



Sustainability management in fine dining restaurants

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ABSTRACT

The objective of this dissertation is to understand how fine dining restaurants can adopt a more sustainable management, without compromising the experience they offer to their clients. To answer my research question, I conducted a comparative case study on two Portuguese fine-dining restaurants. The results show that, to begin with, it is possible to apply a range of strategies on a restaurant, that contribute to sustainability and fine dining simultaneously, and, secondly, it is also possible for a restaurant to adopt sustainable practices that, without reinforcing the fine dining experience, do not diminish it. Finally, the results show that the two objectives are not contradictory and can even complement each other.

Keywords: sustainability; Arcadas; SEM Restaurant & Wine Bar; fine dining; restaurants; sustainable management; sustainable strategies

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RESUMO

O objetivo desta dissertação é perceber como é que restaurantes de *fine dining* podem adotar uma gestão mais sustentável, sem que esta comprometa a experiência que oferecem aos seus clientes. Para responder à minha pergunta de investigação, conduzi um caso de estudo comparativo entre dois restaurantes portugueses de *fine dining*. Os resultados mostram que, em primeiro lugar, é possível aplicar-se um conjunto de estratégias num restaurante, que contribuam para a sustentabilidade e o *fine dining*, em simultâneo, e, em segundo lugar, que também é possível, um restaurante adotar estratégias sustentáveis que, embora não reforcem a experiência de *fine dining*, não a diminuam. Finalmente, os resultados mostram que os dois objetivos não são contraditórios e que até se podem complementar.

Palavras-chave: sustentabilidade; Arcadas; SEM *Restaurant & Wine Bar*; *fine dining*; restaurantes; gestão sustentável; estratégias sustentáveis

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1. INTRODUCTION

Throughout many years, sustainability and luxury were considered opposites, and green practices would not have room in a fine dining kitchen. What about nowadays? Are fine dining and sustainability really contradictory terms? Or is it mainly a matter of education and mindset?

The aim of this paper is to understand how restaurants can combine the concepts of sustainability and fine dining, to conclude on strategies that can be applied to obtain this result and identify the main limitations and barriers for a restaurant to evolve in a more sustainable way. According to Batat (2020), although there have been some studies about sustainability and less about fine dining, very little has been investigating when it comes to the conjugation of the two, nor there is a study proving if they are in fact contradictory or not. Therefore, there is a gap identified regarding the lack of studies that provide concrete strategies for fine dining restaurants to apply and become more sustainable, without losing their essence. In order to fill this gap and guide my research, I formulated the following research question: “How can restaurants become sustainable while offering fine dining experiences?”.

To answer the research question, I followed a qualitative research approach. I conducted a comparative case study (Ozcan et al., 2017; Stake, 2013), comparing two Portuguese fine dining restaurants: Arcadas, a restaurant from the five-star hotel Quinta das Lágrimas (QL), situated in the centre of Coimbra; and SEM restaurant & wine bar, established in 2021 in Alfama, Lisbon and which promises to redefine the zero waste practices in a professional kitchen.

The topic of this dissertation is especially relevant for the managerial purposes, once it can show how being sustainable may enable restaurants to become more efficient, have less costs, serve dishes with more quality and nutritious value, offer a new experience to the new generations, without it meaning moving away from the concept of fine dining. From the perspective of society, this study will also be relevant to help refuting the general notion that fine dining and sustainability are contradictory, to educate people on what is possible to do to shift and to identify restaurants and producers that actually apply more sustainable practices and how it affects positively the whole experience of dining. Regarding academic relevance, this study will help to fill the gap of a topic that is underdeveloped and, consequently, answer the already mentioned research question.

To help achieving the findings, in the literature review chapter I explored articles focused on the two main topics of fine dining and sustainability. However, as previously stated, investigation has given little attention to the study of sustainability in restaurants and specially when it comes to fine dining ones (Batat, 2020).

In the methodology chapter, I explain in detail my working method, from the choice of qualitative research as the research design (Birkinshaw et al., 2011; Ozcan et al., 2017), to the case selection and data collected, to my method of open-code approach (Corbin & Strauss, 2014; Patvardhan et al., 2015) to analyse primary and secondary data.

Regarding the empirical chapter, the history and concept of both restaurants is presented. It becomes obvious from the outset that these are two very different restaurants: while Arcadas is a 25-years restaurant, from a 5-star Portuguese hotel inserted in one of the most iconic properties of the country, with 7 centuries of history and 12 hectares of land, headed by a chef that has been awarded with a Michelin star in the past, where quality is of utmost importance to comply with the sophistication of the full-service of the hotel; then we have SEM Restaurant & Wine Bar, a 6-months restaurant at the heart of Alfama, ran by a couple of “food activists” from opposite sides of the world, that met in London and worked in the “world’s first zero waste restaurant”, Silo, and whose dream was to open a zero waste wine bar where they can explore new flavours and techniques while helping the planet becoming a better place.

The findings chapter is divided into two big sections, presenting practices that enable to combine both concepts of fine dining and sustainability and sustainable practices that although do not reflect fine dining, are not contradictory with it. In this chapter, it is possible to observe the similarities and differences of both restaurants when it comes to operational mode and to answer the research question of “How can restaurants be sustainable while offering fine dining experiences?”.

Right after, the discussion chapter compares the discoveries of the findings chapter with the previous literature on the theme, discussing the importance of this findings for the management and hospitality field. Plus, limitations and barriers to evolution in a more sustainable way are also addressed.

In the end, the conclusion summarises the main takeaways of this study, as well as its limitations related to resources, sampling, lack of expertise and time constraints. It is also presented suggestions for future research.

2. LITERATURE REVIEW

This chapter highlights the existing gap regarding the lack of investigation about sustainability management in fine dining restaurants. Firstly, I began to review what has been studied regarding management of restaurants, followed by distinguishing types of restaurants. Then, I explored the concept of sustainability, the 3-pillar theory and the green restaurants concept. Finally, I address the common perception of fine dining and sustainability being contradictory, and the bad reputation greenwashing can give to restaurants.

2.1 Restaurant industry categorization and research

To begin with, it is of extreme importance to distinguish the different types of restaurants, once they are not all managed the same way, nor offer the same service. However, there is no universal agreement on how many segments there are in the restaurant industry and on how to define each of them. Several authors proposed different classifications based on specific characteristics, which varied both on names and number of segments (Bujisic et al., 2014).

2.1.1. Restaurants' classification: quick-service, casual or fine dining

For the purpose of this dissertation I will distinguish between the commonly referred three restaurants' segments - fast food/quick-service restaurants, casual dining restaurants, and fine dining restaurants – since this classification is largely accepted and used by various authors to create distinction between the three broader clusters in the restaurants' industry (Ha & Jang, 2012, 2013; Harrington et al., 2012; Hu et al., 2008; S. S. Jang et al., 2012; Park & Almanza, 2015; Stevens et al., 1995). Each segment captures the different expectations of consumers, when opting for each type of restaurant (S. S. Jang et al., 2012; Kivela, 1997) and are described below.

According to Dixon et al., (2018), quick-service restaurant, mainly known as fast-food restaurants, are the restaurants where, traditionally, quality is not the focus, but focus rather on the convenience and high-value offered to clients by charging low prices, menus below 10€ per

person. Moreover, these restaurants offer limited service and the customers only receive their orders after paying (Park & Almanza, 2015). The customers may choose to eat at the restaurant, take away or even have their order delivered (Dixon et al., 2018). Some well-known examples of these restaurants are McDonald's and Burger King.

Contrary to the first restaurant type, casual or mainstream restaurants offer full service (which includes table service), charging, on average, between 10 to 20 € per person for a menu (Dixon et al., 2018; Park & Almanza, 2015). Customers usually pay at the end of the meal, the quality of the food served can be classified as medium and the atmosphere is mainly relaxed (Dixon et al., 2018).

Distinctively from quick-service and mainstream restaurants, the core of fine dining is not only food. Due to its close association to the concept of luxury, these restaurants, more than their utilitarian purpose, describe a unique and hedonic experience of fine dining (Batat, 2019), where all five senses of diners are stimulated, through: the environment of the dining room, the surrounding decoration, the innovativeness of the menus, the quality and rarity of the food ingredients and beverages, the culinary artistry of the chef and the superior customer service. All these elements, allied to expensive prices, create a sense of exclusivity, self-expression and of elevated social status for the diners, contrasting with the everyday restaurants (Jin et al., 2016; Kiatkawsin & Sutherland, 2020).

These are restaurants that present full service, including table service, making use of refined tableware and cutlery to match the elegant environment, serving high-quality tasting menus which most of the times are presented with wine pairing. Their prices are considered premium, which means they charge above 20€ per person (Dixon et al., 2018; Park & Almanza, 2015).

Curiously, fine dining restaurants is one of the most growing and continuously changing sectors within the luxury industry, once it lies at the equilibrium between tradition and modernity: these restaurants must make sure they keep their luxurious position by offering rarity to their diners and at the same time comply with times and adapt to the new demand for more sustainable practices (Batat, 2020).

Once there is a gap regarding studies conducted to show whether fine dining is incompatible with sustainability or not and (Batat, 2020), particularly, lack of concrete conclusions regarding sustainable strategies that can be followed by fine dining restaurants, I

decided to focus my dissertation on this segment. To do so, I will consider, as a fine dining restaurant, one that is not an everyday restaurant, headed by a qualified chef, which offers high quality and elevated tasting multiple-course menus, charges premium prices, presents the dishes in a sophisticated way, and is original both preserving the storytelling of its cooking and on teasing the customers five senses.

2.1.2. Restaurants and foodservice's research overview

According to DiPietro (2017), in the last decade, the restaurant's management investigation has focused on the segmentation of the industry, management of operations, finance, marketing, quality of service, innovation, as well as innovation and healthfulness. Nevertheless, there are some new ascending topics that are starting to be explored by researchers and academics, such as new restaurant's formats and segments (pop-up restaurants, food trucks, ethnic restaurants), but also corporate social responsibility (CSR) issues and sustainability (DiPietro, 2017).

There is not an universal consensus regarding the number of segments or types of restaurants, resulting in various proposed classifications from different authors (Bujisic et al., 2014). However, in the last decade authors privileged their focus on analysing specific segments, rather than trying to come up with new classifications (DiPietro, 2017), being casual dining restaurants the ones more studied, due to their size in the market. However, Kiatkawsin & Sutherland (2020) indicate that researchers have recently begun to be interested in studying fine dining restaurants due to their growth and capability of charging premium prices. The results of Ha & Jang (2013)'s study show that, when opting for fine dining, customers expect to have an immersive experience, learn the history of the food they are eating and connect with the atmosphere of the restaurant. Still, Batat (2020) refers that, as far as sustainability is concerned, the studies on this topic and fine dining restaurants are rare and none has yet investigated whether the two are contradictory.

On his research review, DiPietro (2017) also mentions the past research regarding restaurant operations, naming some trendy topics such as: the study of critical aspects that lead a restaurant to success, the use of technology and how it has shaped the customer-server relationship, the role of sustainability and the response of customers to green practices at

restaurants. Jacobs & Klosse (2016) state that there has been an emerging focus on sustainability within the hospitality industry, however, when it comes to restaurants, the scarce research done (Chou et al., 2012) does not bear a strong scientific evidence. Regarding sustainability in the foodservice, most studies explore the consumer's perspective, their concerns and influences towards choosing a dining establishment (Batat, 2020). Although general results from several studies show that customers have positive feelings towards restaurants applying green practices, they demonstrate not to be willing to pay more for it (DiPietro, 2017). According to Chou et al. (2012), several studies about hospitality have proved that opting for eco-friendly practices result in competitive advantages, economic and environmental benefits, and increase of customer satisfaction.

Besides the limited research conducted to provide managerial frameworks to help restaurants becoming greener, a common finding to various studies is that restaurants should start to educate their employees about green practices, as well as demonstrate to their customers the way they are operating, once many may not be recognized for it (DiPietro, 2017).

Nevertheless, past literature has proposed some barriers preventing restaurants to become sustainable more easily. Once governments do not often regulate this sector, there are no legal incentives pushing managements to do it, as it happens regarding the adoption of sustainable measures in other cases (Chou et al., 2012). If willing, most will voluntarily apply for certifications and use generally accepted codes of conduct and best practices in the industry (Ayuso, 2007). The costs of implementation can also be a barrier (Krozer, 2008, p.3), especially for non-independent units, with several stakeholders.

2.2. Sustainability management in restaurants

Mostly due to environmental changes, global warming, pollution and natural resources scarcity, sustainability has been the hot topic of the last decades. Moreover, because of the environmental awareness raise, the newest generations are demanding from all industries to adopt greener practices that will respect the planet.

2.2.1. Sustainable development and the “three-pillar” concept

Since 1987, the United Nations have adopted «*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*» (Brundtland, 1987, p37) as the common definition for sustainable development. Sustainability is therefore seen as normative regulator for the long-term relationship between generations. Several authors have described this concept as integrative, encompassing three fundamental pillars: environmental, social and economic dimensions. (Hansmann et al., 2012; Purvis et al., 2019). Although there is a very limited amount of literature regarding the theoretical conceptualisation of both “sustainable development” and “sustainability”, the “three-pillar” concept has become so widely spread and accepted that it no longer requires any real evidence (Purvis et al., 2019).

For the past few decades, the demand towards environmentally friendly products has rocketed, making green dining a very important matter within the hospitality sector, for both scholars and managers/owners (Teng & Wu, 2019). Various new eco-friendly regulations and policies have contributed to: on one hand, by instructing the masses, these new rules are contributing to raising awareness towards sustainable products and increasing its desirability; on the other hand, by forcing producers to share with consumers information and the origin of the products, people become more informed and willing to pursue a healthy diet (Y. J. Jang et al., 2011).

Even though the food service industry is responsible for about 30% of greenhouse gases in the whole world, scholars do not consider the sector as a big polluter like other industries. Nevertheless, its increasingly rapid growth justifies and even implies resorting to eco-friendly and sustainable managerial solutions (Teng & Wu, 2019). However, while various studies focusing on sustainable and eco-friendly practices in the hospitality industry have been conducted, the investigations regarding sustainable restaurants - green restaurants - are scarce (Batat, 2020).

