



Towards Sustainable Swedish Thai Restaurants:

The adoption of sustainable practices in Swedish Thai restaurants in Skåne, Sweden

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Swedish University of Agricultural Sciences, SLU

Department of Landscape Architecture, Planning and Management

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Abstract

This thesis aims to investigate the adoption of environmentally sustainable practices in Swedish Thai restaurants owned by Thai immigrants in the Skåne region. This thesis seeks to understand which environmentally sustainable practices are adopted and which factors drive and challenge their adoption. The empirical material for the study was on-site interviews with restaurant owners and/or managers at ten Swedish Thai restaurants, small and independently owned by Thai immigrants, located in Malmö, Lund, and Lomma. The qualitative data were analyzed using practice theory and categorized into environmentally sustainable practices. The findings indicate that the environmentally sustainable practices commonly adopted in the studied restaurants are waste management, vegetable-based diet, and real food. Less commonly adopted environmentally sustainable practices include innovation and tradition, local food, organic, small producers, and diversity and seasonality. Moreover, the understanding of sustainability among Swedish Thai restaurant owners and managers is a crucial driver for implementing environmentally sustainable practices in restaurants. The findings suggest that Swedish Thai restaurants are important actors in the food system. By implementing environmentally sustainable practices, Swedish Thai restaurants may become crucial changemakers that positively impact the transition to a sustainable food system in the Skåne region.

Keywords: Environmentally sustainable practices, Swedish Thai restaurants, sustainability, ethnic restaurants, Skåne

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Abbreviations

Abbreviation	Description
FAO	Food and Agriculture Organization
Formas	Swedish Research Council for Sustainable Development
R&D	Research and Development
SCB	Statistics Sweden
SDGs	Sustainable Development Goals
SEK	Swedish Krona
SJV	Swedish Board of Agriculture
UNESCO	United Nations Educational, Scientific and Cultural Organization

1. INTRODUCTION

Restaurants' environmentally sustainable practices are one of the ways that may contribute to a sustainable food system transformation. The establishment of Thai restaurants outside their country of origin is one of the major trends in the global restaurant sector in recent decades. Today, Thai restaurants hold a substantial share of the restaurant sector in many overseas countries, including Sweden. Therefore, the potential role of these Thai restaurants overseas as actors in transforming the food system into a more sustainable one should not be overlooked. To explore this potential, this thesis focuses on environmentally sustainable practices in Swedish Thai restaurants in Skåne, Sweden, examining enablers and challenges in their everyday performance of sustainability.

1.1 Restaurants as actors in the food system

The food system comprises a complex web of interactions between stakeholders and activities related to food products: agriculture, forestry, and fisheries. The entire food system encompasses complex activities, e.g., production, processing, distribution, and consumption (FAO 2018), which contribute positive and negative impacts on the economic, social, and natural environment.

On one hand, the food system provides numerous benefits, including essential sustenance for human health and nutrition, employment opportunities, and cultural values. Furthermore, it serves as a primary source of livelihoods for global populations dependent on agriculture, particularly in low-income countries (FAO 2018; Swedish FAO Committee 2021). Conversely, the food system is one of the major contributors to climate change as it accounts for one-third of greenhouse gas emissions. It also drives other environmental crises, such as land use change, soil degradation, deforestation, water pollution, and a great loss in biodiversity and ecosystem services (Swedish FAO Committee 2021; Zurek et al. 2022). At the same time, the food system is fragile and severely affected by climate change. Rising temperatures, rising sea levels, and extreme weather events increase the severity of food insecurity, hunger, and malnutrition, affecting over a billion people worldwide (FAO et al. 2021).

Therefore, the food system needs an urgent transformation to be a sustainable food system, a system that “delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised (FAO 2018).” One significant, yet often overlooked actor is the restaurant sector. Crucially, the restaurant sector bridges actors across the food system from production to consumption, positioning chefs to act as intermediaries between producers and consumers (Richardson & Fernqvist 2024). Producers and consumers are actors with whom restaurants engage and exert influence over, through operational decisions. These include collaborating with producers and farmers to source sustainable products, aligning with suppliers to ensure that sustainable products will

meet the restaurant's demand, or providing consumers with a sustainable dining experience (ibid).

Moreover, restaurant operations are deeply interconnected with emerging sustainability issues related to the food system, such as emissions, food miles, waste management, and resource efficiency, among others (Madanaguli et al. 2022; Pascual & Benito 2025). Given the restaurant sector's strong connection to these challenges, it serves as a potential change agent for economic, societal, and environmental transformation (Gazzola et al. 2024). According to Higgins-Desbiolles & Wijesinghe (2019), the contribution of restaurant practices is not limited to SDG 12 - 'Responsible Consumption and Production', rather, it extends across all SDGs and reinforces all three pillars of sustainability.

In the economic pillar, the restaurant sector creates employment opportunities for laborers, including youth and the disadvantaged, promotes fair food prices, and supports or collaborates with other sustainable businesses (Higgins-Desbiolles & Wijesinghe 2019). Profit is also important for restaurant survival, and restaurants that value and integrate social and environmental sustainability into their operations may receive reasonable profits as a result (Cavagnaro 2015).

Within the social pillar, there are many ways by which restaurant practices can promote sustainability. These include strengthening relationships with producers and local communities, purchasing fair trade, developing inclusive and accessible service for all, educating staff about sustainability (Higgins-Desbiolles & Wijesinghe 2019), and supporting local communities and culinary culture with educational or charity projects (Huang et al. 2025). Moreover, ethnic restaurants can facilitate cross-cultural understanding and interaction by bridging immigrant communities and the wider local and multicultural population (Peace 2025).

In the environmental pillar, restaurant practices have strong potential for minimizing climate impacts through practices such as sourcing locally, reducing food and non-food waste, adopting energy and water-saving initiatives (Higgins-Desbiolles & Wijesinghe 2019), and creating sustainable menus (vegan, vegetarian, and plant-based diets) (Huang et al. 2025).

Considering the restaurant sector's contribution across the three sustainability pillars, the restaurant sector is a significant actor in the food system with great potential to tackle sustainability issues and pave the way to a sustainable food system, especially for restaurants in the Skåne region, Sweden, which is at the forefront of sustainability inclusion (Swedish Board of Agriculture (SJV) 2018).

1.2 Skåne: a hotspot of sustainability transition

Sweden may have a prominent role in developing a sustainable food system. The country has overarching policies and strategies for developing a sustainable food system, including the National Food Strategy, an action plan for reducing food waste, a strategy for environmentally, socially, and economically sustainable consumption, and the national action plan for the sustainable use of pesticides (Formas 2020). Furthermore, the high food production standards characterized by low antibiotic use, low chemical pesticide residues, reduced environmental and climate impacts, animal welfare, and food safety are crucial components of the Swedish food system (ibid). Aside from these policy-level initiatives, the New Nordic Cuisine Manifesto marked a significant milestone in the development of sustainable gastronomy at the micro level, with principles that focus on sustainable gastronomy (for example, ethically and locally sourced ingredients) as well as national traditions (Jönsson & Mouritsen 2019).

At the regional level, there are policies supporting sustainable food systems, such as the regional food strategy of Skåne (Region Skåne 2026). The region's capital, Malmö, developed a Policy for Sustainable Development and Food in 2010 (Nilsson & Andersson 2023). The city of Malmö set environmental goals to be achieved by 2020: serving organic food in the municipality's public institutions and reducing greenhouse gas emissions from food procurement. Today, 70 percent of public meals are organic, and greenhouse gas emissions are reduced by 30 percent compared to 2002 (Nilsson & Andersson 2023).

