and only 2 from 18 to 30 years old.

The population between 30 and 59 years of age continues to represent the highest percentage of the workforce in the country. According to the National Household Sample Survey (Pnad), of the Brazilian Institute of Geography and Statistics (IBGE), for the year 2011, they represent 61.9% of the total employed persons, totaling 57.271 million workers.

In 2009, the number of employees in the 30 to 59 age group was 55.4 million, representing 60.6%. In comparison with the 2011 data, the percentage increased by 3.3%.

The total number of employed persons in 2011 was 92.5 million, an increase of 1 million in relation to 2009, that is, there was an increase of 1.1%. The data considers employed persons aged 15 years or older.

Graph 2 reveals the marital status of the interviewed professionals.



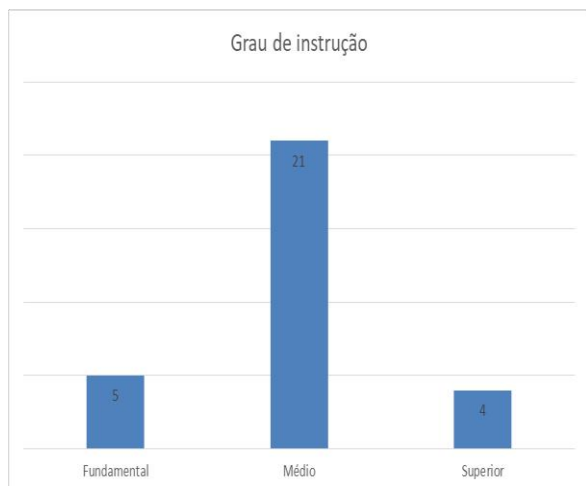
Graph 2: Respondents' marital status.

Source: Field research, 2019.

As shown in Graph 2, there are more married employees (19) than single (8) and a small number of widowers (2) and unemployed (1).

Among PNAD respondents, 42.9% (64.3 million Brazilians) said they were not in any type of marital union. Among those who claimed to live in union, the majority indicated civil and / or religious marriage (37.2% of the total), compared to those who reported only consensual union.

Graph 3 signals the data about the professionals' education level.



Graph 3: Education level of respondents.

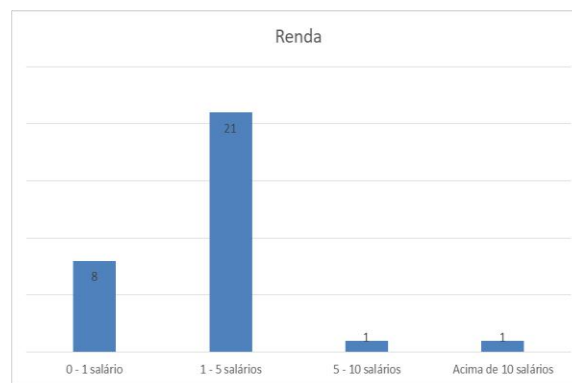
Source: Field research, 2019.

It appears that the prevalence is of employees with secondary education (21) and lower education in elementary education (5). Attention is drawn to the number of professionals with higher education (4).

The job market was greatly affected by the recent economic crisis, especially in 2015 and 2016. However, even in this most critical period, the more educated employed population - with higher education - continued to increase, while all other levels of education suffered significant losses .

The results of a survey carried out by the Institute for Applied Economic Research (IPEA) show that, although the number of workers with higher education in the Brazilian labor market has been growing, part of this contingent is unable to obtain a function compatible with their level of education . Therefore, despite having an unemployment rate below the other categories, more than a third of the most graduated individuals are occupying jobs that do not require their level of knowledge. In addition, the effects of the economic crisis on the labor market further reinforced this situation, so that, in the third quarter of 2018, of every ten employed workers, four were in functions that did not require their qualification. In the case of the youngest, the study reveals that their insertion in the occupation segments corresponding to their education level is even more difficult. If at the end of 2014 38% of individuals aged 24 to 35, with higher education, had jobs below their level of qualification, in the last quarter this percentage had already increased to 44.2%.

Graph 4 illustrates the income of professionals.