2.2.2. How to be a green restaurant

Although there is not a scientific definition for “green food”, this term is usually employed to refer to local produced food, eco-friendly, ethically grown, sustainable and organic ingredients. (Y. J. Jang et al., 2011). Similar to the practices of sustainability management in the hospitality sector (Teng & Wu, 2019), “green restaurants” can be defined as: “(...) *one that offers a selection of green food menu items that use locally grown or organic certified food, as well as one that implements green practices, such as a recycling program, the efficient use of energy and water, and the reduction of solid waste.*” (Jang et al., 2011, p.804)

Apart from sustainable menus, these restaurants embrace strategies respecting the three Rs (Reduce, Reuse and Recycle) and two Es (Efficiency and Energy) (Kim et al., 2018; Teng & Wu, 2019). While some restaurants implemented practices to be more sustainable, fine dining restaurants face specific tensions between their positioning and more sustainable management strategies.

2.3. Combining luxury and sustainability in fine dining experiences

Luxury and sustainability may seem contradictory, especially due to a massive and fast grow of the luxury industry globally and its link to overconsumption (Athwal et al., 2019). Consequently, once fine dining follows most of the principles of luxury as mentioned before, there may seem to be a contradiction between this type of service and the concept of sustainability. However, some authors argue that as far as the original principles of luxury are concerned, luxury is actually aligned with sustainability, once luxury is linked with protecting what is rare, high quality production, longevity, hand craftsmanship and respect for the final product, its origin and tradition (Kapferer & Michaut-Denizeau, 2017). That being stated, I believe this may be the missing hint to waken the industry, make it reconnect with its roots and still adapt to the new reality.

As stated before and according to Batat (2020), although scholars are starting to notice that sustainability in restaurants is a key matter for the hospitality industry (DiPietro, 2017), sustainability in fine dining restaurants has scarcely been investigated. Moreover, there are no

studies examining whether it is possible for both sustainability and luxury concepts to coexist peacefully in a fine dining restaurant (Batat, 2020).

In conclusion, I propose to answer the following research question: “How can restaurants become sustainable while offering fine dining experiences?”. These days, the general public is more concerned about environmental issues, more aware and better informed, resulting on being able to easily discern superficial and mere publicity moves – “green wash” – from the company’s real integrity and truth (Franco et al., 2019). Therefore, it is of utmost importance that managers, owners or chefs of luxury restaurants carefully draw a strategy to implement green approaches, acknowledging how they can take competitive advantage from those and even elevate their luxury status.

3. METHODOLOGY

In this chapter I first explain why I chose a qualitative approach to answer my research question, then, how I managed to select my cases and collect primary and secondary data, and finally I describe the type of analysis done, resorting to a coding method.

3.1. Research design

Since theory about sustainable practices at fine dining restaurants is under-researched, I decided that a qualitative approach would suit the study better to answer to my research question (Birkinshaw et al., 2011), as I can take advantage of the open-endedness of this type of research design to build theory (Graebner et al., 2012). The research question should be consistent with the methodology chosen (Birkinshaw et al., 2011; Gephart Jr, 2004), therefore, having a “How” research question requires from me to obtain concrete measures to answer to it, which is only able by resorting to a qualitative approach (Gephart Jr, 2004). Furthermore, qualitative research is useful to describe the interviewees’ own words and interpretations (Gephart Jr, 2004; Graebner et al., 2012), which, in my case, makes sense to apply: to understand their operational mode, actions, experiences and personal opinions about whether fine dining and sustainability are contradictory or not.

Regarding the type of qualitative approach, I decided to conduct a comparative case study, by exploring two very different restaurants at first sight, to compare their similarities, as well as their differences (Stake, 2013). By doing so, I can achieve more compelling and generalized findings through direct comparison (Ozcan et al., 2017; Yin, 2009). Moreover, comparison allows having different results and alternative solutions for similar matters (Esser & Vliegthart, 2017).

To meet the purpose of this dissertation, I decided to contact Portuguese fine dining restaurants who concurred with the following criteria: being headed by a qualified chef; high quality of products used; technical and multiple course tasting menus served; premium prices charged; high-end presentation of the dishes and originality. Although I have tried to contact fine dining restaurants by email, through employees/managers in LinkedIn and directly through their website, I have not received any feedback from Belcanto, nor from the Avillez Group, neither from 100Maneiras. Unfortunately, I received an automatic email from Tavares stating

they were closed for maintenance. Therefore, I was only able to interview people from two restaurants: Arcadas, from QL Hotel, in which I have directly gone to the hotel lobby asking for collaboration; and SEM Restaurant & Wine Bar, which I persistently tried to contact through email, Instagram page and through the founder's LinkedIn. I believe the investigation of these two cases allow me to answer my research question, as, on one hand, I am studying a restaurant inserted in a luxury hotel and, on the other hand, I am exploring a restaurant focused on sustainability while serving elevated dishes, being each of them representative of a different type of restaurant. These opposition between the two permits that I compare their differences and similarities, as well as conclude about whether fine dining and sustainability are contradictory or not.

3.2. Data collection

I collected primary and secondary data. Regarding primary data, I conducted in-depth interviews (Tables 1 and 2). I was able to conduct six of them, three for the case of Arcadas and three for the case of SEM (Tables 1 and 2).

At Arcadas, I interviewed: the QL Hotel's director, Alberto Gradim; Arcadas' chef, Vítor Dias; and the responsible for food and beverage (F&B) and operations director, Carlos Matos (Table 1). All three interviews were held in Portuguese and at the library of the QL Hotel, and then I had the opportunity to do some observation by visiting the restaurant and the biological chef's garden.

Regarding the second case, SEM has a small and fixed team and has only opened in 2021. Therefore, I thought that I should interview more extensively the two co-founders, one of them being the official head chef. I have first interviewed Lara Espírito Santo, co-founder of SEM, at the restaurant and later I had the opportunity to interview George McLeod by phone. Once this restaurant depends a lot on the close partnerships with its suppliers, the third interviewee was Francisco Alves, an animal producer at Herdade de S. Luís, or "soil producer" as he usually says, creator of "Porcus Natura" brand and supplier for SEM (Table 2). This last interview was also conducted through phone.

The themes that I explored in these interviews were: the restaurants' history, fine dining traits, menu elaboration process, sustainable practices implemented, supply chain and possible

limitations to evolve in a more sustainable way. All interviews were held in Portuguese except the one with George McLeod, conducted in English.

I also gathered secondary data (Tables 3 and 4) from websites, newspapers, magazines, blogs, social media (namely the Instagram pages of the two restaurants, as well as QL hotel, Herdade de S. Luís – Porcus Natura, and SEM’s co-founders Instagram pages), interviews, reviews, and even a podcast to assure triangulation of all data compiled. In addition to it, the operations director of QL Hotel sent me a full list of media references related to Arcadas and the hotel (Table 3).

3.3. Data analysis

After collecting the data from all interviews, I proceeded to analyse the data through a coding method (Patvardhan et al., 2015), where I labelled quotations, either from primary or secondary data, with codes (first-order), which were based either on the research question, the literature review or new labels derived from my own interpretation (Table 5 and Table 6). Later on, I was able to cluster these codes into conceptual categories and combine these last into the last coding order, the aggregate dimensions (Ramus & Vaccaro, 2017) that ultimately give answer to my research question (Table 5). On the “Data Structure” table (Table 5), the first column displays the first-order codes, which were clustered into bigger segments on the second column - “conceptual categories” -, which then were aggregated in the last column into two dimensions. The “Coding table” (Table 6), presents on the first column the conceptual categories, that reunite the respective first-order codes, to which several quotations from the interviews were linked to. Two examples of this are: “social sustainability”, a first-order code (Table 5) retrieved from the literature review, encompassed by the conceptual category “Supporting social causes and educating community”, to which the following quotation was linked (Table 6): *“Hiring solutions with positive discrimination (...) hire ex-convicts (...) and train them to enter the labour market”* (Interview of Lara, co-founder of SEM); other example is the first-order code “longevity increase” (Table 5), inserted in the conceptual category of “Efficiently using resources and reducing its consumption” and which derived from my interpretation of the following quotation (Table 6): *“(...) you remove it from the (recycling) cycle (...) and you give it a higher intrinsic value (...) not only financial, but in terms of longevity”* (Interview of Lara, co-founder of SEM).

This way, the reader can easily follow my reasoning and understand what led to the conclusions in the findings chapter. For my cases, I followed an analysis of comparison both similarities and differences (Stake, 2013). Apart from the in-depth interviews (Tables 1 and 2), I also resorted to some secondary sources (Tables 3 and 4), which I use to complement the information I gathered and to try to do data triangulation to demonstrate the reliability of the information.

4. EMPIRICAL SETTING

To answer to this dissertation's research question, I selected two Portuguese fine dining restaurants– Arcadas and SEM Restaurant & Wine Bar. In this chapter, both restaurants are described regarding their history, concept, capacity, environment, prices, distinctions, and latest news.

4.1. Arcadas restaurant

Arcadas is a restaurant that belongs to Quinta das Lágrimas (QL) hotel, a five-star hotel right in the centre of Coimbra, Portugal (*Quinta das Lágrimas - Hotel de 5 estrelas, Coimbra – Portugal*, n.d.). It is a property belonging to the Júdice family since 1730 (Interview of the operations director of QL hotel).

Although QL as a property exists since 1326, the construction of the main palace only happened in the XVIII century. In 1879, due to a fire, the palace had to be rebuilt. In 1995, the Júdice family decided to transform the palace into a hotel, having suffered several physical modifications and renovations until 2016/2017. According to the director of the hotel, Alberto Gadrim, QL and its 55 bedrooms portray three different eras through its three wings which are connected by a corridor known as “tunnel of time”. Firstly, the rooms in the main palace wing represent the 19th century. Then, the rooms in the garden's wing represent the 20th century. Last but not the least, the spa wing, created in 2004 represents the modernity of the 21st century. All rooms are decorated according to its fit within each wing (Interview of the director of QL hotel).

Apart from displaying five stars, the hotel differentiates itself for being surrounded by around 12 hectares of gardens (Pontes, 2021), for its link to one of the most romantic stories in the Portuguese royal history and for the services it offers to its clients such as the spa, the golf club, the two internal restaurants, Pedro & Inês and Arcadas, a gastro bar and an out of the premises restaurant, Loggia (*Restaurantes*, n.d.). Around the year of 2014/2015, QL joined the “Small Luxury Hotels of the World”, a community that joins conscious independent travellers with 520 “anti-chain and anti-same” hotels from more than 90 countries, where the seconds offer the firsts single experiences that match the “highest standards of luxury and guest wellbeing” (*About SLH | Small Luxury Hotels of the World*, n.d.). Alberto Gadrim ensures that

the hotel has been successful throughout the years and that there has been a significant growth of 45% in 2019 compared to the numbers of 2017, and around 20% of growth in Arcadas. However, due to the pandemic, these values have dropped for some months, but the director proudly affirms that in October of 2021 the growth of the hotel was already attaining very similar levels to the ones in 2019 again (Interview of the director of QL hotel).

Regarding Arcadas, the restaurant was born in 1995 (Interview of the director of QL hotel), along with the transformation of the palace into a hotel, to tackle the need to serve the guests. Nowadays it has a capacity of 40 people and is only open for dinner, from 7.30pm until 10pm. The name of the restaurant, previously known as “Arcadas da Capela”, as to do with the fact that the restaurant occupies the space of the ancient chapel arcades, which are still visible (Interview of the operations director of QL hotel). Later, “Arcadas” was adopted as the new name for the restaurant. It usually works with a team of 5 people in the kitchen and 4/5 people in the dining room (Interview of the chef of Arcadas; Interview of the operations director of QL hotel). The room has a modern yet classic décor, the atmosphere is very sober, calm and elegant and it has view to the garden. Regarding tableware, the restaurant makes use of white cloths and premium plates and glasses (Interview of the operations director of QL hotel). According to the director, Arcadas offers seasonal fine dining menus and a chef’s contemporary cuisine. The restaurant functions mainly with three tasting menus: Lágrimas (tears) menu (60€ per person), 25 Years menu (75€ per person) and Arcadas menu (85€ per person) (Interview of the chef of Arcadas). Gadrim describes the usual customers of Arcadas as foreigner guests of QL with moderate to high economic power. As a small restaurant of the hotel, most of Arcadas customers are guests of the hotel, which means that they usually enjoy the restaurant during their stay, making Arcadas different from an everyday go-to restaurant. However, it is open to the general public outside the hotel all year.

Arcadas complements QL, keeping the reputation expected for a five-star restaurant through the quality presented in every dish and menu served. On top of that, the chef always picks the best regional ingredients to create exquisite food recipes (*Restaurants*, n.d.). Furthermore, the fact of having 12 hectares of garden (*Quinta das Lágrimas - Hotel de 5 estrelas, Coimbra – Portugal*, n.d.) allows the hotel to have a “chef’s garden” (*Restaurantes*, n.d.) full of aromatic herbs and vegetables, as well as an orchard. Although these do not allow Arcadas to be self-sufficient, António Gadrim declares that every day the staff collects ingredients to use in the kitchen. Allied to the premium author dishes served, Arcadas is the only restaurant in Coimbra counting with four certified sommeliers and also disposes of a very

wide wine list to pair with its cuisine, creating a fine dining experience for the customer (Interview of the director of QL hotel). The restaurant has even developed its own signature wine “Pedro & Inês”(Restaurante Arcadas - Restaurants, n.d.), allusive to the historical love story of the Portuguese king and the only Portuguese posthumous queen. Arcadas has once been distinguished by “The Liste” as one of the 500 best restaurants in the world and has displayed a Michelin star in 2004.(Restaurante Arcadas - Restaurants, n.d.)

The director of the hotel stated that Arcadas is one of the centre pieces of the total of the hotel’s revenues. Serving mostly guests, the growth of the restaurant has been coherent with the growth of the hotel throughout its existence. Gadrim explains that, due to the pandemic, restaurant size and specificity of only serving dinner, the hotel had to close Arcadas during more than a year, which had a severe impact on the hotel’s revenues. Currently, Arcadas has reopened and has been successful at achieving the levels of the pre-pandemic (Interview of the director of QL hotel).