Regarding the regional food production system, Skåne is a significant agricultural and gastronomic region that produces 30 percent of the food consumed in the whole country (Skane.com n.d.a). The region has ideal conditions to grow agricultural produce, due to its fertile plains and a mild climate, which are valuable assets for the region's gastronomy sector. As a result, the region hosts a variety of gastronomic businesses, ranging from farms, food stores, and food processing businesses, to restaurants (Olsson 2015).

In addition to the strength of the agricultural sector, cultural diversity is a significant component shaping the region's gastronomy, including ethnic restaurants. Malmö, the capital of the region, has residents from 187 countries (Malmö stad 2025), making Malmö rank fourth among the most international cities in the world (Skane.com n.d.b). The city's international residents bring cultural identities from their home countries, shaping the region's multiculturalism, not least in the culinary scene. As of 2024, roughly 24 percent of the population in the region (Skåne) were born outside Sweden (SCB 2024). Approximately 46,000 Thai immigrants live in Sweden, of whom around 5,000 (11.4 percent) live in Skåne, making it the county with the third-largest Thai population in Sweden (SCB 2024).

1.3 Why Swedish Thai restaurants?

Thai cuisine has developed a strong position as a popular cuisine in the world, with Thai restaurants being prominent in cities across the globe. Thai cuisine also holds importance as cultural heritage, as in 2024, Tom Yum Kung, one of the world's most famous Thai dishes, was on the representative list of UNESCO's Intangible Cultural Heritage of Humanity (UNESCO n.d.). In Sweden, Thai cuisine is one of the favorite ethnic foods among Swedes (Lee et al. 2008; Bergflødt 2012), which may be related to Thailand's fame as a tourist destination for Swedes. In 2025, more than 200,000 Swedes traveled to Thailand (Ministry of Foreign Affairs, Kingdom of Thailand 2026). As of 2024, there are 400 Swedish Thai restaurants in Sweden (Ministry of Foreign Affairs, Kingdom of Thailand 2025), while Swedish Thai restaurants in Skåne account for 4.3 percent of restaurants in the region. These restaurants also receive high customer ratings (Tripadvisor 2026).

Today, many Thai restaurants in Thailand adopt sustainable practices in their operations (Andrighetto et al. 2024; Satararuji & Dechkham 2026). Some restaurants receive international recognition for their success in adopting sustainable practices, such as Baan Tapa, which received the Sustainable Restaurant Award 2026 in Asia from the World's 50 Best Restaurants (50 Best 2026; The Sustainable Restaurant Association 2026). Baan Tapa is recognized for holistic sustainable practices in three areas: responsible sourcing (e.g., 95 percent of ingredients are sourced in Thailand, build long-term relationships and source from over 70 small-scale producers), social sustainability (e.g., create direct relationship between restaurant's staff and producers through monthly activity, strengthen producer-consumer network through the annual market), and environmental impact (e.g., implement a 100 percent in-house circular waste management, set in-house fermentation and surplus R&D roles for transforming kitchen by-product to resource) (ibid).

Overseas Thai restaurants are not generally considered to have a sustainable profile, this perception is possibly related to the connection between local food and sustainability, as people assume local scale is inherently more desirable than global scale due to ecological sustainability (Born & Purcell 2006). The environmentally sustainable practices of Swedish Thai restaurants in Skåne may thus differ from those of restaurants in Thailand, and present unique challenges for ethnic restaurants operating in another cultural context.

Notably, ethnic restaurants generally encounter challenges in sustainable practices related to ingredient sourcing, as they heavily rely on imported ingredients (Aljaffal 2017). Regarding Swedish Thai restaurants, many Thai ingredients differ from European ingredients and must be imported to Sweden. Specific ingredients such as fish sauce, tamarind, lime, and chili are significant to the unique characteristics of Thai cuisine, which stem from the balance of flavors- sour, salty, sweet, and spicy- from various condiments (The National Food Institute 2011). Herbs and spices such as galanga, kaffir lime leaves, ginger, and lemongrass are essential for Thai cuisine (ibid). Additionally, regional Thai cuisine also utilizes other specific regional ingredients, e.g., *Pla-ra* (fermented freshwater fish) in northeastern Thai

cuisine, *Tua-Nao* (fermented soybeans) in northern Thai cuisine, and turmeric and coconut in southern Thai cuisine (ibid). Therefore, Swedish Thai restaurants rely heavily on imported ingredients and encounter challenges in following sustainable principles in ingredient sourcing, e.g., local, organic, seasonal, and small producers.

Moreover, Swedish Thai restaurants, as small independent restaurants, can also struggle to adopt sustainable practices due to resource, time, and knowledge constraints (Cantele & Cassia 2020). On the other hand, sustainable practices in Thai restaurant operations as independent restaurants may significantly contribute to a more sustainable food system, given restaurants' potential to contribute across the three sustainability pillars described in section 1.1.

Considering the position of Swedish Thai restaurants in the Skåne region, their role in the regional food system should not be neglected. As with other restaurants, their practices are directly related to sustainability issues. A study on how Swedish Thai restaurants integrate sustainable practices may thus provide relevant knowledge for the urgent sustainability transition of the food system.

1.4 Aim and research questions

This thesis aims to investigate the adoption of environmentally sustainable practices in small, independent Thai immigrant-owned Swedish Thai restaurants in the Skåne region.

The research questions are as follows,

1. What environmentally sustainable practices are currently implemented in Swedish Thai restaurants in the Skåne region?
2. What factors influence the implementation of environmentally sustainable practices, and which are the main drivers and challenges for performing sustainable practices in the restaurants?

The aim and research questions require a method suitable for collecting detailed information on how restaurants implement environmentally sustainable practices, and what factors influence the implementation of these practices. Therefore, semi-structured on-site interviews were considered a suitable method for collecting this detailed information. The data analysis requires a theory with explanatory power for how environmentally sustainable practices are embedded in Swedish Thai restaurants; therefore, practice theory (Shove et al. 2012) was considered a suitable framework for the analysis. Practice theory provides a framework to analyze and explain what practices are, how they perform, and why they perform, through the components of materials, competences, and meanings. Alongside practice theory, sustainable practices are categorized into themes using Zanella's ten principles for food sustainability in restaurants (Zanella 2020).

1.5 Delimitations

This study focuses on the Swedish Thai restaurants owned by Thai immigrants in the Skåne region. In this study, Swedish Thai restaurants refer to restaurants that mainly serve Thai cuisine and are located in Sweden. This study excludes Thai restaurants with non-Thai owners and other types of meal services, e.g., food stalls, pop-up restaurants, or caterers. The focus of environmentally sustainable practice is on the practices that occur in the back-of-house of restaurants. Therefore, environmentally sustainable practices include practices in food procurement and food preparation, and exclude the food-serving stage.

1.6 Thesis outline

The next chapter, the literature review, reviews relevant existing literature on sustainable practices adoption in the restaurant sector, literature on ethnic/immigrant restaurants, presents key findings from the literature, as well as identifies how this thesis addresses current research gaps. Chapter 3 describes an overview of the theoretical framework, practice theory, and its relevance to the thesis. Furthermore, this chapter describes a strategy used to categorize sustainable practices. Chapter 4 explains the research methodology, including the research method and research design, and clarifies AI usage. Chapter 5 presents findings and analysis of the results. Chapter 6 discusses the results based on the research questions, the literature review, the contribution to current studies in this field, as well as future research. Chapter 7 concludes the thesis.

2. LITERATURE REVIEW

As the main focus of this thesis is on sustainable practices adoption in Swedish Thai restaurants, it relates to existing studies on two themes: sustainable practices adoption in restaurants, and ethnic restaurants and sustainability. Therefore, the studies in these two fields constitute the basis of the literature review and the remaining studies in this thesis.