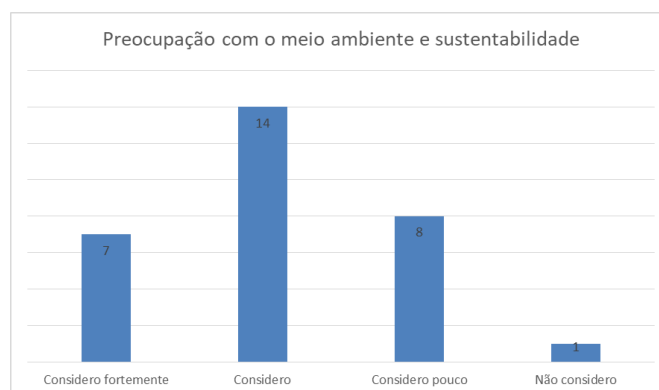


Graph 4: Income of respondents.

Source: Field research, 2019.

Most professionals (21) receive from 1 to 5 minimum wages; 08 receive up to a minimum wage; one of 5 to 10 minimum wages and only one above 10 wages.

Graph 5 reveals whether employees consider the issue of concern for the environment and sustainability in companies to be important.



Graph 5: Concern of respondents with the environment and sustainability.

Source: Field research, 2019.

As shown in Graph 5, most employees (14) consider the issue of concern for the environment and sustainability; 7 consider strongly; 8 consider little and only 1 do not.

It was possible to perceive that, in general, most of them show some concern with the environmental issues that involve the processes of their productive activities and try, in one way or another, to do something to minimize the impacts. However, the sector still needs greater awareness, especially with regard to the issue of waste recycling, since the city of Manaus has the support of the public authorities through selective collection, although still in a not so expressive number.



Graph 6 reveals whether there is any concern with this aspect when planning restaurant activities.



Graph 6: Concern of the interviewees with the environment and sustainability when planning the restaurant's activities.

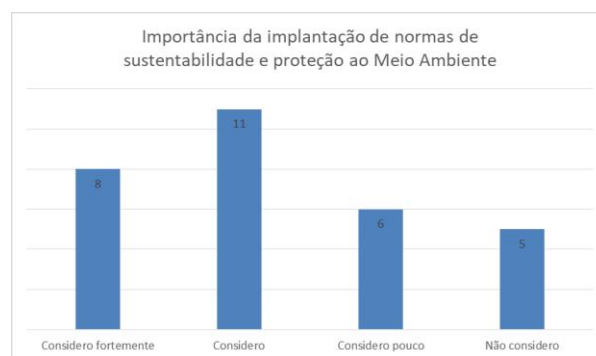
Source: Field research, 2019.

Graph 6 reveals that, for the most part (13), there is sometimes concern for the environment and sustainability when planning restaurant activities; 8 point out that this happens frequently; 3 that always happens; 3 point out that rarely and the other 3 say never.

According to studies by Leite (2005), restaurants, as well as other sectors of the service production society, are responsible for providing quality services. It is important that they satisfy human needs and bring quality of life and reduction of environmental impact and consumption of natural resources. In addition to reducing the amount of waste produced and rationalizing environmental resources, the adoption of sustainable practices provides savings, since the companies that adopt them may have their costs reduced by the rational consumption of natural resources, raw materials and reduction of waste generation. and waste.

According to Masdar Gen Z Global Sustainability analysis, new adults believe that it is the responsibility of their generation to deal with environmental issues. The survey revealed that currently young workers (corroborating the findings of this survey) believe that protecting the environment is more important than the economy. The text also indicated that, for them, education and social awareness are fundamental for sustainable development. In total, approximately 5,000 people - from all over the world - responded to the survey, aged between 25 and 45 years old, and revealed what are the main challenges they point to in the future.

Graph 7 illustrates whether employees consider it important to implement sustainability and environmental protection standards.