When it comes to sustainability, António Gadrim clarifies that the sustainable practices adopted for the restaurant flow from what is adopted to the hotel in general and that this transformation has been occurring gradually, not only from a perspective to help the planet and be more ecologic, but essentially because the director believes that economic sustainability allows efficiency, something expected from a five-star hotel. He also asserts that nowadays being sustainable and being luxury imply one another (Interview of the director of QL hotel).

In 2021, to celebrate the 25 years of Arcadas and in addition to the 25 Years menu, chef Vítor Dias has launched a recipe book, enabling people to recreate at home some of his best delicacies (Carvalho, 2021).

4.2. SEM Restaurant & Wine Bar

Located at the heart of Alfama, one of the oldest and historic neighbourhoods in Lisbon, SEM is an independent restaurant with the purpose of redefining the concept of sustainability (Pires, 2021).

Premiered on the 29th of June, 2021 (Pires, 2021), SEM is the name of the restaurant founded by the couple Lara Espírito Santo and George McLeod, a Brazilian and a New Zealander, with the dream of opening a restaurant and wine bar with zero waste and no bin. Although the name of the restaurant derives from the capital letters of the surnames of the co-founders, it also captures the spirit of no waste (Interview of Lara, co-founder of SEM). Before moving to Lisbon, Lara and George worked together at Silo, London, the “world’s first Zero Waste restaurant” headed by Douglas McMaster (Pires, 2021), where it was created this new food system. They were also responsible for the Samambaia project, a pop-up restaurant in London that followed the same mindset. During 2020, in the middle of the Covid-19 pandemic, the couple took a leap of faith and moved to Portugal hoping to make their dream real (Interview of Lara, co-founder of SEM). It was in Alfama that the couple found their new restaurant space, a previously restaurant that was about to close (*Design.*, n.d.). The space counts with two communicating rooms, one destined to the restaurant room and open-kitchen and the other to the wine bar. The environment of the restaurant is relaxed and informal, contrasting with the sophisticated appearance of the dishes served. Both rooms are simply, but harmoniously decorated, with recycled and reused materials and pieces (*Design.*, n.d.), and in the centre of the restaurant there is a big shelf where lots of flasks filled with ingredients fermenting are displayed (Lacerda, 2021).

In order to have control over portions and zero waste, SEM serves a single tasting menu in the restaurant room (6-8 dishes, 45€ per person) (Interview of Lara, co-founder of SEM), whereas in the wine bar they serve more affordable dishes to share, à la carte, matching the more laid-back environment (*Food.*, n.d.). Contrary to other restaurants, SEM has inverted the cooking process by defining its menu accordingly to what its suppliers have available for that week (*Mindset.*, n.d.). This means that the menu is constantly changing, sometimes more than once a week and demanding from both Lara and George, a great exercise of creativity and planning. The restaurant only opens for dinner, from 7 p.m. until midnight (*SEM*, n.d.). The

capacity of the dining room is of 20/23 people and of 15/18 people in the wine bar (Interview of Lara, co-founder of SEM).

Although the restaurant has opened only a few months ago, the media have already covered some interviews about the restaurant and its operational mode, and Lara stated that the feedback has been way more positive than the couple could anticipate (Interview of Lara, co-founder of SEM). The couple of food activists have also joined the “Reserva e Aparece” movement (A. Coelho, 2021) which fights the “no shows” reservations, alongside with other renown Portuguese chefs and restaurants (A. P. Coelho, 2021) .

In the beginning of October, TimeOut has published a 5-star review about SEM and, more recently, in the beginning of December (Lacerda, 2021), has even awarded the restaurant with one of the “TimeOut Best of the City Awards 2021” regarding Lisbon.

5. FINDINGS

As described in the literature review chapter, the investigation about sustainability in restaurants is very limited and there are no studies about concrete measures to combine fine dining and sustainability. Due to this and to answer to how restaurants can be sustainable while offering fine dining experiences, I studied two cases: Arcadas restaurant and SEM restaurant & wine bar. As explained in the methodology chapter, I proceeded to code the data I collected with labels from different orders, to analyse the dataset (Table 5).

I decided to divide the findings chapter in two subsections, corresponding to the two found aggregate dimensions: the first one exploring the strategies that enable both sustainability and fine dining concepts, and a second one to show strategies that, although being purely sustainable, do not contradict or hurt the fine dining offer.

5.1. Strategies that enable both concepts of fine dining and sustainability

The following three subsections, corresponding to the conceptual categories of the first aggregate dimension, show simple strategies that combine aspects of both fine dining concept and sustainability.

5.1.1. Using local ingredients

The results show that a first strategy to being sustainable and contributing to the fine dining positioning as well is the usage of local ingredients. In terms of sustainability, this allows not only to support local producers, which may represent the social dimension of sustainability, but it also means that the products used are autochthonous. This implies that restaurants are using products that do not harm their own habitat, nor other species that with it coexist.

Using regional products can capture the storytelling characteristic of fine dining, once the ingredients itself can transport diners to the specific place where came from, being intrinsically attached to the history of the region and its traditions. At Arcadas, this idea is followed:

“We always use national ingredients, which are typical within the region, autochthonous products (...) we want to promote the gastronomy allied to the promotion of the region too. This enables us to create a storytelling around each dish we serve, offer we make, even the wines, so, this is not selling food only, it is selling of a service, selling of a story, of a region (...) So, we look for it to be an experience that only exists at Arcadas, because there is only one Arcadas, and there is only one this region.” (Interview of the director of QL hotel)

In addition to this, the search for using local ingredients can even lead to realising the potential of some underestimated unique ingredients. At SEM, the founders take advantage of foraging:

“George loves foraging (...) the search for wild ingredients. We use it a lot, it is a way of using what is undervalued. (...) One example is camarinhas (...) only exists in the dunes of Portugal and Spain and nowhere else in the whole world. (...) it looks like a white blueberry. It has an amazing flavour, and a wonderful nutritional value.” (Interview of Lara, co-founder of SEM)

As it is observable, the simple act of using regional products will support the local producers and, consequently, the community. Furthermore, it is a way to both promote the region and to elevate the fine dining experience for the customers, for the coherent storytelling created throughout the menus. Last but not the least, cooking with autochthonous products may also suggest looking for wild, unique ingredients. In the case presented, *camarinhas* fit the fine dining concept, once the restaurant will be using a very rare product, that conveys that sense of scarcity and of originality to the client, and, at the same time, the product itself is a high-quality one due to its high nutritional value and flavour. Still, by opting for foraging, restaurants can obtain this ingredient for free, transforming it completely into profit when served.

5.1.2. Having a chef's garden

Secondly, the results show that a second strategy allowing a symbiosis relation between fine dining positioning and sustainability is having a chef's garden, which implies a small biological garden where the kitchen's staff can stock up of some ingredients to then cook with to serve at the restaurant.

This is a strategy adopted at Arcadas:

“We have a biological garden which does not allow us to be self-sufficient. However, it allows us every day to harvest something, being it thyme, parsley, seasonal edible flowers, we go there every day. When there are lettuces, we pick it, leek (...).” (Interview of the director of QL hotel)

Although the chef, Vítor Dias, confirmed that the 200 squared metre chef's garden is not enough to satisfy the full demand at the Arcadas' kitchen, in the past two years and given the 12 hectares of the property, there has been an effort to enlarge the internal offer:

“Here at the property, we have mostly aromatic herbs along the canal ditch. (...) Two years ago we created a terrace of land near the forest, where we plant peas, broad beans, anything that does not require too much labour force, but it would be great if we could be self-sufficient (...) I also have a biological garden at home and sometimes I bring some things, I now recall when I brought kale (...) and it had snails (...) it is then a matter of washing and sanitise, but it is a sign that it suffered no treatments.” (Interview of the chef of Arcadas)

Even though many restaurants may not have resources to have a biological garden within the restaurant space, it is possible to rent a piece of land in community gardens. The advantage of doing it so, apart from the sustainability implied by organic agriculture with no use of chemicals, is that it allows the fine dining restaurants to have the freshest ingredients guaranteed. This has implications on the quality of the final dish served.

5.1.3. Creating seasonal menus

In this last subsection of the first aggregate dimension, the results uncover the findings related to how creating seasonal menus combine sustainability aspects as well as the refinement expected at fine dining.

Regarding sustainability, creating seasonal menus implies that a restaurant will be using the season's high-quality ingredients and still respect the crop cycle. This is the case of the two restaurants studied, however this strategy can be used for different purposes.

In the case of SEM, the definition of tasting menus is a way to control portions and, consequently, reduce waste:

“We have our menu changing, sometimes, twice a week. It is not even seasonal. It is micro seasonal. It is very loyal to what is happening in farms. (...) The reason why we offer tasting menus is portion control (...) I know exactly what they (diners) are going to eat (...) I do not need to discard any leftovers, nor I need to cook anything else more (...) the menu ends up having an interesting narrative, but that is more of a consequence than a motive.” (Interview of Lara, co-founder of SEM)

In addition to the sustainable fact of portion control and respect for the product's cycle, the fine dining aspect of it can be linked to the high quality of seasonal ingredients in their own season:

“(seasonal changes) Because the ingredients change. (...) the same ingredient from now can even exist during summer, but we already know it will not be at its peak of quality, so we always look forward to serve seasonal gastronomy (...) fullness that we have on the due season.” (Interview of the director of QL hotel)

Like previous strategies, this one allows to offer high quality ingredients, at the peak of their quality on their right season, while respecting the soil cycles. For SEM, the offer of tasting seasonal menus is also a way to control portions, while emphasizing the narrative reproduced throughout the service.

The three strategies presented showed how these two restaurants manage to apply sustainable practices, while respecting and even raise the fine dining attributes. For the next subsection, I will concentrate on the findings of strategies that, although are not fine dining at its core, do not spoil the concept of the restaurant and can have strong positive impact on the environment.

5.2. Strategies that enable sustainability without harming the fine dining concept

This second aggregate dimension is divided in five subsections that represent each conceptual category identified. These demonstrate how restaurants can operate in a more efficient and eco-friendly way, with no negative influence on their fine dining offer or positioning.

5.2.1. Using invasive species

The results show that, although it may seem contradictory to the sustainability concept itself, using invasive species may be one strategy to operate in defence of the ecosystems, once it removes what is in excess and damaging it:

“We also cook a lot with invasive species (...) The signal crayfish, a red crayfish originally from North America (...) it is nowadays in every freshwater course in Portugal. It is an invasive species, it is omnivorous, so it eats both plants and animals, easily surviving, which results in a great impact on the local habitat (...) We try our best to use species that exist in excess.” (Interview Lara, co-founder of SEM)

The effort put by SEM to make use of these invasive species and hoping to restore the ecosystems' equilibrium does not apply only for food, the restaurant also conveys this message through its furniture:

“All the wood used at the bar is from acacia (tree) (...) which is super invasive in Portugal. (...) The design also has an important role, right, of, in terms of a creative industry, removing this excess from the environment.” (Interview Lara, co-founder of SEM)

What can be learnt from this strategy is that, firstly, it can be applied to food without interfering in the quality of the dish served, but it goes beyond food itself, allowing restaurants to create a creative atmosphere, that conveys the owners’ beliefs in everyday objects used at their restaurant. Neither of this goes against the fine dining concept.

5.2.2. Efficiently using resources and reducing its consumption

The results of this study have also shown that restaurants should use a strategy to operate more efficiently and reducing the consumption of resources, being it energy, water, or non-renewable resources. By doing this, the restaurant will incur in less costs, while being committed to environmental and economical sustainability actions.

At SEM, the co-founders battle to resort to recycling if they can, privileging reuse of materials:

“At the restaurant, recycling is our last option, if that product can be anything else before entering the recycling cycle, the better (...) because one plastic bottle is never recycled, but downcycled (...) it will never be an entire new bottle again (...) it will be part of a plastic bottle, and then an even minor piece of plastic from another bottle (...) eventually a microplastic.” (Interview of Lara, co-founder of SEM)

Lara also argues that the recycling process, apart from the big input of energy needed, usually uses non-renewable or non-clean resources, such as petroleum. For these reasons, at her restaurant, Lara prefers to incorporate some materials that they already have into, for example, furniture, to increase its value, both utilitarian and financial, giving it a second life without the need of consuming more energy in the recycling process:

“These tables are made from recycled plastic (...) the plastic on these will never enter the recycling cycle again, it will forever be

a table, so you remove it from the cycle, you remove this material that exists in excess in the environment, and you give it a higher intrinsic value (...) not only in a financial matter but in terms of longevity.” (Interview of Lara, co-founder of SEM)

By visiting the restaurant, I could observe that the tables were not the limit, the whole restaurant is decorated with reused materials, from the floor at the bar being made of rubber from shoe sole, to the previously scraps of fast-food restaurant papers, now original lampshades designed by a plastic artist. The purpose is to reuse and give real use to materials that otherwise would be discarded.

At Arcadas, they follow a not so radical approach. They auto propose efficiency measures to reduce the consumption of resources. Furthermore, the director of the QL Hotel declares that their certification is to be taken seriously, so they do what they can to minimise the waste of resources and to be more efficient:

“We seek for the maximum level of local products possible (...) to avoid consumption and carbon footprint of (car) trips (...) during the pandemic we took the opportunity to install photovoltaic panels (...) even important for heating sanitary waters. (...) Using the showers’ water to use it to flush the toilets in a luxury segment, the client does not notice it and I am applying here a very important policy to guarantee sustainability.” (Interview of the director of QL hotel)

Another motivation to act in a more efficient way is the costs benefits: António Gadrim points out that the more efficient they become at managing, for example energy and waste, less they will have to pay.

5.2.3. Managing waste

Results have demonstrated that managing waste strategies, beyond the capability of being adapted to every restaurant, result in multiple environmental and economic benefits.