2.1 Sustainable practices adoption in restaurants

According to Pascual and Benito (2025), research on sustainability in restaurants started in the 1990s when sustainability became a public discourse. But it was not until between 2003 and 2015 that publications steadily increased, before increasing rapidly from 2015 due to the adoption of SDGs. Existing research on sustainability in restaurants from the 1990s to 2025 covers a wide range of topics, e.g., supply-side management and operations, demand and consumer behavior, stakeholders and their roles, green initiative adoption; nevertheless, environmental sustainability is the key thematic focus over time (Higgins-Desbiolles et al. 2019; Pascual & Benito 2025; Reynolds 2025).

Sustainable practices adoption is one theme within environmental sustainability in restaurants. It encompasses actions considered ecologically sustainable, for example, sustainable dish development, food waste reduction and utilization, and the use of local produce (Chaturvedi et al. 2022; Kristina & Babu 2024; Jones et al. 2025). Among these practices, waste management is a popular research topic, especially in Europe, where policies on waste management are prioritized (Madanaguli et al. 2022; Pascual & Benito 2025). Other extant literature focuses on various practices, for example, sustainable sourcing (Zanella 2020; Chevallier-Chantepie & Batt 2021), energy consumption (Baldwin et al. 2011; Hu et al. 2013), trends in vegan/plant-based restaurants (Riverola et al. 2022), and collaboration with producers (Pesci & Brinkley 2022; Schützer et al. 2025).

These practices can be integrated across restaurant operations, which are divided into the menu, the front-of-house, and the back-of-house. The back-of-house is the starting point for sustainability in restaurants (Barneby & Mills 2015), and is interconnected with practices of ingredient sourcing, food preparation, and waste management (Zanella 2020; Gössling & Michael Hall 2021). Therefore, this thesis focuses on the restaurants' adoption of sustainable practices in ingredient sourcing, food preparation, and waste management.

Lorenzini (1994) introduced the concept of the green restaurant as a restaurant that sets up and operates in an environmentally friendly and energy-efficient way (Lorenzini 1994 see Madanaguli et al. 2022). In their work on sustainable practices in restaurants, Pascual and Benito (2025) summarized the academic definition of a green restaurant in line with Lorenzini, as “an establishment whose structure and operation are designed, constructed, and managed in an environmentally friendly and energy-efficient manner.” Madanaguli et al. (2022) also defined “green” in

“green restaurant” as restaurant practices that are environmentally responsible and minimize environmental impact. Correspondingly, academic definitions of green restaurants share the similarity that the concept is deeply connected to the environmental pillar of sustainability, aiming to minimize environmental impact in restaurant operations with environmentally friendly practices.

Based on existing literature presented, this thesis defines sustainable practices as “practices in kitchen operation (the back-of-house) that are environmentally sustainable and minimize environmental impact. Environmentally sustainable practices include practices in ingredient sourcing, food preparation, and waste management.”

2.1.1 Local and Seasonal Food

There is no consensus on definitions of local and seasonal food, and these concepts are defined from different perspectives (Vargas et al. 2021). Extant literature refers to local foods from different perspectives, such as geographical distance, terroir, or the number of intermediaries between producers and the last consumers (Tomatis et al. 2023).

Tomatis et al. (2023) stated that the European Commission Joint Research Center defined local foods as “a food system in which foods are produced, processed and retailed within a defined geographical area”. They pointed out that the distance between production and consumption varies from one country to another, regarding area, landscape, and population density.

Lang and Lemmerer (2019) studied how restaurant patrons define local foods. Their study argued that distance is not the most important attribute of local foods. In contrast, attributes of producers (smaller, independent growers, and family-owned and operated growers or manufacturers), community relationships (businesses that are part of the community), and geography (unique to the region or what the region is known for) are more significant attributes than distance.

In the Swedish context, Granvik et al. (2017) examined definitions of local food among food actors in Sweden. The majority of actors in the food chain (e.g., farmers, wholesalers, grocery stores, restaurants, etc.) also link local food with the concept of proximity: that local food is “primary production, processing, and sales occur within the same locality.” In terms of the distance that is considered “local”, different actors vary the range from 2 kilometers to 500 kilometers. Interestingly, from a restaurant perspective, “local” covers food preparation in the kitchen. As long as food is prepared in the kitchen “here”, it is locally produced. The Swedish food actors define local foods in alignment with Tomatis et al. (2023), but exclude attributes found in Lang and Lemmerer (2019).

Zanella (2020) interpreted local foods in connection with seasonality and small producers. His interpretation is based on works by van der Ploeg et al. (2012), Mundler & Rumpus (2012), and Burnett & Murphy (2014) that local production is connected with seasonality and quality, can have lower emissions, and that many products are produced by small farmers. Interestingly, he pointed out that proximity

in local products is not limited to domestic production; they can also be produced by small farmers in other countries, such as coffee, cocoa, and tropical fruits.

However, Born and Purcell (2006) argued that local scale is not the only criterion for judging that food is sustainably produced, as local products can come from a conventional agricultural system heavily using chemical inputs. On the other hand, if non-local products are sustainably grown and transported, they can also be more sustainable than local ones.

Similar to local foods, seasonal foods have different definitions across contexts and scholars. Vargas et al. (2021) found that seasonal food is interpreted in three different concepts. The first concept is “in season”, which refers to natural food available in season. The second concept is “produced in season”, which refers to food that is produced in its natural growing period without extra energy input. Whereas food in the “produced in season” concept does not necessarily need to be consumed within the production area, the third concept, “local seasonal,” considers that food must be produced and consumed within the same geographical proximity. Similarly, “local seasonal” also defines that food is produced in its natural season with no extra energy input.

According to the study by the United Kingdom’s Department for Environment, Food and Rural Affairs (DEFRA), there were two definitions of seasonal food based on production and consumer perspectives. The first definition, Global Seasonality, is based on a production perspective. It refers to food that naturally grows or is produced in its natural season of the region or country of origin, but could either be consumed within the same geographical area or in other places. The second definition is Local Seasonality, which is based on consumers’ perspective. It is defined as “food that is produced and consumed in the same climatic zone, e.g. UK, without high energy use for climate modification such as heated glasshouses or high energy use cold storage.” (Brooks et al. 2011; Vargas et al. 2021). These two definitions are distinguished by geographic proximity between production and consumption.

Brooks et al. (2011) further suggested that benefits of seasonality and locality should be considered with context. In some cases, sourcing food that grows in season from a global source causes less environmental impact than sourcing food locally, but out of season. On the other hand, sourcing food locally and seasonally has less environmental impact than importing out-of-season produce. However, he concluded that Local Seasonality, which considers geographic proximity between production and consumption, brought about more environmental benefits than Global Seasonality, as it is difficult to define what is considered out of season in the global definition.

The study by Roy (2024) on local food purchasing revealed that seasonality is a challenge that restaurants encounter during winter months. Restaurants prefer to have certain year-round produce in certain quantities for their operations. While they can still source meat year-round, they struggle to source fresh produce during winter months. Consequently, restaurants address this challenge by adapting menus

to different seasons and using available in-season ingredients. Adapting menus to the seasons is an advantage for small independent restaurants because they have power in decision-making on restaurant operations (Jones et al. 2025). Another way to address the seasonality challenge is to process fresh seasonal ingredients into products such as jam and pickles to preserve ingredients and use them later (Roy 2024).

As there is no consensus definition of local and seasonal foods, and current studies mostly investigate consumers' perspectives (Lang & Lemmerer 2019), it is interesting to examine how restaurants perceive and adopt practices for sourcing local and seasonal ingredients.