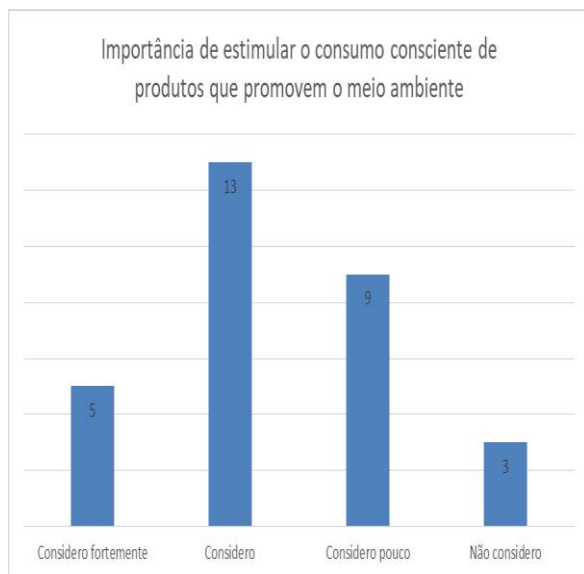
Graph 7: Regarding the importance of implementing sustainability and environmental protection standards.

Source: Field research, 2019.

As shown in Figure 7, it is confirmed that 11 employees consider it important to implement sustainability and environmental protection standards; 8 consider strongly; 6 consider little and 6 do not consider.

Companies are increasingly concerned with implementing sustainability practices in their business, as the subject has become a market requirement since more and more customers consider companies considered sustainable to be a great differential. The adoption of these practices helps to build customer loyalty, which is increasingly demanding and concerned with environmental issues, generates savings and also contributes to the environment.

Employees answered whether they agree that it is important to encourage conscious consumption of products that promote the environment (eg natural, organic products, products that generate less waste after consumption). The results are shown in graph 8.



*Graph 8: Regarding the importance of encouraging conscious consumption of products that promote the environment.*

Source: Field research, 2019.

According to Graph 8, 13 employees consider it important to encourage conscious consumption of products that promote the environment; 5 consider strongly, 9 consider little and 3 do not consider.

Creating a restaurant with sustainable characteristics is a big responsibility and a long-term commitment. This means that respect for the environment must be the guide for each work routine, from the selection of suppliers to the correct disposal of waste.

Zimmerman and Mesquita (2011) highlight some points necessary to stimulate conscious consumption:

#### 1. Invest in water savings

When it comes to a change in the culture of the restaurant to follow a sustainable line, saving water needs to be one of the fundamental pillars. For this reason, it is essential to develop training for the team, create awareness notices and invest in structural reforms so that there is no waste in the bathrooms and in the kitchen.

#### 2. Give preference to local traders

Stimulating the region's economy is also an attitude of a sustainable restaurant. First, you save a lot on transportation and have the opportunity to buy smaller quantities more often. This means that the products are always fresh, and waste is reduced.

#### 3. Reuse food for a sustainable restaurant

Investing in food reuse systems is essential to create a sustainable restaurant. Of course, there is no way to reuse the food that remains on the customers' plate, but it can stimulate conscious consumption practices and create menus that take into account the leftovers from the previous day.

#### 4. Minimize the use of paper

The limitless consumption of paper harms the environment too much, considering that this product usually decomposes after six months, and many plug the mouths of the sewers and contribute to the floods. It is necessary to review the use of this resource in the daily life of the restaurant, in order to minimize unnecessary expenses.

To facilitate this part, the authors suggest that technological resources can be used, such as automated systems, that can be used to manage the most varied processes, such as cash control, the use of electronic controls, speed in deliveries, etc. Modifying this paradigm is crucial to improve management and make the environment much cleaner.

#### 5. Bet on sustainable gastronomy

For this to really happen, the first step is to buy from local producers or to have your own garden, because, in addition to reducing costs, possible waste in transportation will be avoided. The chance of obtaining fresher food and without the use of pesticides is also an excellent advantage, since stock control needs to be up to date.

It is necessary to be concerned with the foods used when preparing meals, that is, reusing fruits, vegetable stalks, peels and seeds to the maximum. This does not necessarily mean that you must have a vegetarian restaurant, but that you need to be aware that the preparation of the dishes influences the sustainable process.

#### 6. Invest in ecological decoration

Offering greater comfort to the consumer is one of the trends of eating out of the home, because what has gained loyalty, in fact, is not only the delivery of tasty food, but an unforgettable consumption experience. The decoration of the environment, for example, manages to make the place more cozy and attractive to the public.