At Arcadas, they separate the waste by nature; they have a fat retention basin, equipped with an enzymatic treatment that eats the fat and prevents these to get to the effluents (Interview

of the director from QL hotel). They also have a partnership with a company that collects the oil to recycling and a few times they compost (Interview of the chef of Arcadas). Regarding managing food waste, the chef declares that:

“I usually say that in the kitchen, nothing is spoiled, everything is transformed (...) we choose the best parts for Arcadas, but then we have other channels (...) we have staff, other restaurants. (...) We do the classic which is the minimum waste possible (...) we always have 3 to 4 stocks available at the kitchen, being it from fish, meat and vegetables (...) to enrich other meals (...) so we can take the best out of the ingredient and not to discard it.”
(Interview of the chef of Arcadas)

The director also complements this idea of using every part of an ingredient by passing it through different channels:

“We have the particularity of pursuing zero waste (...) we have a staff’s canteen where some ingredients are regenerated. (...) When we buy 10 kg of meat (...) we cannot take the maximum advantage of these (...) in Arcadas. There will be waste (...) in the sense that there will be a percentage of these product’s waste that will not have the destiny it was bought for. Naturally, this meat will be used, if not on other dishes (...) I can simply include it in the staff’s menu. (...) We seek to always have a regeneration of products.” (Interview of the director from QL hotel)

In addition to this regeneration of food on other restaurants or the staff’s canteen, Arcadas kitchen resorts to new technologies, namely vacuum packaging, and low temperature cooking. This allows to have pre-preparations at a very advanced level, avoiding cooking in a hurry, which:

“Usually, it is what leads to a greater waste level (...) we have the service organised (...) this allows a programmed, organised and controlled work to minimise the costs and waste.” (Interview of the director from QL hotel)

Regarding the usage of less aesthetic ingredients, the operations director of QL hotel adds that these ingredients can still be used at Arcadas, just not in their original shape (Interview of the operations director of QL hotel).

At SEM, this process is very different. It begins by differentiating “live food” from “dead food”, a classification both co-founders learnt at Silo. By doing so, they privilege the use of live food once it will not create so much waste as dead food:

“Live food is food that still has something to offer, it can be a peel, a seed, a stalk, a bone (...). If it still has (...) flavour to offer, it is considered live. That we never discard. (...) Later on, when this food passes to dead food, we compost.” (Interview of Lara, co-founder of SEM)

In addition, SEM makes use of old and modern conservation techniques such as fermentation and smoking, in order to extract flavour from food that *per se* does not exist, creating new seasoning for upcoming dishes:

“Through fermentation, (...) a peel of a sweet potato becomes a seasoning for a dish served three weeks later. (...) It is nice to show you then what we can create with things that are usually discarded (...) our food ends up being composed by products at the peak of their quality (...), complemented by elements that are leftovers of other menus, which become new flavours, a seasoning.” (Interview of Lara, co-founder of SEM)

Furthermore, George explained that there is still a solution for dead food, by transforming into a treacle, obtained through pressure cooking the bits they cannot use in water and reducing it until it forms a molasses that they use to flavour sauces (Interview of George, co-founder of SEM).

Lara explained that they also intervene in previous stages of the food chain, giving the example of how they use subproducts, that have good nutritional value but are discarded in other restaurants (for example, whey and buttermilk). The couple transforms it into a new food, sells it and makes both profit out of it, without incurring in waste costs. Nevertheless, the restaurant goes beyond food waste managing: they do not use plastic, especially single-use one; they do not have a bin; they do not even use paper to sanitize the tables, instead they use compostable cloths; they keep every cork to give to friends that are placing corks at the ceiling of their own restaurant for isolation; they are trying to discover a recipe to use the wax from wine bottle to transform into candles; and they also shatter all glass bottles (of wine) and after

obtaining sand, they look for artists that work with glass or construction companies that make asphalt. (Interview of Lara, co-founder of SEM)

“(...) A restaurant usually begins their billing model already counting up for 5% of waste. Ours is zero (...) it 5% of profit because we reuse, we use the whole ingredient, every cut of meat, vegetable, or leaf. (...) one thing that would normally be discarded we try to transform it, so it begins to have higher value than its original (...) a second life which is what we try to do at the restaurant.” (Interview of Lara, co-founder of SEM)

When it comes to managing waste related to the use of the whole product, Francisco Alves' opinion is that chefs too must think and put an effort to create new dishes if they desire to make a difference:

“(...) try to balance the dish with other products (...) there is no need of having so much quantity at the restaurant (...) it is possible to have less waste from ingredients by deciding on a more correct and coherent menu proposal. (...) due to full exploitation only, there is no need to increase the prices. However, if the diner knows what he is eating is healthy and has a positive impact on the ecosystem, (...) the diner will not mind paying a bit more.” (Interview of Francisco Alves, supplier of SEM)

This means that following waste management strategies, not only refers to the reduction and treatment given to possible waste, but it also may mean minimising fixed costs and obtaining more profit from it.

5.2.4. Opting for conscious suppliers

It was also found out that opting for conscious suppliers is a strategy that will influence the quality of the offer, as well as preponderate the idea of sustainability from the beginning of the chain until the moment the dish is served.

This strategy has a strong influence in the operational model of SEM, once the restaurant depends on what the suppliers offer to them. Both co-founders believe in the regenerative

culture and even state this may be the only way to fight back climatic changes and bring back life to soil.

“I support regenerative agriculture (...) it is an agriculture that goes beyond the biological one, ok? It is an agriculture with the purpose of regenerating the soil (...) fomenting biodiversity and efficiency (...) it is an integrated agriculture with use of pasture animals from different species (...) they step on the soil, naturally fertilizes it which attracts bacteria, microbes, fungi and everything which brings life to the soil (...) creating an extremely healthy soil, with healthy animals and plants less susceptible to diseases.” (Interview of Lara, co-founder of SEM)

To better convey the message, Lara describes a metaphor to distinguish sustainability from regeneration and pointing out the importance of the latter:

“(...) we are on a boat, and it is full of holes. The idea of sustainability is maintaining the scenario, which means we cannot create more holes, otherwise the boat will sink. The same happens with biological agriculture, it is not creating more damage, but it is still very industrialised (...) and has still a very negative impact. When we talk about regeneration, we talk about sealing these holes, otherwise the boat would sink either way, even by not creating more.” (Interview of Lara, co-founder of SEM)

Francisco Alves, producer at Herdade de S. Luís – Porcus Natura, often self-called as “soil farmer” explained that the concept of their creation relies on a rotation system, creating their animals in freedom, using the pasture animals as tools to regenerate the soil, which allows him to not have to use machinery or any chemicals in the production. The different species of animals will eat different plants on the soil at different times, and then they will rotate. Apart from fuelling the soil cycle and bringing life to it, this method also prevents fires in big farms during summer, once the animals eat all biomass, transforming it into meat. (Interview of producer at Herdade de S. Luís – Porcus Natura and supplier of SEM). Francisco is apologist of the holistic management:

“Holistic management is not only about environmental managing, but social and economic as well (...) looking to these three factors (...) trying that our decisions take into account the three and not only one (...) to regenerate the ecosystem.” (Interview of Francisco Alves, supplier of SEM)

This implies that in his production Francisco takes the three dimensions of sustainability into account and adopts a regenerative production. He claims that, contrary to conventional agriculture, regenerative agriculture results in a great positive impact in terms of carbon capture in the soil once it does not turn the ground.

“In traditional agriculture (...) those machines that turn the soil, release the carbon to the atmosphere (...) the regenerative agriculture is the exact opposite. It is about building the soil with the animals and the organic matter left by them. (...) As long as the soil is not productive, we are not being efficient (...) if there is no regeneration, there is no sustainability. Nature is a cycle and if that cycle is not recreated (...) there is no regeneration, there is death of a system”. (Interview of Francisco Alves, supplier of SEM)

Furthermore, SEM’s founders explained how the restaurant is privileging river fish, due to destructive practices used in the sea fishing (Interviews of Lara and George, founders of SEM).

Although Arcadas does not have any supplier related to regenerative agriculture yet, only to biological (for example, eggs’ biological producer of ground chickens), both the chef and the operations director refer that the restaurant is taking little steps towards this area, and they have no doubt the future will be regenerative alternatives. (Interview of the chef of Arcadas; interview of the operations director of QL hotel).

5.2.5. Inverting the operational process in the kitchen

Though being a very revolutionary strategy, when well applied, an inversion of the operational mode can result on very pleasant outcomes in the field of sustainability.

At SEM, the co-founders decided to adapt the operation model of Silo, the restaurant where they both worked in London, into their restaurant. According to Lara, the implementation of it began with the search of producers which were already involved in regenerative agriculture and production, once SEM only cooks with what producers have to offer:

“(...) So, we inverted the process (...) in the standardised industry, you define the plate and then you go after your ingredients. (...) You usually create a dish; you understand you need 10 kg of tomatoes. After it, you go after you suppliers to ask for it. (...) We only work with what they have, so we create dishes according to what is happening on the fields. (...) Products that are at their best at that moment, because they are what producers have to offer at that same moment.” (Interview of Lara, co-founder of SEM)

This requires from Lara and, especially from George, a lot of planning, as soon as they receive the products, so they can decide on the menu they are going to serve on that week, using only the limited amount of ingredients they received, both on quantity as well as on diversity. Though it may sound like a disadvantage, this practice allows, to continuously developing the chef's creativity to create new dishes and apply head-to-tail concepts, and, secondly, to avoid additional costs on buying ingredients that would not be fully used, consequently avoiding production of waste. According to George the limited amount of goods to cook is not a problem, once for him this operational method *“is the only way to do it”* and, as his former boss used to say: *“Limitation breeds creativity”* (Interview of George, co-founder of SEM).

In the case of Arcadas, the chosen process is the commonly used of deciding the menu first, and only then go after the suppliers (Interview of the operations director of QL hotel). However, chef Vítor Dias talked about an adaptation of this practice:

“We have a fish dish (...) we do not define the fish, we call it fish of the day, it is what comes from the sea that day, within a set price (...) it can be grouper, corvine (...), what arrives on that day. We have this deal with our supplier where he has freedom, within a price and calibre table, to send us whatever.” (Interview of the chef of Arcadas)

Although this happens in a minor scale, this is also an example of inverting the process and to cook with anything that arrives.

5.2.6. Creating a network with suppliers and other restaurants

The conducted research proves that even if at first sight this practice does not seem sustainability related, the creation of a network with others may be a very clever way to both do better waste management and reduce costs, but also a way to achieve win-win relationships.

Once QL hotel owns various restaurants and cafeterias (internal and external), this practice comes in handy to do control waste management:

“We have other sales points, the Loggia up there. (...) The meat cuts that are not served at Arcadas, will be used (...) in Loggia.”
(Interview of the director of QL hotel)

This way, Arcadas manages to reduce waste and does not incur in costs from it.

Although being already inserted in a small suppliers' network “Projeto Matéria”, founded by the chef João Rodrigues, the SEM's supplier from Porcus Natura – Herdade de S. Luís, proposes the use of this practice between restaurants to achieve efficiency in both delivery and use of all parts of an animal:

“What we tried to develop with «Talho das Manas» (butcher) was for them to be our voice in several restaurants (...) like: « Francisco will have pigs to slaughter (...). Who wants and who does not want? », and we organise among all (...) so that after I can be the most efficient in the animals' delivery. With this logistics, everyone wins, if we do it together (...): develop partnerships with butchers, the neighbours' restaurant (...), with whom they can share the carcass.” (Interview of Francisco Alves, supplier of SEM)

Everyone benefits from this, from establishing close contacts, to ease logistics, reduce costs and being able to divide an animal carcass among the interested, so everyone can get the parts they want without having waste.

5.2.7. Supporting social causes and educating community

Last but not the least, results have shown that it is possible to adopt strategies that enable social sustainability, focused on two big parts: on one hand, supporting social causes, and on the other hand, the importance of educating the community.

As far as social causes are concerned, every restaurant, independent of its type and size, may pursue it. As something that has a positive impact in the community, fine dining restaurants have nothing to lose to join and support social causes since their perceived reputation may even rise.

In the case of Arcadas, the chef and the operations director confessed that they do not permanently support any social cause, however Carlos Matos stated that “*sporadically we have some events (to support social causes)*” (Interview of operations director of QL hotel). The chef gave the example of a fundraising dinner held to support victims of fire.

By the time of the first SEM’s interview, Lara confessed that they did not support any cause, but that they had already planned and were saving to donate money in the end of the year to institutions they sympathise with:

“At the moment we have a list of organisations we would like to help (...) a project that consist of training refugees to work in a kitchen, (...) another one that works along with disabled people in the fields. (...) I have been also studying (...) hiring solutions with positive discrimination (...) hire ex-convicts (...) and train them to enter the labour market.” (Interview of Lara, co-founder of SEM)

One month later, while interviewing George, co-founder of SEM, he told me that they were already working with kitchen porter to start a foundation to help kids from Nepal (country of origin of their colleague) and teach them the “*right way of living*” (Interview with George, co-founder of SEM). The format is not yet decided, although George mentioned a possible farming school, teaching regenerative and sustainable practices.

Regarding the education of community, Lara defends that sharing knowledge is the key for more restaurants to adopt more sustainable strategies, and gain power as the intermediaries of the chain to: shift attitudes of producers to more conscious production, and to influence the shift at mindset of customers to start looking for more real sustainable options. She also

mentioned that SEM does consultancy and that they have already gave speeches about their model at the hospitality schools of Setúbal and Estoril (Interview of Lara, co-founder of SEM).

In short, based on all these findings (Table 7), I am now able to respond to my research question of “how can restaurants be sustainable while offering fine dining experiences?”. The general conclusion is that fine dining and sustainability do not have to be contradictory. Fine dining has more to do with the experience mode, while sustainability does not have to be sold to the client, it can remain just a way to operate or mindset. In fact, the first three strategies show how fine dining can combine both concepts and even elevate the fine dining sense, while the last seven prove that it is possible to apply sustainable measures, in a lot of different ways, without it negatively affecting the desired refinement of the food served. The combination of strategies that enable both concepts, with sustainable strategies that do not harm fine dining, is the perfect recipe for restaurants to be sustainable, while still offering fine dining experiences.

6. DISCUSSION

According to previous studies, traditional fine dining, associated to the luxury sector, is defined through characteristics such as formal, high-end atmosphere, usage of tablecloth and refined tableware, exquisite ingredients, and charge of premium prices (Dixon et al., 2018; Jin et al., 2016; Kiatkawsin & Sutherland, 2020; Park & Almanza, 2015).