2.1.2 Food preparation

Food preparation is a culinary process that transforms raw materials into finished dishes served to consumers. The process of food preparation requires a combination of deep knowledge, skills, and cooking techniques, such as understanding ingredient characteristics and cooking with techniques suited to the desired flavors, texture, and appearance of particular dishes. By preparing food from scratch, restaurants can avoid excess additives and preservatives and ensure food is fresh and safe. Furthermore, food safety and hygiene are priorities in food preparation and are achieved by applying strategies such as regulatory standards and guidelines, temperature control, and proper food handling and storage (Kumar 2023).

Recently, sustainable food preparation has become a growing trend that goes beyond the processes mentioned above. Sustainable food preparation aims to minimize food waste and environmental impacts. It encompasses multiple practices, e.g., using all parts of ingredients by adopting nose-to-tail and root-to-leaf methods, developing vegetarian and vegan menus, and repurposing ingredients (Kumar 2023). Other examples of sustainable practices that are adopted in restaurants are preparing in-house flavor bases, minimizing food waste by utilizing dehydrating, fermenting, and preserving techniques, or using traditional preserving techniques (Zanella 2020)

Sustainable food preparation practices are not limited to contemporary knowledge and techniques; they also incorporate traditional methods. An example of traditional practice is applying traditional preserving techniques such as pickling, drying, and fermenting. To perform traditional practices effectively, chefs need a deep understanding of both the ingredients and the overall food preparation process (Pearson 2025).

2.1.3 Waste management

The restaurant and food service sector accounts for 11 percent of total food waste in the EU. In Sweden, the restaurant and hospitality sector generates a significant amount of food waste after households and the processing and manufacturing sector (Eurostat 2025). Regarding food waste generated by restaurants, Winnow (2018) reported that over 70 percent of food waste occurs during the food preparation stage, before reaching the consumer.

Hakkarainen and Nilsson (2016) studied food waste management at four restaurants in Uppsala, Sweden. They found that restaurant type is a key factor determining how a restaurant performs waste management practices, as it influences how food is handled, processed, and becomes waste. In their study, the main source of waste in full-service restaurants is customer plate waste, although full-service restaurants use more fresh and raw ingredients and prepare food in the kitchen. Compared to quick-service restaurants, where most food is frozen and pre-prepared, the main source of food waste still comes from the serving and preparation stages. Managers and owners are the main stakeholders influencing food waste practices, where examples of practices found in this study were ordering fresh food daily, using avoidable and unavoidable food waste in preparing in-house condiments (e.g., using skin from a filet of beef in red wine sauce and using vegetable peels to prepare bouillon), using of doggy bag for leftover customer food, or allowing employees to take prepared food back home, etc. However, current regulated Swedish food waste practices by municipalities are focused only on sorting, and there is no policy, regulation, or legislation on food waste prevention.

Another study by Filimonau et al. (2020) on food waste management in full-service restaurants in the United Kingdom and the Netherlands indicated that restaurants apply multiple practices to manage restaurants' wastage. In the UK and the Netherlands contexts, the main sources of food waste are customer plates and food preparation in kitchens. Restaurants adopt five mitigation approaches to manage food waste, some of which are similar to and some differ from the Swedish restaurant case in Hakkarainen and Nilsson (2016). A similar practice is demand forecasting, which is a crucial approach to food waste prevention. Some Dutch restaurants work with a small number of local food suppliers and receive frequent daily deliveries, rather than ordering a couple of times per week, which generates more waste. This approach is practiced alongside effective food storage and handling. Another similar practice is on-site food waste separation and recycling. However, the effectiveness of waste separation depends on the effectiveness of local authorities' recycling services that collect waste.

The different practices are repurposing, working on consumer behaviors, and redistributing edible surplus food. Repurposing is an approach to deal with excess stock when inaccurate forecasting occurs by repurposing spare ingredients with a redesigned menu. This approach performs well in independent restaurants, which have more freedom and flexibility in operations.

The third approach focuses on consumer behavior by using strategies to minimize plate waste. These strategies include asking customers to choose portion sizes, limiting the number of dishes customers can order at a time, and offering take-out boxes (or doggy bags) when customers are not able to finish food.

The last approach is redistributing edible surplus food by cooking it for staff meals or donating surplus food.

2.1.4 Drivers and barriers of sustainable practices adoption

Many factors influence sustainable practices adoption. Previous research identifies varied drivers of sustainable practices adoption.

Firstly, restaurant owners' or managers' awareness, knowledge, and attitude towards sustainability are major success factors of sustainable practice adoption (Kasim & Ismail 2012; Cantele & Cassia 2020; Jang 2022). The stronger the personal concern about the environment and the prioritization of sustainability in restaurant management, the more sustainable practices are implemented (Cantele & Cassia 2020). This is in line with Jang (2022), who stated that the level of stakeholder involvement in sustainable practices in independent restaurants is strongly based on owners' or managers' environmentally responsible leadership. Owners or managers of independent restaurants hold power in decision-making and planning for restaurants' sustainability. However, although owners and managers have a strong sustainable attitude, implementation requires significant financial resources and capacity, which can make it difficult and may not be worth the investment, especially for small restaurants (Kasim & Ismail 2012).

Secondly, Reynolds (2025) suggested that a contextual factor, namely, geographical location, also influences how restaurants implement sustainable practices. Differences in regulations, infrastructure systems, and available resources strongly influence the adoption of sustainable practices. He also suggested that restaurant segment is another factor, as different restaurant segments have different capabilities and constraints in sustainable practices adoption. In terms of restaurant segments, small independent restaurants face significant barriers of resource, knowledge, and time constraints (Hernandez-Maskivker et al. 2026).

Moreover, researchers suggested further drivers and barriers to sustainable practices adoption as follows:

Roy and Ballantine (2020) studied what the motivations and constraints are in the practice of buying local food products from local wholesale distributors, from perspectives of restaurants and chefs in Vancouver, Canada, and Christchurch, New Zealand. They stated that the three main motivations were convenience that distributors provide on-time and/or direct delivery, and offering various products; low and consistent prices over a period of time; and consistency of product supply. In their study, they identified three major barriers to purchasing local food products from wholesale distributors, which are inconsistent product quality, inability to meet delivery deadlines, and price fluctuations, such as higher prices for local food.

Chevallier-Chantepie and Batt (2021) Investigated drivers and barriers in sustainable purchasing among restaurants and cafés in France. Their results differ from Roy and Ballantine (2020), but conform to Kasim & Ismail (2012), Cantele & Cassia (2020), and Jang (2022), as they found that the primary driver for sustainable purchasing is the owners' personal beliefs about sustainability, interest in environmental issues, and the belief that they can make tangible differences. These strong beliefs are drivers to perform sustainable procurement by sourcing local products that are sustainably and ethically produced, have minimal

environmental impact, and taste good. Moreover, they identified that key barriers to sustainable purchasing practice adoption are knowledge limitations, difficulties in finding sustainable suppliers, and financial constraints (such as high investment costs, high operational costs, and a lack of financial resources).

Zanella (2020) presented drivers and challenges of sustainable practice adoption from his own experience in two different cases: Hermann's Eatery in Berlin and Mesa pra Doze in Brasília. At Hermann's Eatery, sustainable practices in ingredient sourcing, such as diversity and seasonality, were well achieved. However, the restaurant still faced challenges with organic and small producers' practices because of inconsistent availability and distribution difficulties for local organic products. In contrast, these practices were successfully achieved at Mesa pra Doze because of a strong relationship with family farmers and the availability of seasonal and agroecological products.