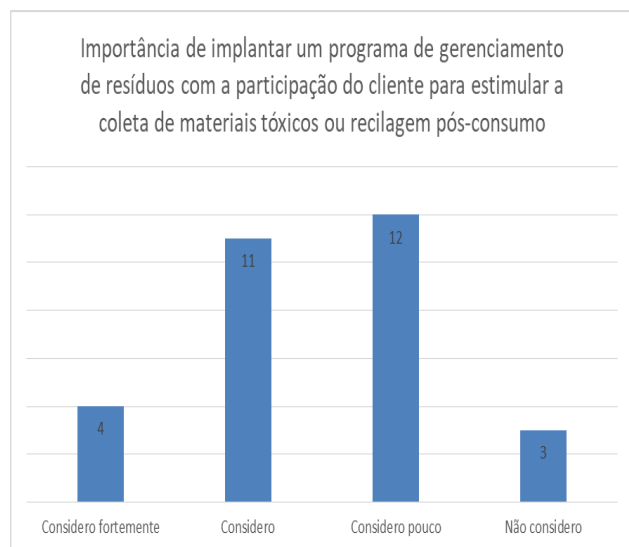
#### 7. Use water and electricity consciously

Water is one of the most important resources for human beings and unfortunately one of those that suffer the most aggressions. Avoiding waste of water, besides taking care of the environment, brings incredible savings to the

establishment. For this reason, the authors suggest opting for appliances with low electrical consumption, put motion sensors in bathrooms and invest in solar panels and other greener alternatives.

Smart flushes in bathrooms, taps with timers and the work of raising awareness among employees and customers are very important proposals.

Employees were asked whether they consider it necessary to implement a waste management program with the client's participation to encourage the collection of toxic materials or post-consumer recycling (Graph 9).



*Graph 9: Regarding the importance of implementing a waste management program with the client's participation to encourage the collection of toxic materials or post-consumption recycling.*

Source: Field research, 2019.

According to the data recorded in Graph 9, it is possible to observe that 12 employees consider it unimportant to implement a waste management program with the customer's participation to encourage the collection of toxic materials or post-consumption recycling; 11 only consider, 4 consider strongly and 3 do not consider.

As shown in figure 1, the restaurant has a lot of leftover food.



*Fig.1: Leftover food from the restaurant.*

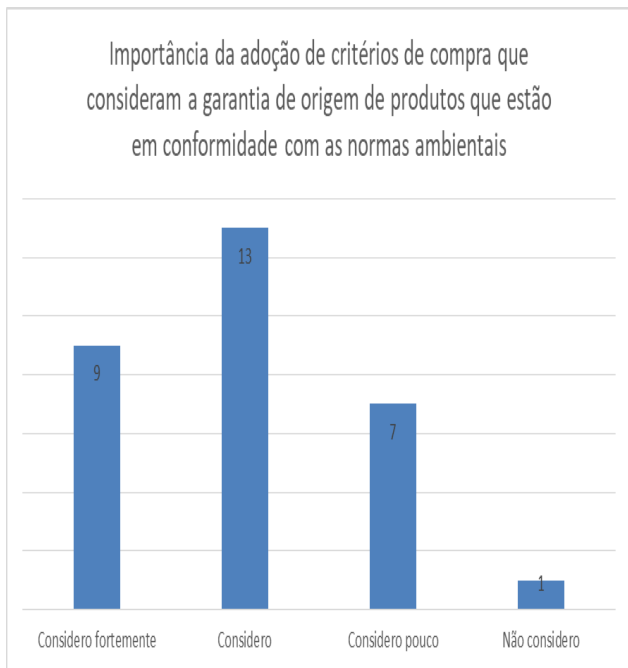
Source: Field research, 2019.

It is observed that most of the food thrown in the trash is the leftover fish, essential for the preparation of the most consumed dishes in the restaurant. Amorim, Junqueira and Jokl (2005) found that the sum of leftover and unused food would be able to feed 20% of the average volume of meals served daily, which compromised the management of material, financial and human resources of organizations. Venke (2001) also demonstrated this concern when, when analyzing an industrial kitchen producing 1000 meals / day, he estimated that it was generating 3.97 tons of organic waste monthly, a value that could be underestimated, since post-leftover leftovers were not considered. consumption.