My findings show that fine dining is also created by the high quality of products used, creativity and refinement of the dishes served (both in flavour and presentation), the full experience offered aligned with the strong storytelling inherent to the food and surrounding decoration. Although I cannot deny the luxurious aspect of putting tablecloth and using premium cutlery, as Arcadas still does, SEM, on the other hand, shows that is possible to be fine dining through the coherent storytelling they maintain. Moreover, fine dining, just like luxury, is not well-defined in the literature, which results on it being a very subjective concept. From my point of view, both restaurants position in a more contemporary and modern concept of fine dining, where the quality of the food served, overall experience and customer satisfaction are more important. All of this aligned to the fact both comply with the demand of new generations of caring for sustainability issues, each of them in their own way, with more or less constraints.

Furthermore, throughout the findings it was possible to understand that there is no need to use exquisite ingredients from the other part of the globe to compose a high-quality, flavourful and awarded dish. As it was demonstrated, with the simplest, local, and seasonal ingredients, produced with no chemical intervention, it is possible to build a fine dining dish. The trick is creativity and expertise, to make the most out of less noble cuts (Interview of the producer from Herdade de S. Luís - Porcus Natura and supplier of SEM), following head-to-tail principles and resorting to cooking techniques and new technologies to create new delicacies.

Regarding the charge of premium prices, I can say that both cases confirm what is said in the literature. However, the motive to do it may be much more complex. The premium prices should reflect the high quality of the ingredients and all the operational actions that lead to the production of a menu. However, as it was mentioned in the literature review chapter, while customers may be enthusiastic about green practices at restaurants, they do not show to be willing to pay more for these. Still, although Francisco Alves admits that following sustainable

strategies should result in lower prices, he also defends that diners will be willing to pay for that difference, when they understand that the restaurant made the effort to work with sustainable producers, having a great positive impact on the environment (Interview of the producer from Herdade de S. Luís - Porcus Natura and supplier of SEM).

Regarding the possibility of existing contradiction between the concepts of fine dining and sustainability which has not been studied yet (Batat, 2020), in the case of these two restaurants it becomes evident that it is not true. Even though both restaurants, due to their different structure and environment, apply different strategies at the scale that works for them, the two have shown effort to evolve in the field of sustainability. At SEM, sustainability represents their operational model, the one thing they believe in, while at Arcadas, in a much more moderated way, they try to evolve with time, step by step, without denying the future and conscious that sustainability will gradually be their path.

As far as barriers to evolution towards sustainability are concerned, I was able to identify three main factors retarding this process for fine dining restaurants: legislative regulations, lack of knowledge and the mindset.

When interviewing one of the co-founders of SEM, coherent with what was stated in the literature review regarding the governments' lack of incentives, Lara shared that, more than financial constraints, at that moment, one of the things preventing them from doing more was legislative regulations. For instance, she explained they do not have full freedom to use some less-known ingredients due to ancient food laws that have not progressed yet. It is important to let the industry grow, by diminishing the hurdles and rather encourage restaurants to innovate (Ayuso, 2007; Chou et al., 2012).

Concerning lack of knowledge (Batat, 2020), this has been the most acclaimed barrier for a greener evolution of restaurants in the past literature. The findings of this dissertation are coherent with that thought. From their point of view, both Lara and Francisco Alves pointed this factor as the number one barrier for restaurants not to bet on sustainability. Lara suggests that for someone that is entering the 'sustainable world', the amount of information may be overwhelming, preventing managers, owners, and chefs to hit that road, not because they do not want to, but because they do not know where to begin and are afraid to incur on expenses. Another argument pointed out by Francisco is that nor do most producers have knowledge about the management equilibrium of the animals per unit of land to avoid waste of resources and be more productive and efficient; nor do most chefs have the skills and knowledge to cook a less

noble ingredient, ending up discarding products and losing money; nor are most customers familiar with the benefits of conscious production on their health and the planet's. This is why it is so important to keep learning, to educate the community to be more aware about sustainable practices (DiPietro, 2017) and to create networks with other stakeholders and restaurants to share knowledge. As Francisco explained, sustainable strategies may lead to lower costs and less waste. Moreover, if customers become aware of the benefits, their unwillingness to pay higher prices, as mentioned in the literature review, may be dissolved.

Last but not the least, the mindset also plays a great role in the shift of a restaurant to an eco-friendlier operational way. Although Arcadas has more limited freedom due to the size and interdependence with other structures (the hotel and the other restaurants from the unit), when I asked the chef what was preventing them from embracing sustainability more notoriously, he replied that it is mainly due to it not having been the focus of the restaurant and that it was only a matter of deciding when to begin. Nevertheless, all the three interviewees from Arcadas truly believe that the future of fine dining encompasses sustainability. While on one hand, we have Arcadas as an example of a fine dining restaurant, which is trying to become sustainable, on the other hand we have SEM, a sustainable restaurant that achieves fine dining concept, through their conscious practices, stating that their biggest barrier is “(...) *the number of hours in a day (...)*” (Interview of George, co-founder of SEM). To the co-founders of SEM, fine dining comes as a plus: great food experience is what they serve, sustainable is how they operate:

"If you care about the environment, if you care about the world, and you want to have a restaurant, there is only one option (...). In my eyes, you have to do the best you can do." (Interview of George, co-founder of SEM)

Lastly, during the interview, Lara reinforced the central role and power of a restaurant on influencing both suppliers to opt for more conscious ways of producing, as well as influencing customers to become more aware about the topic and their choices. As she claimed:

"(...) being one of the most polluting industries, the food industry has the privilege of being a creative industry. And where there is creativity, there is opportunity to innovate" (Interview of Lara, co-founder of SEM).

7. CONCLUSION

The purpose of this dissertation, guided by the research question “How can restaurants become sustainable while offering fine dining experiences?”, was to help to fill the identified research gap on the lack of studies about sustainability in fine dining restaurants that announce practical management strategies for these to follow to operate in a more eco-friendly and sustainable way, without compromising their positioning.

In conclusion, the results of this study show that, contrary to what can sometimes be thought, the concepts of fine dining and sustainability do not have to be contradictory. Therefore, while it is possible for restaurants to embrace strategies that encompass both terms, by applying sustainable practices that have positive impact in their luxury reputation, it is also possible to recur to strategies that, although being clearly sustainable, do not compromise the fine dining experience. The main takeaway is that restaurants can indeed become sustainable while offering fine dining experiences by reuniting strategies from these two perspectives. Moreover, several times, fine dining will have to do mostly with what is offered to the client, what the restaurant is selling, and sustainability more linked to the operational mode in the kitchen, or in the previous stages before each dish hits the table, the way to do it. Nevertheless, there are still some barriers preventing fine dining restaurants to evolve to a more sustainable management, such as lack of knowledge, a more closed mindset, and some regulations.

The main limitations of this dissertation have to do with lack of resources and very limited sample size. Although the comparison of two restaurants allows to have more alternative solutions and stronger results than a single case, the size and nature of the sample is not representative of this massive and international industry, which means the results must be handled carefully and not generally extrapolated.

Nevertheless, this study may open the door to future investigation related to this topic, which has been scarcely focused on. Future researchers may further investigate the positive and negative impacts of sustainable practices, in both short and long-run for this industry, using quantitative approaches, as well as explore the role of sustainability on enhancing critical aspects of the fine dining industry, such as creativity and urge to remain relevant for the consumers. A great topic would also be to study the critical role of the restaurant on shaping the supply chain practices and mindset of the customers towards sustainability.

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9. APPENDICES

Tabel 1- Primary Data of Arcadas

Type of Data	Organisation	Interviewee	Position of Interviewee	Date	Length
Observation	Quinta das Lágrimas Hotel			27th October	40 min
Interview 1	Arcadas	Alberto Gradim	Director of the Quinta das Lágrimas Hotel	27th October	52 min
Observation	Arcadas			30th November	
Interview 2	Arcadas	Vítor Dias	Chef	30th November	4 min
Interview 3	Arcadas	Carlos Matos	F&B Manager	30th November	41 min

The author

Tabel 2- Primary Data of SEM

Type of Data	Organisation	Interviewee	Position of Interviewee	Date	Length
Observation	SEM			10th November 2021	15 min
Interview 4	SEM	Lara Espírito Santo	Co-Founder	10th November 2021	64 min
Interview 5	SEM	George Mcleod	Co-Founder	8th December 2021	55 min
Interview 6	Herdade de S. Luís – <i>Porcus Natura</i>	Francisco Alves	Producer (SEM's supplier)	9th December 2021	47 min

The author

Tabel 3- Secondary Data of Arcadas

Type of Data	Title	Author	Author's Organisation	Date of Publication
Website	Quinta das Lágrimas https://www.quintadaslagrimas.pt/pt/ Webpages: “O Hotel”, “Restaurantes”, “Restaurante Arcadas”		Quinta das Lágrimas Hotel	
Webpage	Michelin Guide Portugal – Arcadas Restaurant https://guide.michelin.com/pt/pt_PT/coimbra/coimbra/restaurant/arcadas		Michelin Guide	
Webpage	Património Cultural – “Elementos mais representativos existentes na Quinta das Lágrimas” http://www.patrimoniocultural.gov.pt/pt/patrimonio/patrimonio-imovel/pesquisa-do-patrimonio/classificado-ou-em-vias-de-classificacao/geral/view/73803/		Direção-Geral do Património Cultural	
Webpage	“Quinta das Lágrimas e o seu Jardim” https://turismodocentro.pt/artigo/jardim-quinta-das-lagrimas/		Turismo Centro Portugal	
Webpage	Booking: Hotel Quinta das Lagrimas - Small Luxury Hotels https://www.booking.com/hotel/pt/quinta-das-lagrimas.pt-pt.html		Booking	
Newspaper Article	“Arcadas da Capela e Casa da Calçada com estrelas Michelin”	David Lopes Ramos	Público (Guia do Lazer)	2005
Newspaper Article	“Michelin dá duas estrelas e tira uma”	Duarte Calvão	Diário de Notícias	November 20th, 2008
Press Release	“Guia Michelin atribui mais duas estrelas em Portugal” http://www.turismodeportugal.pt/pt/Media/Notas_Imprensa/Paginas/guia-michelin-atribui-mais-duas-estrelas-portugal.aspx		Turismo de Portugal	21st November 2008
Newspaper Article	“Estrelas Michelin 2013: Portugal com 11 restaurantes distinguidos”	Ana Fonseca	Expresso (Boa Cama Boa Mesa)	23rd November 2012
Instagram Page	Hotel Quinta das Lágrimas @hotelquintadaslagrimas		Quinta das Lágrimas Hotel	
Instagram Page	Restaurante Arcadas @restaurantearcadas		Arcadas Restaurant	
Online Newspaper Article	“O amor de Pedro e Inês ainda rende” http://fugas.publico.pt/hoteis/191420_hotel-quinta-das-lagrimas	Ana Cristina Pereira	Público (Fugas)	7th October 2016
Online Newspaper Article	“Em Coimbra, os Jardins da Quinta das Lágrimas reabrem as visitas” https://www.publico.pt/2021/03/16/fugas/noticia/coimbra-jardins-quinta-lagrimas-reabrem-visitas-1954668	Fugas and Lusa	Público	16th March 2021

Blog Post	“Mais do que um livro de receitas, é uma celebração”	Ana Sousa Amorim	Colectiva	14th June 2021
Online Newspaper Article	“Vinte e cinco anos do Hotel Quinta das Lágrimas em livro de receitas e histórias” https://lifestyle.sapo.pt/sabores/noticias-sabores/artigos/vinte-e-cinco-anos-do-hotel-quinta-das-lagrimas-em-livro-de-receitas-e-historias	J.M.A.	Sapo	14th June 2021
Online Magazine Article	“25 anos do Hotel Quinta das Lágrimas em livro de Receitas e Histórias” https://marketingvinhos.com/2021/06/14/25-anos-do-hotel-quinta-das-lagrimas-em-livro-de-receitas-e-historias/	Marco Carvalho	Marketing de Vinhos	14th June 2021
Newspaper Article	“Hotel Quinta das Lágrimas lança livro com mais de 50 receitas”		Diário de Coimbra	15th June 2021
Press Release	“Hotel Quinta das Lágrimas em livro de receitas e histórias” https://oapreciador.com/hotel-quinta-das-lagrimas-em-livro-de-receitas-e-historias/	Press Release – Liliana Ferreira	O Apreciador	15th June 2021
Online Newspaper Article	“Hotel Quinta das Lágrimas contado em livro de receitas e histórias” https://opcaoturismo.pt/wp/hotel-quinta-das-lagrimas-contado-em-livro-de-receitas-e-historias/		Opção Turismo	16th June 2021
Newspaper Article	“Quinta das Lágrimas Romantismo encantado”	Joana Carreira	Caras (Caras Viagens)	19th June 2021
Newspaper Article	“Hotel Quinta das Lágrimas faz descontos na campanha especial 25º Aniversário”		Diário As Beiras	14th October 2021
Blog Article	“Rosé Pedro & Inês” nos 25 anos da Quinta das Lágrimas” https://alivetaste.com/2021/11/rose-pedro-ines-nos-25-anos-da-quinta-das-lagrimas/	Mário Rodrigues	Alive Taste	November 2021
Blog Article	“Os 15 melhores hotéis de Coimbra (segundo o Booking)” https://www.almadeviajante.com/os-15-melhores-hoteis-de-coimbra-no-booking/	Filipe Morato Gomes	Alma de Viajante	Updated on 15th November 2021
Blog Article	“Boas Festas em família com a Quinta das Lágrimas” https://rotasesabores.pt/boas-festas-em-familia-com-a-quinta-das-lagrimas/	Paulo Pontes	Rotas e Sabores	22nd November 2021
News Portal Post	“Natal e Fim de Ano no Hotel Quinta das Lágrimas” https://www.ipressjournal.pt/natal-e-fim-de-ano-no-hotel-quinta-das-lagrimas/		i Press Journal	22nd November 2021
Online Newspaper Article	“Hotel Quinta das Lágrimas propõe Natal e Passagem de Ano num palácio do século XVIII” https://lifestyle.sapo.pt/casa-e-lazer/noticias-casa-e-lazer/artigos/hotel-quinta-das-lagrimas-propoe-natal-e-passagem-de-ano-num-palacio-do-seculo-xviii	J. M. A.	Sapo	23rd November 2021
News Portal Post	“Hotel Quinta das Lágrimas convida a celebrar as Boas Festas em família” http://flead.pt/lifestyle/hotel-quinta-das-lagrimas-convida-a-celebrar-as-boas-festas-em-familia/		Flead	23rd November 2021