Ljunggren (2012) studied local food practices in rural high-quality restaurants in the Nordic region. She found that restaurant suppliers varied in size and composition. Some restaurants had a large number of local suppliers, or large businesses for meat, fish, and dairy products. Small producers were particular meat producers, private fishermen, berry and herb pickers, microbrewers, and vegetable farmers. However, in her study, logistics is not a problem because local suppliers were nearby and able to deliver frequently.

From the literature above, it is clear that restaurant owners' or managers' perspectives towards sustainability are key drivers of sustainable practice adoption. The literature discusses several drivers and barriers, and these factors influence restaurant performance in sustainable practices. However, the studies are often smaller case studies and do not deal with ethnic restaurants, which is the topic of this thesis.

2.2 Ethnic restaurants and sustainability

When people migrate, they bring their cultural backgrounds and identities to new places (Arvela 2013). The identity of a group of people can be represented through food, which is a symbol that contains culture, race, identity, and ethnicity, and also distinguishes them from other communities (Long 2004; Williams-Forson & Walker 2013). In a multicultural society, food culture that differs from the dominant culture is considered ethnic food (Long 2018), which carries the cultural backgrounds, experiences, and identities of the ethnic group (Arvela 2013). Ethnic food can be found at ethnic restaurants, which serve food from other ethnicities and countries other than the country where the restaurants are located (Fox 2015). In contemporary society, the role of ethnic restaurants is not only to connect ethnic people with similar backgrounds (Arvela 2013), but also to increase the inclusivity of ethnic cultures in society (Fox 2015).

Most studies on ethnic restaurants focus on themes such as cultural identity ((Simon) Tsai & Lu 2012; Strickland 2013), globalization (Karaosmanoglu 2013;

Koh & Malecki 2016), and multiculturalism (Jang et al. 2009; Peace 2025), while fewer studies address the sustainability theme.

2.2.1 Understanding of sustainability among ethnic restaurant owners

As stated in sub-chapter 2.1.4, restaurant owners' or managers' awareness, knowledge, and attitudes toward sustainability are major success factors of sustainable practice adoption (Kasim & Ismail 2012; Cantele & Cassia 2020; Jang 2022). Because no explicit study examines Thai restaurant owners' sustainability perceptions or practices, this section presents studies on other ethnic restaurants.

In a study of environmental sustainability practices among Middle Eastern ethnic restaurants in Sydney, Australia, Aljaffal (2017) pointed out that ethnic restaurateurs linked the meaning of environmental sustainability in four different ways. The first was not understanding the term at all; the second was linking it to nature or the environment; the third was connecting with cleanliness and hygiene; and the last showed the most understanding by linking it to green practices such as waste reduction and renewable energy.

Despite their limited understanding of environmental sustainability, some practices are implemented in restaurants. Common practices are reducing food waste, segregating waste, and focusing on cleanliness and hygiene of kitchens and food safety, while purchasing and waste management are partially implemented. In terms of purchasing, they source ingredients locally from local markets and small suppliers, and only some restaurants need to import pickled products and spices. In terms of waste management, restaurants separate non-food waste and contact private companies directly for collection. They also implemented several practices to minimize food waste, such as adopting portion and forecasting control, packing the customer's leftover food for take-away, and donating leftover food to the poor or feeding the birds.

Batat (2021) found that the understanding of sustainability among restaurant owners in the Middle East and African region is also limited due to a lack of knowledge. They define environmental sustainability differently from the Western context, by focusing on cleanliness and aesthetics. Restaurant owners thought that environmental sustainability activities are cleaning the kitchen for food safety and efficiency in food preparation. In terms of aesthetics, they gave examples of activities such as decorating restaurants with flowers and plants to green the environment. Apart from cleanliness and aesthetic aspects, none of the restaurants implemented other environmentally sustainable practices.

Azad (2024) thesis studied sustainable practices implemented in South Asian restaurants in Helsinki, Finland. His study found that most restaurants adopted sustainable practices spontaneously, as they did not intentionally integrate these practices into restaurant operations, but perceived them as part of industry norms. Restaurants ranked waste management as the most important practice, followed by energy and water consumption, packaging practices, ingredient sourcing, labor practices, and corporate social responsibility, respectively.

In terms of waste management, restaurants implemented several practices such as ordering the optimum amount of ingredients, having efficient ingredient storage, and disposing of waste in line with national and municipal policies.

In terms of ingredient sourcing, restaurants sourced ingredients such as vegetables, meat, chicken, and fish from local retail markets, while some also sourced authentic herbs and spices from South Asian countries. Restaurants in this study did not collaborate with any local agricultural company.

He pointed out two main obstacles to implementing sustainable practices. The first, and most challenging, is the increase in operational costs of implementing more sustainable practices, such as sourcing organic and local ingredients. The second obstacle is that restaurateurs do not have a long-term vision for adopting sustainable practices, and instead focus on short-term profit, as they have to generate quick revenue to keep their businesses surviving.

2.2.2 Literature on Thai restaurants

There are numerous studies on Thai Restaurants and Thai cuisine globally. Examples of themes in these studies include authenticity (Sunanta 2005; Yin & Ardsmiti 2024), business management (Supawan & Deebhijarn 2020), and consumer perceptions (Sukalakamala & Boyce 2007; Min & Han 2017). However, there are studies on Thai restaurants and sustainability in Thailand, examining topics such as sustainable foodservice providers and supply chains (Andrighetto et al. 2024; Thongplew et al. 2025), stakeholder engagement and environmentally sustainable practices (Satchapappichit et al. 2023), and waste management (Junkrachang et al. 2024). Nonetheless, studies on the sustainability of Thai restaurants overseas remain very limited.

In Sweden, studies on Thai restaurants focus on business and cultural themes. In the business theme, one study examined Thai restaurants' success and failure factors (Maleekaew & Sudthamnong 2007). The studies in the cultural theme analyzed cross-cultural barriers and management between Thailand and Sweden that affect restaurant operations (Pongsriwat & Aunyawong 2010; Aunyawong 2017). Another cultural study of Thai cuisine is outside a business setting and examined Thai cuisine as foodscapes at Thai Buddhist temples in Sweden, as well as cultural phenomena that occurred at the temples (Plank 2015).

2.3 Main findings and implications of the literature review

To the best of my knowledge, there is no explicit study on sustainable practices adoption in Thai restaurants overseas, particularly in Sweden. Therefore, this thesis contributes to sustainable practices adoption research with a case study of Swedish Thai restaurants in Sweden.

Results from the literature review find that extant literature on environmentally sustainable practices in restaurants mostly focuses on a single practice such as procurement, waste management, or energy consumption. However, these practices perform jointly in restaurant operations. So it remains unclear how restaurants integrate different environmentally sustainable practices across their operations. Importantly, most case studies sample based on mixed types of cuisine or service categories, while few specifically focus on ethnic restaurants.

This study differs from the existing literature by examining multiple environmentally sustainable practices, including ingredient sourcing, food preparation, and waste management, which contributes to the understanding of overall practices across the back-of-house operation. This thesis also focuses on small, independent Swedish Thai restaurants owned by Thai immigrants in Skåne, rather than restaurants across mixed types of cuisines or service categories, which adds to existing case studies on ethnic restaurants.

Notably, sustainable practices in restaurants are influenced by several factors, including restaurant owners' and managers' understanding of sustainability. This understanding is significant to the success of sustainable practices adoption, and examining restaurant owners' or managers' perspectives on sustainability is novel in ethnic restaurant research. Although some studies examine ethnic restaurateurs' understanding of sustainability, a gap remains in how Thai-immigrant restaurateurs in Skåne understand sustainability. Therefore, this thesis addresses this gap by investigating how Thai-immigrant restaurateurs in Skåne understand sustainability and how they implement environmentally sustainable practices in their restaurants.