In this sense, Krause and Bahls (2013) consider that food waste must be analyzed in two moments, in pre and post-consumption. Pre-consumer residues are those that were not used to go to the customers' dishes, generally resulting from the low quality of the ingredients from the moment of purchase or the lack of care during storage, which ends up leading them to disposal, to main action to reduce this waste is to avoid excessive purchases and observe greater care during the stock. An alternative to avoid post-consumption waste, is the adequate sizing of portions, which in addition to reducing the amount of waste produced, optimizes the use of resources generating greater profitability for the establishment (KRAUSE; BAHLS, 2013).

It was also questioned about the importance of adopting purchase criteria that consider the guarantee of origin of products that are in compliance with environmental standards (graph 10).



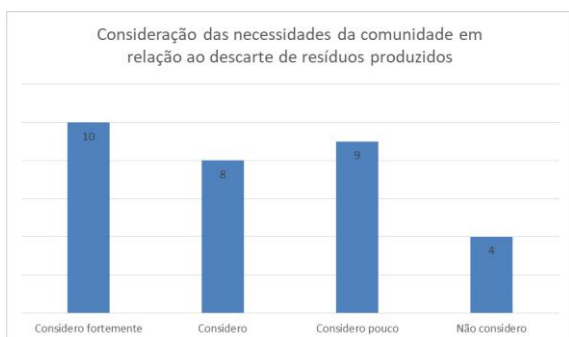


Graph 10: Regarding the importance of adopting purchasing criteria that consider the guarantee of origin of products that are in compliance with environmental standards

Source: Field research, 2019.

The research findings explained in Graph 10 reveal that 13 employees consider the importance of adopting purchasing criteria that consider the guarantee of origin of products that are in compliance with environmental standards; 9 consider strongly; 7 consider little and only 1 do not. Employees in the 31 to 45 age group read better about this importance.

Graph 11 shows whether employees consider the needs of the community in relation to the disposal of waste produced.



Graph 11: Regarding the needs of the community in relation to the disposal of produced waste.

Source: Field research, 2019.

As shown in Graph 11, 10 employees strongly consider the needs of the community in relation to the disposal of waste produced; 9 consider little; 8 consider and 4 do not consider.

At the end of the application of the questionnaires, lectures were given (Figure 2) with the collaborators in order to show the importance of the theme and how they could use the acquired knowledge.



Fig.2: Conducting lectures.

Source: Field research, 2019.

The units of the surveyed restaurants conduct training related to raising awareness on some topic related to sustainability for employees, with emphasis on the adequacy of portioning and use of dietary techniques in the pre-preparation and preparation of fruit and vegetable items. The relevance of such practices is highlighted, as both aim to reduce food waste, and, as stated by Zimmermann and Mesquita (2011), this waste is what most contributes to the volume of waste in a restaurant. Another important aspect regarding the generation of this waste is that the production of meals generates costs in the processes of food production, transportation and preparation, in addition to the water consumption necessary for these steps (COUTINHO; PINTO; DAHMOUCHE, 2014). In addition, we have the impact of disposing of organic waste on the environment, since more than half of the capacity of uncontrolled landfills (dumps) is occupied with organic waste, which could have been inserted back into the production chain, through processes composting, increasing the useful life of these landfills (CORREA; LANGE, 2013). In this context, training is important not only for improving the quality of the service provided, but also for reducing waste (OLIVEIRA; CE, 2012, BATTISTI; ADAMI; FASSINA, 2015). All of this underscores the importance of campaigns and training aimed at reducing organic waste.

#### IV. CONCLUSION

The case study carried out, through the application of the questionnaires, revealed that although there is a certain awareness about the negative impacts caused by the interference of solid and liquid waste, there is a gap between being aware of the problem and being aware that it is possible, with sincere dedication and few resources, encourage some changes in conduct, aiming at higher environmental quality, and even greater profitability for the company. The goal of being a green company must be incorporated into the future vision of the enterprise and that all employees are engaged in these results.

As evidenced in the results, most employees consider the issue of concern for the environment and sustainability; there is sometimes concern for the environment and sustainability when planning restaurant activities; consider it important to implement sustainability and environmental protection standards; consider it important to encourage conscious consumption of products that promote the environment; consider it unimportant to implement a waste management program with the client's participation to encourage the collection of toxic materials or post-consumption recycling; consider the importance of adopting purchasing criteria that consider the guarantee of origin of products that are in compliance with environmental standards; strongly consider the needs of the community in relation to the disposal of produced waste;

Through the application of the questionnaire, it was possible to perceive the view of the employees of the restaurant units of the typology chosen for analysis of this study, although this subject has not yet been widely publicized or addressed with greater dedication among the restaurant managers, in general there is a concern on the part of the establishment to reduce the impacts caused by its activities, since they consider environmental preservation the main reason for the implementation and practice of sustainable actions in the restaurant. However, there is a need for greater commitment on the part of all those involved, whether they are playing the role of managers, employees, or even consumers since the degradation of the environment has reached practically irreversible points and it is from it that raw materials are obtained essential for the performance of this professional activity.