News Portal Post	“Hotel Quinta das Lágrimas convida a celebrar as boas festas em família” https://www.noticiasao minuto.com/lifestyle/1878654/hotel-quinta-das-lagrimas-convida-a-celebrar-as-boas-festas-em-familia		Notícias ao Minuto	23rd November 2021
Online Magazine Article	“Hotel Quinta das Lágrimas convida a celebrar as Boas Festas em família” https://incomummagazine.com/pt/component/k2/hotel-quinta-das-lagrimas-convida-a-celebrar-as-boas-festas-em-familia		inComum Magazine	28th November 2021
Blog Article	“Quinta das Lágrimas celebra 25 anos de bem receber” https://thegentleman.pt/2021/11/quinta-das-lagrimas-celebra-25-anos-de-bem-receber/?fbclid=IwAR1-2a4ckMXfKfAu1SddMzzKlpDeF2chZzOqni9sLFLFSkmR9JeCldJJck	João Jacinto Ferreira	The Gentleman	29th November 2021
Online Magazine Article	“Hotel Quinta das Lágrimas” https://www.revistafrontline.com/news/hotel-quinta-das-lagrimas/		Lifestyle and Business FRONTLINE	29th November 2021
Online Magazine Article	“Os fins de semana prolongados pedem lareira, leite creme e promoções – e está tudo aqui” https://magg.sapo.pt/viagens/artigos/fins-de-semana-prolongados-lareira-leite-creme-queimado-promocoies	Rafaela Simões	MAGG	30th November 2021
News Portal Post	“Coimbra: Natal e Passagem de Ano num palácio do século XVIII” https://casa.sapo.pt/noticias/coimbra-natal-e-passagem-de-ano-num-palacio-do-seculo-xviii/?id=29129		Casa Sapo (Sapo)	30th November 2021
Newspaper Article	“Arcadas com novo menu de degustação”		Diário de Coimbra	1st December 2021
Blog Article	“Arcadas Apresenta Novo Menu” https://rotasesabores.pt/novo-menu-de-degustacao-do-arcadas/	Paulo Pontes	Rotas e Sabores	2nd December 2021
Blog Article	“Não deixe de conhecer o Menu de Degustação dos 25 anos de Quinta das Lágrimas e o vinho rosé!” https://www.itmustbegood.net/post/menu-25-anos-quinta-das-lagrimas	begoodmust	Must	30th Nov. Updated on 6 th December 2021
Online Magazine Article	“Um quarto de século assinalado em menu e com um rosé Pedro e Inês / Quinta das Lágrimas” https://mutante.pt/2021/12/quinta-das-lagrimas-25-anos/	Patrícia Serrado	Mutante	7 th December 2021
Online Magazine Article	“Era uma vez Pedro & Inês – e um rosé cor de sangue” https://www.must.jornaldenegocios.pt/prazeres/sabores/de-talhe/era-uma-vez-pedro--ines-um-rose-cor-de-sangue	Marta Vieira	Must (Jornal de Notícias)	10 th December 2021

The author

Tabel 4- Secondary Data for SEM

Type of Data	Title	Author	Author's Organisation	Date of Publication
Website	SEM Restaurant & Wine Bar https://restaurantsem.com/ Webpages: "Food & Drink", "Mindset", "Design"		SEM	
Instagram page	SEM @restaurantsem		SEM	
Instagram page	Lara Espírito Santo @lara.espiritosanto		SEM	
Instagram page	George McLeod @george.a.mcleod		SEM	
Website	SILO https://silolondon.com/ Webpages: "Home", "Zero Waste"		SILO	
Webpage	UK Michelin Guide – Silo https://silolondon.com/		Michelin Guide	
Website	Matéria Projecto – Porcus Natura https://www.projectomateria.pt/pt/produtores/porcus-natura_57	Tiago Pais		
Instagram page	Reserva e Aparece @reserva.e.aparece			
Instagram page	Porcus Natura @herdadesluis_porcusnatura			
Consulting Webpage	Eight – SEM https://www.8consulting.co/sem-lisboa		Eight	
Festival Webpage	Arrebita Idanha Bio 2021 – Festa da Gastronomia Local https://www.arrebitaportugal.pt/		Arrebita Portugal (green festival)	
Online Magazine Article	"Pêgo Pop Up" https://www.timeout.pt/lisboa/pt/restaurantes/pego-pop-up		Time Out	7 th August 2020
Online Newspaper Article	"Chef João Rodrigues abre projeto Matéria ao grande público com almoço no campo" https://observador.pt/2021/04/16/chef-joao-rodrigues-abre-projeto-materia-ao-grande-publico-com-almoco-no-campo/	Diogo Lopes	Observador	16 th April 2021
Online Magazine Article	"Chefs convidados estão de volta ao Mercado de Produtores da Comida Independente" https://www.timeout.pt/lisboa/pt/noticias/chefs-convidados-estao-de-volta-ao-mercado-de-produtores-da-comida-independente-051221	Sebastião Almeida	Time Out	12 th May 2021
Blog Article	"SEM, o novo restaurante que quer redefinir o termo desperdício" https://mesamarcada.com/2021/06/29/sem-o-novo-restaurante-que-quer-redefinir-o-termo-desperdicio-e-servir-boa-comida-claro/	Miguel Pires	Mesa Marcada	29 th June 2021
Online Newspaper Article	«Restaurantes debatem-se com "praga" de falsas reservas» https://ionline.sapo.pt/artigo/743373/restaurantes-debatem-se-com-praga-de-falsas-reservas?seccao=Portugal_i	Joana Mourão Carvalho; edited by	Jornal i (through Sapo)	12 th August 2021

		Vitor Rainho		
Online Newspaper article	“SEM: o restaurante onde não entra a palavra desperdício e o ingrediente comanda o menu” https://observador.pt/2021/08/17/sem-o-restaurante- onde-nao-entra-a-palavra-desperdicio-e-o-ingrediente- comanda-o-menu/	Francisca Dias Real (text)	Observador	17th August 2021
Online Magazine Article	“Sem desperdício, sem caixote do lixo” https://www.sabado.pt/gps/detalhe/sem-desperdicio-sem- caixote-do-lixo	Catarina Moura	GPS (Sábado)	22nd August 2021
Online Magazine Article	“Where To Eat In Lisbon Now: 10 Top New Restaurants” https://www.forbes.com/sites/annabel/2021/08/24/where- to-eat-in-lisbon-now-9-top-new-lisbon- restaurants/?sh=7704eb0c4b13	Ann Abel	Forbes	24 th August 2021
Online Newspaper Article	“Nove restaurantes para comer em Lisboa (escolhidos pela Forbes)” https://jornaleconomico.sapo.pt/noticias/nove- restaurantes-para-comer-em-lisboa-escolhidos-pela-forbes- 778180	Bianca Marques	O Jornal de Negócios	27 th August 2021
Streaming Interview	“Como é que um restaurante consegue ter zero desperdício?” https://www.publico.pt/aovivo/detalhe/restaurante- consegue-desperdicio-zero-259	Alexandra Prado Coelho; Miguel Pires	Ao Vivo (Público)	15 th September 2021
Podcast	“Como é que um restaurante consegue ter zero desperdício?”	Alexandra Prado Coelho; Miguel Pires	Pratos Limpos (Público)	20th September 2021
Blog Article	“9 must-try European Food Destinations [SP]” https://gastrogays.com/aerlingus-food-destinations/		Gastrogays	23 rd September 2021
Online Magazine Article	“Queijos, carnes e legumes biológicos: O que se vai provar no festival gastronómico Arrebite, em duas aldeias históricas de Idanha” https://visao.sapo.pt/visaose7e/comer-e-beber/2021-09- 28-queijos-carnes-e-legumes-biologicos-o-que-se-vai- provar-no-festival-gastronomico-arrebite-em-duas-aldeias- historicas-de-idanha/	Florbela Alves	Visão Se7e (Visão)	28 th September 2021
Online Newspaper Article	“Duas aldeias beirãs, 30 chefes de cozinha e um fim de semana. Regressa o festival de gastronomia Arrebite Idanha Bio Gonçalo Villaverde” https://lifestyle.sapo.pt/sabores/noticias- sabores/artigos/em-outubro-regressa-o-arrebite-idanha- bio-o-festival-de-gastronomia-mais-verde-do-pais	J. M. A.	Sapo	1 st October 2021
Online Magazine Article	“Reserva e Aparece: movimento quer acabar com a não comparência na restauração” https://www.evasoes.pt/o-que-fazer/reserva-e-aparece- movimento-quer-acabar-com-a-nao-comparencia-na- restauracao/1024408/	Nuno Cardoso	Evasões (Jornal de Notícias)	10 th October 2021

Online Newspaper Article	<p>“Food lover’s guide to Lisbon: Local restaurants and must-visit bars”</p> <p>https://www.irishtimes.com/life-and-style/travel/food-lover-s-guide-to-lisbon-local-restaurants-and-must-visit-bars-1.4720713?mode=sample&auth-failed=1&pw-origin=https%3A%2F%2Fwww.irishtimes.com%2Flife-and-style%2Ftravel%2Ffood-lover-s-guide-to-lisbon-local-restaurants-and-must-visit-bars-1.4720713</p>	Patrick Hanlon, Russell Alford	The Irish Times	13th November 2021
Online Magazine Review	<p>“SEM Restaurant & Wine Bar”</p> <p>https://www.timeout.pt/lisboa/pt/restaurantes/sem-restaurant-wine-bar</p>	Alfredo Lacerda	TimeOut	13 th October 2021
Online Newspaper Article	<p>«“As coisas só mudam quando os restaurantes agirem”. Movimento Reserva e Aparece chama a atenção dos clientes sobre “no shows”»</p> <p>https://observador.pt/2021/10/19/as-coisas-so-mudam-quando-os-restaurantes-agirem-movimento-reserva-e-aparece-chama-a-atencao-dos-clientes-sobre-no-shows/</p>	Francisca Dias Real	Observador	19 th October 2021
Online Newspaper Article	<p>“Marcou mesa e não apareceu? Sabe o que isso significa para um restaurante?”</p> <p>https://www.publico.pt/2021/10/19/fugas/noticia/marcou-mesa-nao-apareceu-sabe-significa-restaurante-1981676</p>	Alexandra Prado Coelho	Público	19 th October 2021
Online Magazine Opinion	<p>«André Lança Cordeiro: “Planos mudam, imprevistos acontecem, mas é fundamental que nos avisem”»</p> <p>https://boacamaboamesa.expresso.pt/opinioao/2021-10-21-Andre-Lanca-Cordeiro-Planos-mudam-impvistos-acontecem-mas-e-fundamental-que-nos-avisem-2f2d0a69</p>	André Lança Cordeiro	Boa Cama Boa Mesa (Expresso)	21st October 2021
Online Magazine Article	<p>“Reservas no restaurante? Só com cartão”</p> <p>https://www.sabado.pt/dinheiro/detalhe/reservas-no-restaurant-so-com-cartao</p>	Sónia Bento	Sábado	25th October 2021
Online Magazine Article	<p>«E quando os clientes reservam e não aparecem? As boas práticas dos restaurantes para evitar os “no shows”»</p> <p>https://www.flash.pt/the-mag/detalhe/e-quando-os-clientes-reservam-e-nao-aparecem-as-boas-praticas-dos-restaurantes-para-evitar-os-no-shows</p>	Afonso Coelho	The Mag (Flash!)	28 th October
Webpage	<p>“All Natural: Lisbon’s New Wave of Wine Bars”</p> <p>https://www.virtuoso.com/travel/articles/all-natural-lisbons-new-wave-of-wine-bars</p>	Chadner Navarro	Virtuoso	2 nd December 2021

The author

Tabel 5 – Data Structure

First-Order Codes	Conceptual Categories	Aggregate Dimensions
Rare and unique ingredients	Using regional Ingredients	Strategies that enable both concepts of fine dining and sustainability
Locally produced		
Traditional cuisine		
Region		
Autochthonous products		
Simplicity		
Foraging		
Biological garden	Having a chef's garden	
Ingredients that require low workmanship		
Seasonal changes	Creating seasonal menus	
High quality ingredients		
Seasonal cuisine		
Crop cycles		
Tasting menus		
Planned portions		
Species that exist in excess	Using invasive species	
Negative impact in the habitat		
Efficiency measures	Efficiently using resources and reducing its consumption	Strategies that enable sustainability without harming the fine dining concept
Water consumption		
Energy consumption		
Certifications		
Carbon footprint		
Usage of non-renewable resources		
Longevity increase		
No mechanical intervention		
Upcycling		
Downcycling		
3 Rs		

Enzyme treatment	Managing Waste	
Waste separation by nature		
Compost		
Zero waste		
Discard		
Maximum benefit		
Cooking techniques		
Conservation techniques		
Leftovers		
Single-use plastic		
Live food		
Dead food		
Usage of subproducts		
Circular economy		
Less aesthetic ingredients		
Cooking creativity		
 		
Biological agriculture	Opting for conscious suppliers	
Regenerative agriculture		
Suppliers that care for sustainability		
Ground breeding		
Soil regeneration		
Biodiversity		
Healthy soil		
No use of chemicals		
Microbiological life		
Soil carbon capture		
Green food		
 		
Operational model	Inverting the operational process in the kitchen	
Decision of menu dependent on supplier		
Standardized industry		
 		
Teamwork	Creating a network with other restaurants and suppliers	
Easier logistics		
Having other sales points		
Partnerships		
Intermediary suppliers		

Supply chain			
Storing capacity			
Win-win relationships			
Efficient deliveries			
Lack on knowledge	Supporting social causes and educating community		
Consultancy			
Social sustainability			
Charity and fundraising			
Donations			
Positive discrimination			
Community benefits			
Demystification			
Share of knowledge			