3. THEORETICAL FRAMEWORK

In this thesis, I use practice theory (Shove et al. 2012) to explain how sustainable practices are adopted in Swedish Thai restaurants, and use Zanella's ten principles for food sustainability in restaurants (Zanella 2020) as a framework to categorize sustainable practices.

3.1 Practice theory

In this thesis, practice theory is used as a theory to seek understanding of how sustainable practices are embedded in everyday practices of Swedish Thai restaurants in Skåne. Shove et al. (2012)'s practice theory states that when practitioners perform actions (such as driving, washing, or drinking), these actions are not results of individual behaviours, but are shaped by a collective of elements: materials, competences, and meanings. It shifts the focus of environmentally sustainable practices from isolated individual actions to complex actions that result from the interconnection between these three elements. Indeed, the elements explain environmentally sustainable practices from three focuses: materials explain what environmentally sustainable practices are performed, competences explain how they are performed, and meanings explain why the practices are performed.

In this thesis, examples of materials, competences, and meanings are as follows.

Material refers to tangible objects like infrastructure, tools and hardware. It is a primary component in constituting practices and configures with the other two elements, competence and meaning, to create complete practices (Shove et al. 2012). In this thesis, materials encompass essential physical elements to perform environmentally sustainable practices such as ingredients (organic, local, and diversity and seasonality practices), waste management systems (waste practice), and suppliers (small producers practice).

Competence is the second element of practices. Material alone is not sufficient to emerge and sustain practices; it needs to integrate with competences, which contain skills, know-how, background knowledge, and understanding (Shove et al. 2012). In this thesis, competences involve components such as cooking skills and techniques from diverse cultural backgrounds, know-how in waste management, and personal experience. These components are significant in performing sustainable practices in ingredient sourcing, food preparation, and waste management.

Meanings include symbolic meanings, ideas, emotions, and motivational knowledge. The importance of meanings is that they show the purpose or "why" practices are performed (Shove et al. 2012). Meanings are integrated with materials and competences. In this thesis, examples of meanings are understandings of sustainability, values, and social norms.

The connection of all three elements results in how practices perform. When these three elements integrate, they make and sustain practices. When links between elements are broken, practices disappear (Shove et al. 2012). This concept of “making and breaking links” (ibid) is useful in explaining how sustainable practices are performed and why some practices are implemented less than others.

Based on this concept, I assume that if links between materials, competences, and meaning are integrated, sustainable practices can emerge and be sustained. For example, if essential materials, competences, and meanings of waste management are integrated, waste management practice will occur. On the other hand, if links between materials, competences, and meanings are broken or misaligned, sustainable practices will not be completed and will be partially adopted.

3.2 The ten principles for food sustainability in restaurants

Although practice theory is the main theoretical framework for explaining and analyzing environmentally sustainable practices, its limitation is that it does not distinguish practices into clear categories. Clear categories are important for answering the two research questions: (1) what environmentally sustainable practices are currently implemented in Swedish Thai restaurants in the Skåne region? and (2) what factors influence the implementation of environmentally sustainable practices, and which are the main drivers and challenges for performing sustainable practices in the restaurants?

Therefore, I use the ten principles for food sustainability in restaurants as a complementary framework to explicitly categorize practices. This framework was developed by Matheus Alves Zanella, a chef and food scholar specializing in global food policies, food security, and sustainable management (Zanella 2020; Global Alliance for the Future of Food n.d.). It is a tool that links food sustainability from macro levels, as theories and concepts, to micro levels, as practices in kitchen operations. The development of the ten principles for food sustainability is both theoretical and practical, as it is developed on theories and concepts of food sustainability, along with vision and perspectives from thorough discussion and consultation with restaurant colleagues. As a result, the ten principles for food sustainability in restaurants are pragmatic approaches to kitchen operations.

The ten principles for food sustainability in restaurants comprise principles and practices on ingredient sourcing, food preparation, and waste management. The explicit categories enable analysis using practice theory to focus on each practice, where materials, competences, and meanings are intertwined, and to analyze how these elements contribute to practice performance, as well as which elements enable or hinder the adoption of practices.

Table 1 shows an original and adapted version of the ten principles for food sustainability in restaurants. Principles are areas of environmental sustainability focus, while practices are concrete actions under each principle. The ten principles

are kept as they are in the original version, while some practices are adapted or omitted to suit the context of Swedish Thai restaurants in this study.

Table 1: The ten principles for food sustainability in restaurants, adapted from the ten principles for food sustainability (Zanella 2020) to suit the Swedish Thai restaurant context.

Principles	Practices (original version)	Practices (adapted version)
1. Diversity and seasonality	1.1 Design the menu first by considering the best ingredients available in that particular season in that area, and later thinking of specific recipes.	
2. Real food	2.1 Avoid buying processed ingredients. Strongly avoid buying ultra-processed ingredients. 2.2 Make your own flavor bases (stocks, sauces, preserved vegetables, jams, etc.) 2.3 Whenever possible, opt for wholesome flours, sugars, and unrefined ingredients.	1. A restaurant attempts not to buy and not to use processed and ultra-processed ingredients. 2. A restaurant prepares in-house flavor bases, for instance, curry pastes, seasonings and sauces.
3. Local food	3.1 Buy first from local and personally known producers, second from distributors, and only third from major retailers. 3.2 When buying from retailers, communicate with them about your buy-local policy.	
4. Organic	4.1 Buy first from local and personally known organic producers. 4.2 Only buy non-organic when organic produce is unavailable or significantly more expensive (more than a certain rate or price, for example). 4.3 Only require labelling if buying from distributors and retailers.	1. A restaurant primarily sources organic ingredients from local and personally known producers. 2. A restaurant buys non-organic ingredients only if it cannot afford organic produce due to the rapid price increase or ingredient shortage.

5. Vegetable-based diet	5.1 Use animal protein mostly to season vegetables. 5.2 When serving animal protein as a main dish, serve smaller portions and larger vegetable garnishes. 5.3 Culture, cure and ferment animal protein to increase its nutritional availability, and its flavor potential (thus contributing as a seasoning agent, rather than a sole ingredient). 5.4 Do not adopt a fully vegetarian or vegan diet without reflection, as those can be as unsustainable as a regular diet if not complemented by other sourcing principles.	1. A restaurant has vegan and vegetarian options available.
6. Small producers	6.1 Buy first from local and personally known small producers. 6.2 When buying from retailers, communicate with them about your policy of buying from small producers.	
7. Waste	7.1 Seek a “zero-waste” policy when using vegetables and animals. Be creative and look for recipes for using skins, bones, leftovers, etc. 7.2 Before throwing anything out, consider dehydrating, fermenting, preserving, etc. 7.3 Monitor waste production, water disposal, and energy consumption. 7.4 Always give preference to “leftover” over “prime” cuts, “non-conventional cuts and animals” to “highly valued animals.”	1. A restaurant adopts a “zero-waste” practice with vegetables and animals by adopting “nose-to-tail” and “root-to-leaf” methods. 2. A restaurant applies dehydrating, fermenting, or preserving techniques to prevent food waste. 3. A restaurant monitors its waste production.

8. Innovation and tradition	8.1 Use traditional cookbooks as main sources of information and recipes. 8.2 First research cooking traditions when using preserving techniques. 8.3 Critically reflect on the “newest trend” before adopting it.	1. A restaurant gets inspiration of menu from traditional cookbooks. 2. A restaurant applies Thai cookings knowledge and traditions.
9. Fixing food system	9.1 Do not be ideological, since flexibility is important, and change is gradual. 9.2 Listen to your clients needs and wishes before posing an argument.	1. Restaurant owners understand what sustainability is.
10. Taste	10.1 If a recipe follows all other nine principles, but does not taste good, do not add it to the menu.	