In the lectures, issues related to sustainability were presented, reinforcing that environmental education is the most appropriate method to raise awareness of those who have not yet realized that environmental responsibility is inherent to any and every citizen, regardless of the role played at home, in the company or in society.

#### REFERENCES

- [1] ACRE, D. M.; CASTILHO, F. R. Gestão ambiental aplicada ao setor gastronômico: proposta para Dourados-MG. *Revista Rosa dos Ventos*, v. 5, n. 2, p. 248-263, abr./jun. 2013.
- [2] AJZEN, I. **From Intentions to Actions: A Theory of Planned Behavior**. IN: KUHL, J.; BECKMAN, J. (Org.) *Action Control: From Cognition to Behavior*. Berlin: Springer, 1985. p. 11-39.
- [3] ALMEIDA, E. R. DE; MORENO, A. L. Terapia cognitivo-comportamental breve para transtorno de ansiedade social: estudo de caso. *Perspectivas em Psicologia*, v. 18, n. 2, 30 dez. 2014.
- [4] AMORIM, M. M. A.; JUNQUEIRA, R. G.; JOKL, L. Adequação nutricional do almoço self-service de uma empresa de Santa Luzia, MG. *Revista Nutrição*, Campinas, v. 18, n. 1, p. 145-156, jan./fev. 2005. Disponível em: <<http://www.revistas.usp.br/rta/article/view/99186>> acesso em: 30 abr. 2018.
- [5] ANDRADE, M. M. **Introdução à Metodologia do Trabalho Científico: elaboração de trabalhos na Graduação**. 5 ed. São Paulo: Atlas, 2006.
- [6] AVILA, G. J.; PAIVA, E. L. Processos operacionais e resultados de empresas brasileiras após a certificação ambiental ISO 14001. *Gest. Prod.*, v. 13, n. 3, p. 475-487, 2006.
- [7] ASSOCIAÇÃO BRASILEIRA DE NORMAS TÉCNICAS (ABNT). ISO 14.001:2004. Sistema de gestão ambiental: requisitos com orientações para uso. Disponível em <http://www.abntcatalogo.com.br/norma.aspx?ID=1547>. Acesso em: 22 abr. 2020.
- [8] BABAKRI, K. A.; BENNETT, R. A.; FRANCHETTI, M. Critical factors for implementing ISO 14001 standard in United States industrial companies. *Journal of Cleaner Production*, v. 11, p. 749-752, 2003.
- [9] BARBIERI, J. C. **Gestão ambiental empresarial: conceitos, modelos e instrumentos**. 3. ed. São Paulo: Saraiva, 2011.
- [10] BARROS, A. J. P.; LEHFELD, N. A. S. **Fundamentos de Metodologia Científica**. PÓSGRADUANDO. As diferenças entre pesquisa descritiva, exploratória e explicativa. Disponível em: <<http://posgraduando.com/?p=3354>>. Acesso em: 30 abr. 2018.
- [11] BATTISTI, M; ADAMI, FS; FASSINA, P. Avaliação de desperdício em uma Unidade de Alimentação e Nutrição. *Revista Destaques Acadêmicos*, Lajeado, v. 7, n. 3, 2015.
- [12] BRASIL. **Lei nº 9.795**, de 27 de abril de 1999. Dispõe sobre a educação ambiental, institui a Política Nacional de Educação Ambiental e dá outras providências. Diário Oficial da União, Brasília, DF, 28 abr. 1999. Disponível em: <[http://www.planalto.gov.br/ccivil\\_03/Leis/L9795.htm](http://www.planalto.gov.br/ccivil_03/Leis/L9795.htm)> Acesso em: out. 2018.
- [13] BRITO, A. U. Certificação ISO 14001 e Educação Ambiental: estudo de caso do Sistema de Gestão Ambiental da Usina Hidrelétrica Coaracy Nunes- AP. 125 p.