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Tabel 6 - Coding Table

Conceptual Categories	Interviews' Quotations
<p>Using local ingredients</p>	<p>"(...) cozinha contemporânea mas com base na tradição gastronómica da região"; "(...) utilizar sempre produtos nacionais característicos de determinada zona"; "produtos autóctones"; "promoção da gastronomia associada à promoção da região também"; "criar um storytelling à volta de cada de cada prato (...)", "(...) não é apenas e só a venda da alimentação, (...) é a venda de um de uma história, de uma região"; "(...) por exemplo o feijão cabeça de coelho, um feijão autóctone"; "(...) procurarmos ter o máximo de produtos locais "; "(...) procuramos produtos da região, produtos autóctones tem que estar sempre presente, é implícito" (Interview 1 - António Gradim, director of QL hotel)</p> <p>"(...) privilegiamos os produtores locais"; "legumes de produtores locais e pequeninos, não em grande escala" (Interview 2 - Vítor Dias, chef of Arcadas)</p> <p>" (...) e a busca pela simplicidade é também um luxo, não é? E isso encontra-se nas práticas mais sustentáveis e na procura de produtos autóctones e sustentáveis (...) acho que isso também é uma forma de luxo, depois é passar isso ao cliente final todos os dias " (Interview 3 - Carlos Matos, operations director of QL hotel)</p> <p>"O George gosta muito de <i>foraging</i> (...) buscar ingredientes selvagens"; "maneira de usar o que é desvalorizado"; "(...) um exemplo que a gente usa muito são as camarinhas (...) só existe nas dunas de Portugal e Espanha, não existe em mais lugar nenhum no mundo (...)"; "comida moderna e criativa com produtos locais" (Interview 4 - Lara, co-founder of SEM)</p> <p>"(...) Portuguese fish (...); "All our ingredients are Portuguese."; "(...) nice experience, if you want to know where the food is coming from (...); "(...) foraging (...) you are looking for small things with big flavours."; "(...) the benefit of going foraging is (...) it just creates another dimension, another layer (...); "Foraging always has a story."; "I would not ever go foraging for something that does not taste good."; "(...) the things we find are always big in flavour and people love a story."; "(...) Portugal has really, really good mushrooms (...) which formerly I did not know"; "Actually, I do not know what Portugal has to offer (...), what is strictly Portuguese, because there is no history on it." (Interview 5 - George, co-founder of SEM)</p>

<p>Having a chef's garden</p>	<p>"Nós temos uma horta"; "(...) todos os dias vamos colher qualquer coisa, seja tomilho, seja salsa, capuchinhos (flores comestíveis)"; "(...) Quando há alfaces vamos buscar, alho francês (...)" (Interview 1 - António Gradim, director of QL hotel)</p> <p>"(...) (horta biológica) colhemos diariamente produtos"; "até já temos expandido, agora há dois três anos criou-se mais um socalco lá em cima ao pé da mata, onde se pões umas ervilhas, favas, algo que não precise de muita mão de obra"; " mas essa ideia era engraçada, ter algo que nos mantivesse a sustentabilidade"; "(...) tenho uma horta em casa e às vezes vou trazendo alguma coisa"; "(...) tinha os caracóis (..) depois temos que lavar isso e higienizar mas é sinal que era biológico que não tinha tratamentos"; "temos alguns canteiros"; "(...) aqui na quinta passa um bocadinho pelas ervas aromáticas que ao longo da vala do canal vamos tendo"; "(...) temos ali quatro canteiros (...) diria 200 metros quadrados no seu todo" (Interview 2 - Vítor Dias, chef of Arcadas)</p>
<p>Creating seasonal menus</p>	<p>"(...) mudanças sazonais? Porque os produtos mudam"; "(...) o mesmo ingrediente poderá haver no verão, mas (...) não no auge da sua qualidade"; "(...) procuramos ter é sempre a cozinha da época, da região (...) que temos na plenitude na época certa." (Interview 1 - António Gradim, director of QL hotel)</p> <p>"(...) sazonalmente (...) no mínimo duas vezes por ano mudamos (...)" ; "(...) vamos ao encontro dos ciclos das culturas e do próprio produto"; "(...) flores que há na época" (Interview 2 - Vítor Dias, chef of Arcadas)</p> <p>"(...) nós temos uns menus que estão previamente pré-definidos"; "(...) produtos em função daquilo que está pré-definido" (Interview 3 - Carlos Matos, operations director of QL hotel)</p> <p>"O menu (...) nem é sazonal. É micro sazonal. É realmente muito leal ao que está acontecendo nas nas fazendas, nas quintas"; "produtos que estão no seu melhor naquele momento"; "(...) menu degustação por controle de porção"; "sei exatamente o que que elas vão comer (...) não preciso deitar nada fora, não preciso de fazer coisas a mais (...)" ; "(...) o menu acaba por ter uma narrativa que é interessante" (Interview 4 - Lara, co-founder of SEM)</p> <p>"(...) give people an interesting food experience (...) everything has a story (...)" ; "(...) decide the menu for next week (...)" ; "(...) limitation breeds creativity." (Interview 5 - George, co-founder of SEM)</p>

<p>Using invasive species</p>	<p>"(...) maneira de usar o que existe em excesso e é desvalorizado e uma delas é o foraging"; "(...) trabalhamos muito com espécies invasivas"; "(...) lagostim de rio, que é um lagostim vermelho proveniente da América do Norte (...)" ; " eles são invasivos (...) fazem com que tenha um impacto muito grande no habitat local"; "(...) utilizar ao máximo espécies que existem em excesso"; "madeira toda usada no bar é Acácia (...) super invasiva em Portugal"; "O design (...) Em função duma indústria criativa. (...) remover esse excesso do meio ambiente" (Interview 4 - Lara, co-founder of SEM)</p>
<p>Efficiently using resources and reducing its consumption</p>	<p>"(...) reduzir o consumo dos recursos não renováveis"; "(...) uma certificação é levada a sério e há um objetivo (...)"; "Temos sempre uma um objetivo de redução dos consumos energéticos"; "(...) evitarmos consumos de pegada da deslocação e do transporte da distribuição dos produtos (...) reduzir a pegada de carbono (...)"; "(...) instalação de painéis fotovoltaicos para minimizar o custo de energia elétrica e até mesmo algum gás (...)"; "(...) aquecimento de águas sanitárias"; "(...) componente económica (...) quanto mais eficazes nós formos (...) quanto menos resíduos nós produzimos, menos pagamos"; "utilizar a água dos duches para descarga das sanitas" (Interview 1 - António Gradim, director of QL hotel)</p> <p>"(...) no restaurante reciclagem é a última instância"; "Porque um pedaço de plástico, uma garrafa de plástico (...) é downcycled"; "(...) eventualmente aquilo vai ser microplástico"; "(...) input de energia enorme que existe pra reciclar, normalmente a energia (...) vem de fontes (...) que não são fontes limpas de energia"; "(...) esse plástico que está aqui nunca mais vai entrar no ciclo de reciclagem"; "(...) retira esse produto que existe em excesso no ambiente (...) e coloca nele um valor intrínseco maior"; "(...) valor em termos de longevidade "; "(...) chão é feito de borracha de solo de sapato"; "(...) é papel (...) do McDonald's e do Pingo Doce" (Interview 4 - Lara, co-founder of SEM)</p> <p>"(...) economically you save a lot of money by not throwing away (...)"; "(...) 80% of the cost of a dish should be food." (Interview 5 - George, co-founder of SEM)</p> <p>"(...) utilizar os animais como ferramentas"; "(...) fazemos lucro duas vezes"; "(...) não estamos a gastar dinheiro numa intervenção mecânica nem prejudicial para o ambiente e estamos a transformar uma matéria seca que temos de exploração"; "(...) esta dinâmica de pastoreio (...) é aquilo que nos torna mais eficientes"; "(...) não usamos a maquinaria nem pesticidas"; "na agricultura convencional (...) Degradamos o solo, (...) e gastamos água e adubo"; "(...) em vez de comer meio quilo de carne só precisa de comer duzentas gramas com mais qualidade"; "sem regeneração há morte do sistema"; "(...) sistema agrossilvipastoril (...) é perfeito (...)"; "(...) sou mais eficiente e mais produtivo"; "ter menos quantidade e mais qualidade"; "(...) nem gasta tanta água, nem tanta luz"; "qualquer destes custos fixos que tenha pode ser minimizado " (Interview 6 - Francisco Alves, supplier of SEM)</p>

<p>Managing waste</p>	<p>"fazemos (...) separação de resíduos por natureza"; "ecoponto para separação de resíduos"; "(...) benefício de retenção de gorduras para ela não ir para os efluentes"; "(...) compactador que recolhe o lixo compacta-o (...)"; "procuramos desperdício zero"; "(...) temos um refeitório onde alguns produtos são regenerados"; "(...) estas carnes vão ser reaproveitadas vão ser reaproveitadas (...) noutros pratos (...) colocar no menu do pessoal"; "(...) procuramos sempre ter uma regeneração de produtos (...)"; "(...) novas tecnologias (...) como embalagem em vácuo e como a cozedura a baixa temperatura (...)"; "(...) não temos de estar a preparar as coisas à pressa que (...) é aquilo em que resulta (...) o maior grau de desperdício"; "permite um trabalho programado, organizado e controlado para minimizarmos os custos e os desperdícios" (Interview 1 - António Gradim, director of QL hotel)</p> <p>"(...) empresa que nos recolhe os óleos usados das fritadeiras e que irá ser reciclado"; "Temos o lixo comum e os ecopontos e vamos tendo esporadicamente (...) as compostagens"; "na cozinha, nada se estraga tudo se transforma"; " não deitamos fora, vamos fazer caldos para enriquecer outras confeções"; "(...) Temos o staff, temos outros tipos de restaurantes (...) conseguimos então reaproveitar todas as outras partes"; "fazemos o (...) o mínimo desperdício possível"; "(...) de modo a retirar tudo de melhor que temos desse produto e de forma a não deitar fora" (Interview 2 - Vítor Dias, chef of Arcadas)</p> <p>"(...) temos um recipiente de compostagem"; "(...) tudo isso é aproveitado"; "(...) é transformado em caldos, molhos, um gel"; "pode ser aproveitado na mesma, apenas não na sua forma original"(Interview 3 - Carlos Matos, operations director of QL hotel)</p> <p>"(...) modelo de entregas onde tenha mínimo de plástico possível. Não é plástico de uso único (...) as entregas são feitas em caixas e embalagens reutilizáveis"; "Aqui plástico é zero"; "(...) a gente não usa papel, a gente não tem lixo, (...) então a gente usa uns panos compostáveis"; "classificação (...) que era comida viva e comida morta (...)"; "(...) comida viva é uma comida que tem alguma coisa pra dar (...) Isso a gente não descarta nunca."; "(...) quando essa comida é classificada como morta a gente faz uma compostagem."; "no momento a gente faz uma compostagem interna (...)"; " A gente (...) leva toda (...) esses resíduos orgânicos para um biodigestor"; "(...) fermenta uma casca de batata doce que depois vira o tempero dum prato daqui(...)"; "aplica técnicas de preservação antigas e modernas"; " fermentação e defumação"; "(...) complementados com elementos que são restos de outros menus que se torna um sabor, tempero"; "(...) fazer intervenções em momentos anteriores da cadeia (...) onde eu vejo que tem falhas sistêmicas da cadeia alimentar que é principalmente a parte de subprodutos"; "A gente cozinha muito com o soro do leite"; "Uma coisa que é normalmente descartável a gente tenta transformar pra que aquilo tenha um valor maior do que seria o seu original"; ""Uma segunda vida"; "(...) colando rolhas no teto pra fazer um isolamento acústico"; "A cera de algumas garrafas de vinho (...) a gente está tentando fazer velas "; "(...) faz essa areia de vidro e agora eu estou procurando trabalhando mas procurando</p>
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com artistas que trabalhar com vidro(...) ou empresas de construção que usam vidro por exemplo em asfalto"; "(...) Nosso é zero (...) são 5% que vão para lucro porque a gente reutiliza, porque a gente utiliza todo o ingrediente (...) "; "(...) Normalmente descartado. Eu uso isso (...) e eu vendo gelado por cinco euros no bar"; "o que volta das mesas (...) é descartado vai para o biodigestor"; "(...) a casca de romã (...) não tem vida (...) então a gente só usa muito raramente"; "(...) aí é descartável, mas antes ela é usada pra alguma coisa"; "agricultura biológica ela tem muito menos estética (...) a gente usa tudo" **(Interview 4 - Lara, co-founder of SEM)**

"(...) the concept is zero-waste, zero-waste in terms of food (...); "(...) we do not put any live food into the bin (...); "(...) ideology of food where there is live food and there is dead food."; "(...)live food is everything that still has life to give, dead food cannot be used"; "(...) they are still live food, you just need to find other use for them."; "We do not have a bin, actually. we have a composter (...); "(...) plastic-free (...); "(...) we use a lot of Japanese fermentation techniques (...); "(...) we use a lot of fermentation, full stop!"; "(...) with the zero-waste system, you have to ferment a lot, which brings out some crazy flavours (...); "(...)classic ingredients, but then seasoned with crazy flavours (...) quite experimental in a way."; "(...) What I learned from school is (...) in a dish you are making, the food should cost 80% of that dish (...) that is kind of the rule. (...) So what we do, as we do not throw anything away, we are always bringing back ingredients and flavours (...), economically you save a lot of money by not throwing away. If you are always reusing, you are filling people up with all that waste products, if you know how to use them properly."; "(...) This thing called treacle, where you put all of these stuff, with water and you pressure cooker and you cook it for 'ages' and you make this stalk and you take it all out and it is completely dead, everything that's in there is completely dead, the net goes into the composter and then you have this licquor which is full of flavour from all of these random little bits and pieces and you then reduce it right down into the texture of honey, so it is really sticky and sweet or bitter depending on what you put inside of it, and so we get this treacle which is like a molasses and we use it to flavour sauces: it is the ultimate use for things that cannot be used, there is always something you can do." **(Interview 5 - George, co-founder of SEM)**

"(...) têm que fazer também a diferença têm que puxar pela cabeça têm que desenvolver pratos novos" ; "não precisa de ter tanta quantidade no restaurante, não ter tanto desperdício (...); "(...) ou ter menos desperdício nos alimentos ao fazer uma carta mais correta mais coerente"; "(...) só com o aproveitamento já nem precisa de pôr os pratos muito mais caros, mas se o se a pessoa que vai consumir souber (...) não se vai importar de fazer isso" **(Interview 6 - Francisco Alves, supplier of SEM)**