Some practices are adapted or omitted to align practices with the Swedish Thai restaurant context and the scope of this thesis.

The original practice in the *real food* principle is adapted to make it suitable for Swedish Thai restaurants' contexts as follows:

Real food: practice 2.2 *make your own flavor bases (stocks, sauces, preserved vegetables, jams, etc.)*, is adapted to 2. *A restaurant prepares in-house flavor bases, for instance, curry paste, seasoning, and sauce*, as Thai flavor bases differ from examples provided in the original practice.

Several practices are omitted because they are out of the study scope, or too complicated to investigate thoroughly, considering the time constraints of the study.

For example, the purpose of examining practices of *real food* is to get an overview of ingredients. So, focusing on the use of processed, ultra-processed ingredients, and making in-house flavor bases is appropriate for getting an overview of this practice. The practice of occasionally using wholesome flours, sugar, and unrefined ingredients is omitted due to the intricacy of investigating specific ingredients.

Correspondingly, for the principle of *vegetable-based diet*, the original practices include the use of animal protein with vegetables, a portion of animal protein in dishes, and cooking methods for animal protein to increase nutrition and flavor. I considered these practices on animal protein too complex to examine efficiently in a limited time. So I focused only on the availability of vegan and vegetarian options.

Similarly, the practice of *waste* includes energy consumption and water disposal. I limited the study scope to kitchen practices, examining food waste from the perspective of ingredient management. The aspect focuses on how ingredients are managed from sourcing to serving, so energy consumption and water disposal, which are not related to ingredient management, are excluded.

Innovation and tradition suggest thoroughly examining the “newest trend” before using it. However, the study scope focuses on applying traditional methods, so I decided to exclude examining the “newest trend.”

An adaptation of *fixing food system* is still a matter of attitude, but it shifts the focus to understanding sustainability to fit the second research question (what factors influence the implementation of environmentally sustainable practices, and which are the main drivers and challenges for performing sustainable practices in the restaurants?). This change is also supported by extant literature, which shows that understanding sustainability is an important factor in adopting sustainable practices (Kasim & Ismail 2012; Cantele & Cassia 2020; Chevallier-Chantepie & Batt 2021; Jang 2022).

Finally, the last principle, *taste*, is not included in the analysis because it does not fit within environmentally sustainable practices, which is the scope of this thesis.

The ten principles for food sustainability in restaurants categorize environmentally sustainable practices into more detailed groups, which are ingredient sourcing (principles 1, 3, 4, 6), food preparation (principles 2, 5, 8), and waste management (principle 7). While principle 9 deals with restaurant owners' understanding of sustainability.

Table 2: Environmentally sustainable practices and principles.

Environmentally sustainable practices	Principles
Ingredient sourcing	1 Diversity and seasonality 3 Local food 4 Organic 6 Small producers
Food preparation	2 Real food 5 Vegetable-based diet 8 Innovation and tradition
Waste management	7 Waste
Understanding of sustainability	9 Fixing food system

With explicit categories, it makes a stronger analysis with practice theory as the analysis can focus on each practice, where materials, competences, and meanings are intertwined. The analysis will examine the interconnection and the misalignment of materials, competences, and meanings in these practices. This leads to an explanation of how each practice is performed and also identifies what influences the implementation of practices, as well as the main enablers and barriers, to answer the research questions.

4. METHODOLOGY

This chapter outlines the methodology used throughout the thesis research process. The research was conducted with a qualitative research approach to address the research aim and questions.

As the research aim and questions needed a comprehensive investigation of the backgrounds, actions, perspectives, and attitudes of interviewees to understand the adoption of environmentally sustainable practices, the semi-structured interview was a suitable methodology for this thesis.

The semi-structured interview was a suitable methodology because it allowed me to focus on the main topics that needed to be explored, while remaining flexible enough to adapt the conversation to the current situation during the interview (Jamshed 2014). In the semi-structured interview, the interview guidelines were tools that set the agenda and main topics to explore. They comprised open-ended questions that allowed me, as an interviewer, to gain an in-depth understanding of the interviewees' backgrounds, perspectives, and attitudes towards sustainability, as well as how environmentally sustainable practices were implemented in restaurants. By following the interview guidelines, I could ensure that all the main topics were explored. At the same time, the ongoing conversations may not always follow the guidelines, so the flexibility of the semi-structured interview allowed me to adapt the conversation and generated new questions suitable for the interview context (Ruslin et al. 2022).

4.1 Interview guideline development

The interview guideline was inspired by and developed based on the ten principles for food sustainability by Matheus Alves Zanella. The advantage of the principles was that they linked the food sustainability concept from the macro level to the micro level as a tool for categorizing sustainable practices in restaurants (Zanella 2020), which covers areas of the research questions.

Therefore, the ten principles were simplified and adapted into interview questions, divided into three sections. The first section included general questions to gather an overview of restaurants, interviewees' backgrounds, and their understanding and perceptions of sustainability. The second section contained questions on environmentally sustainable practices, aiming to investigate their adoption in restaurant operations. The practice adoption covered focal areas in ingredient sourcing, food preparation, and waste management. Lastly, the third section aimed to understand the drivers and challenges of adopting environmentally sustainable practices.

The interview guidelines are included in Appendix 2.

4.2 Selection of case studies

The case studies were selected using purposive sampling (Campbell et al. 2020) to strategically select Swedish Thai restaurants in Skåne. Sampling was based on geographical area, cuisine, restaurant type, and participants to ensure that the case studies suited the aim and research questions. Ten Swedish Thai restaurants in Malmö, Lund, and Lomma were selected with three criteria:

1. Restaurants are located in the Skåne region, within Malmö, Lund, or Lomma municipality. This study does not include food stalls, food trucks, pop-up restaurants, among others.
2. Restaurants mainly serve Thai food, either from the central region or other regions. Some restaurants may mainly serve Thai food, while also offering dishes from other Asian countries.
3. Restaurant owners or restaurant managers are able to be the main interviewees and are Thai immigrants.

The first step of the restaurant selection process was searching for Swedish Thai restaurants in the selected areas on Google Maps, using “Thai restaurant” as the search keyword. Swedish Thai restaurants that appeared on the map were pre-screened based on criteria 1 and criteria 2 by visiting the restaurants’ websites and/or social media channels, which provided information on the restaurant types, restaurant stories, and menus. Fifteen Swedish Thai restaurants that met criteria 1 and criteria 2 were selected from this process. Ten restaurants were selected as primary case studies, and the other five restaurants were selected as alternatives in case the primary choices declined to participate.

On 10 February 2026, I visited the ten restaurants selected as primary case studies, met the restaurant owners or managers, asked about their willingness to participate in the study, and collected contact information to schedule the interview appointment. Nine restaurants gladly volunteered to participate as interviewees, while one restaurant required a formal email to the owner.

Table 3 presents basic information on ten Swedish Thai restaurants that were selected as case studies.

Table 3: Restaurant profile.