- Dissertação de Mestrado** – Programa de Pós- Graduação em Direito Ambiental e Política Públicas. Universidade Federal do Amapá, 2008.
- [14] CARRARA, K. **Behaviorismo radical: crítica e metacrítica**. 6.ed. São Paulo: editora UNESP, 2012.
- [15] CHAN, E. S. W.; WONG, S. C. K. Motivations for ISO 14001 in the hotel industry. **Tourism Management**, v. 27, n. 3, p. 481-492, 2006.
- [16] CORREA, MS; LANGE, LC. Gestão de resíduos sólidos no setor de refeição coletiva. **Pretexto 2011**, Belo Horizonte v. 12, n.1, p. 29 - 54 jan. /mar., 2013.
- [17] COUTINHO,L; PINTO, S; DAHMOUCHE, M. SUSTENTABILIDADE - O QUE É ISSO? In: **Congreso Iberoamericano de Ciencia, Tecnología, Innovación y Educación, Buenos Aires** (Argentina), Nov., 2014.
- [18] DELMAS, M.; TOFFEL, M. W. Organizational responses to environmental demands: opening the black box. **Strategic Management Journal**, v. 29, p. 1027–1055, 2008.
- [19] DIAS, R. **Responsabilidade social e sustentabilidade**. 2. ed. São Paulo: Atlas, 2010.
- [20] EDWARDS, J. R., & CABLE, D. M. The value of value congruence. **Journal of Applied Psychology**, 94(3), 654, 2009.
- [21] GIAMPIETRI, E., FINCO, A., DEL GIUDICE, T. Exploring consumers' behaviour towards short food supply chains. **British Food Journal**, v. 118, n. 3 p. 618-631, 2016.
- [22] GIL, A. C. **Como Elaborar Projetos de Pesquisa**. 4 ed. São Paulo: Atlas,2008.
- [23] GAVRONSKI, I.; FERRER, G.; PAIVA, E. L. ISO 14001 certification in Brazil: motivations and benefits. **Journal of Cleaner Production**, v. 16, p. 87- 94, 2008.
- [24] INOUE, E.; ARIMURA, T. H.; NAKANO, M. A new insight into environmental innovation: Does thematurity of environmental management systems matter? **Ecological Economics**, v. 94, p. 156–163, 2013.
- [25] LACOMBE, F. J. **Recursos Humanos: princípios e tendências**. 2 ed.. São Paulo: Saraiva, 2011.
- [26] JACOBI, P. Educação Ambiental, Cidadania e Sustentabilidade. **Cadernos de Pesquisa**, nº118, p. 189-205, março/2003.
- [27] JACOBI, P. et al. (orgs.). **Educação, meio ambiente e cidadania: reflexões e experiências**. São Paulo: SMA, 1998.
- [28] JUDGE, T. A.; KAMMEYER-MUELLER, J. D. Job attitudes. **Annual Review of Psychology**, 63, 341-367, 2012.
- [29] LACEY, H. **Psicologia experimental e natureza humana: ensaios de filosofia da psicologia**. Florianópolis: UFSC/NEL, 2011.
- [30] LAKATOS, E. M. **Fundamentos de metodologia científica**. 7º ed. São Paulo: Atlas, 2010.
- [31] LEITE, B.Z; PAWLOWSKY, U. **Alternativas de minimização de resíduos em uma indústria de alimentos da região metropolitana de Curitiba**. Eng. sanit. ambient. Vol.10 - Nº 2 - abr-jun, 96-105. 2005.
- [32] LEWIS, A., CACCIOLA, K., & DENNILL, R. B. **Sustainability in the food service environment**. In International Facility Management Association (Ed.), Sustainability "how-to guide" series, 2011.
- [33] MATOS, M. A. **Behaviorismo metodológico e behaviorismo radical**. In: RANGE, B. Psicoterapia comportamental e cognitiva. Campinas:Psy II 2015.
- [34] NUNES, R. Gastronomia Sustentável. Interação - **Revista Científica da Faculdade das Américas**, São Paulo, ano III, n. 1, jan./jul. 2012.
- [35] OLIVEIRA, S. L. **Tratado de metodologia científica: projetos de pesquisas, TGI, TCC, monografias, dissertações e tese**. São Paulo: Pioneira, 2008.
- [36] OLIVEIRA, CBP; CE, N. estudo comparativo entre o processo de planejamento de cardápio de um restaurante de hotel e de um restaurante convencional. **Competência**, Porto Alegre, RS, v.5, n.2, p. 83-99, jul./dez. 2012.
- [37] POMBO, F. R.; MAGRINI, A. Panorama de aplicação da norma ISO 14001 no Brasil. **Gest. Prod.**, v. 15, n. 1, p. 1-10, 2008.
- [38] PORTO.L. R., QUEIROGAB, A. F. F.; NÓBREGAC, E. M. M. A.; ALMEIDA, E. P.; SILVAE, T. C. B. P; COSTA, I. **A Produção Mais Limpa Aplicada ao Setor de Alimentação Fora do Lar da Paraíba**. 2nd International Workshop / Advances in Cleaner Production. São Paulo, 2011.Disponível <<http://anaisct.ouropreto.ifmg.edu.br/wp-content/uploads/2013/09/V3-25SUSTENTABILIDADE-NA-PRODUÇÃO-DEREFEIÇÕES-EM-UM-RESTAURANTE-INSTITUCIONAL-DO-MUNICÍPIO-DE-OURO-PRETO.pdf>> Acesso em: 30 abr. 2018.
- [39] REIGOTA, M. **O que é Educação Ambiental**. São Paulo: Brasiliense, 2013.
- [40] REIS, L. F. S. S. D.; QUEIROZ, S. M. P. **Gestão ambiental em pequenas e médias empresas**. Rio de Janeiro: Qualitymark, 2002.
- [41] ROBBINS, S. P. **Comportamento Organizacional**. 14 ed. São Paulo: Pearson Prentice Hall, 2010.
- [42] SATO, M. **Educação Ambiental**. 3 ed. São Paulo: RiMa, 2011.
- [43] SEBRAE. O que são resíduos e o que fazer com eles. (2014). Disponível em: <<http://www.sebrae.com.br/sites/PortalSebrae/artigos/o-que-sao-residuos-e-o-que-fazer-com-eles,ca5a438af1c92410VgnVCM100000b272010aRCRD>>Acessado em: 30 abr. 2018.
- [44] SIROTA, D., MISCHKIND, L., & MELTZER, M. 33 beliefs about work and workers'. The Enthusi-astic Employee. Retrieved August 27, 2013, from [http://www.enthusiasticemplyee.com/\\_vti\\_bin/shtml.dll/reg\\_istration.htm](http://www.enthusiasticemplyee.com/_vti_bin/shtml.dll/reg_istration.htm). Acesso em: 29 abr. 2018.
- [45] SKINNER, B.F. (1982/1974) **Sobre o Behaviorismo**. São Paulo: Cultrix/Edus, 2006.