<p>Opting for conscious suppliers</p>	<p>"(...) produtor de ovos biológicos, de galinhas (...) que andam mesmo no terreno não nas gaiolas"; "temos algum cuidado (...) nos ovos, nos legumes"; "acho que todo o cuidado nunca é de mais, vamos caminhando devagar, mas (...) passará por aí o nosso futuro" (Interview 2 - Vítor Dias, chef of Arcadas)</p> <p>"(...) procurar alguns parceiros que trabalham dessa forma"; "(...) este tipo de produtores locais com práticas sustentáveis, é isso que procuramos"; "vamos tendo cuidado, por exemplo, na escolha de alguma carne"; "ainda não temos neste momento, mas no futuro, claro" (Interview 3 - Carlos Matos, operations director of QL hotel)</p> <p>"Apoio a agricultura regenerativa (...) tem como foco regenerar o solo"; "(...) fomentar a biodiversidade e eficiência então ela é um modelo muito eficiente"; "nunca monocultura, sempre a maior diversidade possível"; "(...) nunca virar o solo, porque (...) quando a gente vira o solo a gente solta todo o carbono que o solo armazenou"; "pisa o solo e fertiliza o solo naturalmente (...) não ter químicos é o básico"; "vai atraindo bactérias, micróbios e fungos e todas as coisas que dão vida ao solo"; "um solo extremamente saudável que em torno gera um pasto saudável, tem animais muito saudável e plantas que são menos suscetíveis a doenças"; "aumentando a vida microbiológica"; "(...) todos esses elementos que funcionam de maneira integrada e equilibrada"; "(...)solo muito saudável que tem a capacidade de sequestrar carbono da atmosfera"; "agricultura regenerativa (...) única solução apresentada até agora no meu ver de reverter o processo (...) de mudanças climáticas"; "apoiar essa agricultura (...) é o mais importante"; "(...) diferença entre sustentabilidade e regeneração"; "(...) a ideia de sustentabilidade é manter o mesmo"; "(...) uma agricultura biológica não está causando mais danos, mas (...) ainda pode ser industrializada"; "(...) impacto muito negativo"; "(...) regeneração (...) tem que fechar esses buracos (...)"; "alguns em etapas mais iniciais mas que já praticam agricultura biológica (...) acrescentando esses elementos de regeneração"; "tenta usar muito peixe de rio por exemplo em vez de usar peixe do mar (...) as técnicas são menos destrutivas (...) "; "nós não usamos bacalhau, é uma indústria muito destrutiva"; "já visitámos todos"; " já fomos várias vezes principalmente nos que a gente é mais próximo"; "(...) a gente trabalha em parceria com eles, porque a gente acredita no que eles fazem" (Interview 4 - Lara, co-founder of SEM)</p> <p>"We only deal with regenerative farms (...)"; "(...) switching to only use river fish(...) trying to stay away from the problems of the ocean"; "(...) it should not be used as a competitive advantage, but luckily it can be (...)"; "(...) as long as you are doing it properly, not just saying that you are doing it (...)"; "(...) If you care about the environment, if you care about the world, and you want to have a restaurant, there is only one option (...)"; "(...)trial period: you have to be in regenerative agriculture, you have to deliver things to us the way we want it without any problems, (...) if they have good products, are reliable, (...) "(Interview 5 - George, co-founder of SEM)</p>
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	<p>"(...) conceito da nossa criação (...) sempre em liberdade (...) sem estarmos tão dependentes de farinhas, com práticas regenerativas e sem antibióticos"; "aquele sistema (...) sem um impacto negativo no solo"; "método de gestão holística que é uma gestão não só ambiental como social e económica"; "(...) decisões sejam em prol dos três (...)"; "(...) restaurar o ecossistema"; "(...) conseguimos regenerar ou construir solo"; "(...) temos um impacto muito positivo em sequestro de carbono e não negativo ao gerir corretamente os animais"; "(...) não podem usar pesticidas nem nós queremos pelos lençóis freáticos "; "(...) não usamos a maquinaria nem pesticidas e estamos a transformar toda essa biomassa (...) pode ser um problema para incêndios"; "sistema de rotação"; "só com a utilização de animais conseguimos ter muita biodiversidade"; "na agricultura convencional (...) aquelas máquinas que viram o solo ao contrário, libertam carbono para a atmosfera"; "A agricultura regenerativa é exatamente o contrário. É construir o solo com os animais através da matéria orgânica que os animais deixam."; "(...) não está dependente de maquinaria ou de pesticidas ou de fertilizantes (...) que na natureza não fazem sentido nenhum (...)"; "(...) enquanto o solo não for produtivo, não somos eficientes"; "(...) o capital de uma exploração é o solo "; " A agricultura regenerativa tenta contrariar isto (...) e está mais que estudado cientificamente comprovado que consegue e que e que vai ser o futuro"; "Se não houver regeneração não há sustentabilidade"; "(...) não há regeneração, há morte de um sistema"; "criar um grupo forte de pessoas que trabalhem e que o façam por convicção"; "(...) fazer o que está certo e que é melhor para mim e para todos (...)"; "O restaurante da Lara e do Jorge é (...) um daqueles que quer fazer diferente e que faz mesmo"; "(...) não abater animais muito jovens"; "(...) fazer isto tudo em prol de um bem comum"; "(...) trazer a vida de volta para o solo" (Interview 6 - Francisco Alves, supplier of SEM)</p>
<p>Inverting the operational process in the kitchen</p>	<p>"(...) chamamos-lhe o peixe do dia, é aquilo que sai do mar dentro de um preço que nós estipulamos (...)"; "(...) aquilo que nos chega naquele dia"; "(...) o nosso fornecedor (...) tem a liberdade (...) de mandar o que quiser" (Interview 2 - Vítor Dias, chef of Arcadas)</p> <p>"(...) a gente só cozinha com o que eles têm. Então a gente inverteu o processo"; "Na indústria normalizada, você cria um prato e depois você vai atrás dos seus ingredientes (...)"; "(...) a gente cria os pratos de acordo com o que está acontecendo no campo"; "(...) são o que os nossos produtores têm naquele momento" (Interview 4 - Lara, co-founder of SEM)</p> <p>"(...) we do it because we do not see any other way, we have never seen other option (...)"; "It is that simple, for me there is no other way."; "(...) limitation breeds creativity (...)"; "(...) if you have limited ingredients in a box (...) you are going to figure out to use those things at a top-level (...)"; "(...) if you could get your hands on every single ingredient in the world and you are creating a dish (...) « yes, we can just put caviar on everything»..., for me that is not fine (...)"; "(...) I would like to have access to more unique ingredients, Portuguese rare ingredients, but it is really hard (...)"; "You have to be creative. If you are not creative, you are never changing your menu (...)" (Interview 5 - George, co-founder of SEM)</p>

<p>Creating a network with suppliers and other restaurants</p>	<p>"porque nós temos outros pontos de venda temos (...) cortes de carne que não serviram no Arcadas, mas servirão depois para, por exemplo, para um bitoque ou coisa no género lá em cima" (Interview 1 - António Gradim, director of QL hotel)</p> <p>"A gente delimitou que esses são os nossos fornecedores"; "no bar são pratos (...) sempre também relacionado (...) são muitos dos mesmos ingredientes, mas tratados de outras maneiras" (Interview 4 - Lara, co-founder of SEM)</p> <p>"(...) we have such tight relationships with our suppliers (...); "(...) we have conversations with them about what they have (...); "(...) we just started with projecto Matéria (...) really good net to find these small producers, 50% of our suppliers come from that net." (Interview 5 - George, co-founder of SEM)</p> <p>"(...) tentarmos trabalhar com este talho porque é ao pé de Lisboa e faz entregas em Lisboa"; "(...) nós trabalharmos com eles e eles depois vendem aos restaurantes"; "(...) ter ali um ponto de suporte em toda a cadeia"; "(...) tentar criar aqui uma logística que seja melhor para todos"; "(...) restaurantes depois também não têm muita capacidade de armazenar"; "O talho das manas (...) eles serem a voz do nosso projeto em vários restaurantes "; "(...) organizarmos aqui entre todos (...) para depois ser o mais eficientes também no transporte dos animais (...); "(...) ficamos todos a ganhar se for feita em conjunto"; "(...) desenvolver parcerias com quem dividam a carcaça" (Interview 6 - Francisco Alves, supplier of SEM)</p>
<p>Supporting social causes and educating the community</p>	<p>"quando houve aqueles fogos (...) fizemos um jantar da angariação, passa (...) por aí o nosso contributo" (Interview 2 - Vítor Dias, chef of Arcadas)</p> <p>"esporadicamente, há eventos que vão acontecendo" (Interview 3 - Carlos Matos, operations director of QL hotel)</p> <p>"(...) organizações que a gente gostaria de apoiar"; "(...) plano de no fim do ano poder fazer doações pra essas organizações"; "um projeto de treinar refugiados na cozinha (...) outro que trabalha com pessoas com deficiências no campo"; "soluções de contratação com discriminação positiva (...); "(...) treiná-los pra inserir essas pessoas no mercado de trabalho"; "nós fazemos consultoria"; "(...) palestras na escola de hotelaria de Setúbal e do Estoril sobre o nosso modelo" (Interview 4 - Lara, co-founder of SEM)</p> <p>"(...) spent the last four years preparing ourselves, learning as much as we can about this world (...); "(...) all this information has helped us do this (...); "It is very hard if you do not know, obviously (...); "(...) there are so many amazing restaurants around the world (...) some are just not approachable (...) because of the price."; "(...) it is a nice experience if you want to learn about the concept (...); "(...) start a foundation to help kids in Nepal (...); "(...) not doing it for any reason, rather than help (...); "(...) we are just going to be the funders of this organisation (...); "(..."</p>

	<p>The greenwashing thing, we hate it, we do not like to call ourselves sustainable. It's what we are, it's what we do, but we (...) never 'hashtag zero waste'. "; "(...) knowledge, people straight up just do not know how to not use plastic wrap, it is astonishing."; "It is so easy to change, but a lot of people just do not know how to change, because they never thought about it before."; "(...) when we do a consultancy (...); "(...) do not buy plastic wrap, buy lids (...)" (Interview 5 - George, co-founder of SEM)</p> <p>"As pessoas usam sempre animais a mais para o espaço que têm (...) fazem um uma gestão incorreta do espaço e dos animais que têm e então prejudica muito o solo"; "os produtos que eu produzo ainda não são não têm uma diferenciação"; "embora faça esse trabalho de conhecer vários restaurantes (...) que não se importem de pagar mais um bocadinho por porque sabem que é diferente"; "O que procuro é demonstrar a diferença e arranjar cada vez mais clientes que paguem a diferença"; "receber e ter a exploração aberta para quem nos quiser visitar e para tentar e para tentar demonstrar a quem quiser aprender"; "explicação do que é que esse animal fazia e qual era o impacto que tinha no sistema"; "(...) divulgação, passar conhecimento"; "(...) conhecimento que está muito reduzido"; "(...) passa um bocadinho pelo conhecimento que se tem, pela formação que se tem"; "(...) educar as pessoas neste sentido"; "(...) muitos que não têm a formação de utilizar o animal todo, toda a gente quer só os melhores cortes, mais comerciais"; "(...) há muita coisa por descobrir que é tão bom ou melhor que algumas que são comercialmente só caras"; "(...) sardinhas era o peixe mais barato que havia hoje em dia é um peixe caríssimo "; "há muitos alimentos que podem, têm um grande potencial não só nutricional, para a saúde e tudo, como ambiental (...)" (Interview 6 - Francisco Alves, supplier of SEM)</p>
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The Author

Table 7 - Findings Table

Strategies	Arcadas Restaurant	SEM Restaurant & Wine Bar
Using local ingredients	Uses local ingredients to promote region and help the community; creates storytelling around the dishes; sells an experience	Uses local ingredients; foraging to use local wild ingredients that are undervalued; creates storytelling around the dishes
Having a chef's garden	Not self-sufficient; has fresh and natural ingredients ready to cook every day	
Creating seasonal menus	Pre-defines seasonal menus; uses ingredients at their peak of quality	Creates seasonal menus according to crop cycle; uses ingredients at their peak of quality; creates storytelling around the menu; allows portion control
Using invasive species		Controls what exists in excess; restores ecosystem; creates creative atmosphere
Efficiently using resources and reducing its consumption	Reduces carbon footprint by restocking locally; has photovoltaic panels to reduce the consumption of energy and gas; uses the showers' water to flush the toilets, reducing reduction of the consumption of water	Reduces costs and increases profit; sees recycling as last option, reducing consumption of energy; gives higher intrinsic value and expands longevity of otherwise discarded materials, by reusing them
Managing waste	Separates trash by nature; does not dump fats to the river water; recycles the used oil; pursues zero waste; takes the best out of each ingredient before discarding it; serves leftovers to the staff or transforms into new dishes; makes use of technologies and modern cooking techniques to delay the expiration date; organises and plans service to avoid costs and waste	Does not have a bin; uses compostable cloths; establishes partnerships with artists or firms to reuse some materials; does not use single-use plastic; makes profit cooking with subproducts; uses old and modern cooking techniques to delay expiration date; privileges "live food" over "dead food" to prevent production of waste; transforms usually discarded parts of ingredients into

		seasonings for the upcoming dishes
Opting for conscious suppliers	Partnerships with some biological agriculture producers	Supports regenerative agriculture, which brings life to the soil, allowing efficient production with less resource consumption; prefers freshwater fishes, does not comply with the destructive ways of the sea fishing
Inverting the operational process in the kitchen	Has a “fish of the day” dish, respecting the ecosystem	Cooks only with what producers deliver, respecting the ecosystem and avoiding waste
Creating a network with suppliers and other restaurants	Has several selling points, being able to reduce costs and waste	Little network and close relationship with suppliers to reduce costs and waste
Supporting social causes and educating the community	Supports social causes sporadically to help the community	Plans to support organizations linked to social causes to help the community; shares knowledge through consultancy and school’s lectures

The author