- [46] TAMAIO, I. A **Mediação do professor na construção do conceito de natureza**. Dissert.(Mestr.) FE/Unicamp, 2000.
- [47] TEIXEIRA, C. A.; SOUZA, J. P. Análise da Certificação ISO 14001 para a Sustentabilidade em Conformidade com a Legislação Ambiental. **Revista Meio Ambiente e Sustentabilidade Versão on-line** Volume 10, número 5. Curitiba – PR. Jan/maio, 2016.
- [48] VERGARA S. C. **Projetos e relatórios de pesquisa em administração**. 15. ed. São Paulo: Atlas, 2014.
- [49] WATANABE, E. A. M. Teoria do comportamento planejado: uma aplicação na análise do consumo de carne bovina gorda entre universitários. 2014. 217 p. **Tese** (doutorado) - Universidade Estadual de Campinas, Faculdade de Engenharia de Alimentos, Campinas, SP. Disponível em: <<http://www.bibliotecadigital.unicamp.br/document/?code=000927907&opt=1>>. Acesso em: 30 jun. 2018.
- [50] ZIMMERMANN, AM; MESQUITA, MO. Campanha resto zero em restaurante universitário. **Disc. Scientia**. Série: Ciências da Saúde, Santa Maria, v. 12, n. 1, p. 115-125, 2011.