Restaurant	Location	Type of restaurant	Meal service	Price range (include appetizer)	Type of cuisine	Respondents
TR1	Malmö	Casual dining	Lunch Dinner	55-355 SEK	Northeastern Thai cuisine	Manager
TR2	Malmö	Casual dining	À la carte	69-279 SEK	Central and northeastern Thai cuisine	Owner
TR3	Malmö	Casual dining	Dinner	139-159 SEK	Central Thai cuisine	Owner
TR4	Malmö	Casual dining	Lunch Dinner	59-199 SEK	Thai fusion	Owner
TR5	Malmö	Casual dining	Lunch Dinner	89-139 SEK	Central Thai cuisine	Co-owner
TR6	Malmö, Lund	Fast Food	Lunch Dinner	100-149 SEK	Central Thai cuisine	Owner
TR7	Lund	Casual dining	Lunch Dinner	85-169 SEK	Central and northern Thai cuisine	Owner
TR8	Lund	Casual fine dining	Lunch Dinner	95-435 SEK	Thai and Southeast Asian cuisine	Owner
TR9	Lund	Casual dining	Lunch Dinner	95-365 SEK	Thai and Asian cuisine	Owner
TR10	Lomma	Casual dining	Lunch Dinner	89-129 SEK	Central and northeastern Thai cuisine	Owner

The ten Swedish Thai restaurants are small and independently owned by Thai immigrants, located in Malmö, Lund, and Lomma. Most of the restaurants are casual dining, with one being a fast-food restaurant. These ten restaurants serve lunch and/or dinner, and one restaurant serves à la carte. Prices range from less than 100 SEK to 435 SEK. The majority of restaurants serve Central Thai menus, while some also serve regional cuisines. Interviewees were owners, co-owners, or managers with authority over restaurant operations.

4.3 Restaurant interviews

The restaurant interviews were conducted from the middle of February to the end of March 2026 at the restaurants. The interviewees were restaurant owners or managers who participated voluntarily. Before starting the interviews, I provided them with brief information on the thesis, the interview process, data collection, transcription, and analysis procedures to ensure that they understood the purpose and scope of the interviews. Importantly, each interviewee's involvement with this study was kept confidential and anonymous. All interviewees signed interview consent forms to formally give their consent to participate.

All interviews followed a semi-structured format. Because all interviewees were Thai, I conducted the interviews in Thai to minimize any language barrier between the interviewees and me. The interviews lasted 60-90 minutes. After the interviews, the interviewees led me to their kitchens, sharing additional information on kitchen operations and storage that may not have been mentioned during the formal sessions. The interviews were recorded with the participants' consent.

4.4 Data analysis

The interviews were transcribed verbatim using Gemini Notebook. I manually checked for transcription accuracy by listening to all the interview recordings. After that, I translated the quotes from the interview data presented in this thesis into English using a combination of ChatGPT and my own manual translation.

The data analysis was inspired by thematic analysis (Braun & Clarke 2006) to code themes according to the ten principles for food sustainability in restaurants (Zanella 2020) and practice theory (Shove et al. 2012). Several steps were taken during the analysis. The first coding step was to identify all environmentally sustainable practices in the collected data, but these practices were not yet categorized. The second coding step was to categorize the environmentally sustainable practices using the ten principles for food sustainability in restaurants (adapted version). In this step, the practices found in the first coding were categorized into nine practices (diversity and seasonality, real food, local food, organic, vegetable-based diet, small producers, waste, innovation and tradition, and fixing the food system). After categorizing the nine practices, the third coding adopted practice theory to identify the materials, competences, and meanings within these nine categories, as well as to analyze the integration of these three elements based on the concept of making and breaking links.

Artificial intelligence (AI) was used as an assistant tool for two purposes. Gemini Notebook was used for transcribing all interview recordings verbatim. ChatGPT was used for translating some interview quotes from Thai to English, and I checked their accuracy. Quotes translated with ChatGPT are identified with the label (*Translated with ChatGPT*) after the quotes. I did not use AI to code the data or analyze the results.

Finally, the findings are presented based on these four themes: general meanings of sustainability among owners and managers, common environmentally sustainable practices in the restaurants in this study, less implemented environmentally sustainable practices in the restaurants in this study, and the main barriers that influence the adoption of environmentally sustainable practices.

5. RESULTS and ANALYSIS

This chapter presents the results of the study on the environmentally sustainable practices of ten Swedish Thai restaurants in Malmö, Lund, and Lomma. The findings are analyzed using practice theory to explain how sustainable practices are adopted, and they are categorized according to the ten principles for food sustainability in restaurants (adapted version).

The chapter is divided into four parts as follows:

1. General meanings of sustainability among owners and managers.
2. Common environmentally sustainable practices in the restaurants in this study.
3. Less implemented environmentally sustainable practices in the restaurants in this study.
4. The main barriers that influence the adoption of environmentally sustainable practices.

5.1 General meanings of sustainability among owners and managers

This section presents the findings of principle 9, fixing food system, on the understanding of sustainability among restaurant owners and managers. From the findings, meaning is the main driver behind the integration of sustainable practices. Meaning in this context refers to motivational knowledge - the understanding of sustainability among restaurant owners and managers.

The question “How would you define ‘sustainability’ for the restaurant in general?” was asked to all respondents to investigate their perceptions and knowledge of sustainability in the restaurant context. Key findings indicate that they have various understandings of sustainability. The variations include uncertainty about what sustainability is, understanding sustainability in terms of business viability, and understanding environmental sustainability.

The first understanding is that the respondents are uncertain what sustainability is, and attempt to connect it with related concepts such as food safety, hygiene, and restaurant service. TR2, TR5, and TR10 are examples of restaurants in this group.

The TR2 owner related it to food safety and hygiene.

Sweden sets higher standards of laws and expectations on sustainability, like hygiene. They're really strict on expired products that we absolutely can't use. Swedish (regulations) are really focused on hygiene and allergies. (TR2 owner)

The TR10 owner also related sustainability to food safety.

We choose high-quality ingredients so that customers feel they're getting good value for what they pay. Quality and price should go hand in hand—they need to match. We also prioritize serving food that's as clean and safe as possible. [...] Our priorities are quality and hygiene—because if the food is clean, the quality has to be good as well. (TR10 owner) (Translated with ChatGPT)

While the TR5 co-owner related it to restaurant service.

It's about service and food. If we keep the same standards, put our hearts into whatever we do, and keep consistency so that our customers will always receive the same standard of service and food. (TR5 co-owner)

Restaurant owners who understand sustainability in this sense focus on food safety and hygiene in their operations. They take the customers' food safety into account and consider it their responsibility to deliver quality food.

This understanding clearly reflects in ingredient sourcing procedures, where the respondents source ingredients that are fresh and meet safety standards. However, they do not consider sustainable practices, such as diversity and seasonality, organic, or local food, when they source ingredients.

The TR2 owner focused on ingredient freshness. She said that:

When I buy meat, I make sure to pick the freshest cuts. I don't want our customers to get meat that's low quality or tough, so I'm willing to pay a bit more to make sure it's tender. It's the same with vegetables—I always choose the freshest, highest-quality produce I can find. (TR2 owner) (Translated with ChatGPT)

The TR5 co-owner focused on food safety and keeping a consistent ingredient standard. She said that:

We order from the same trusted suppliers and don't change brands. For instance, if we're using Nittaya curry paste, we keep using the Nittaya brand consistently [...] Our vegetables and meat are also sourced to meet EU food safety standards. (TR5 co-owner), (Translated with ChatGPT)

The second understanding is that the respondents relate sustainability to business viability, which is explicitly stated by the TR3 owner.

The TR3 owner stated that:

I've been running this restaurant since 2007, almost nineteen years now. In the beginning, I thought a Thai restaurant was *sustainable*, such that I could run it until I retire. Back then we sold really well! Then everything has changed since the pandemic. It did not affect us that much during the first year of the pandemic, but in the second year, it negatively affected us when everything shut down, and then the sales dropped. (TR3 owner)

She did not mention sustainable practices related to food preparation or ingredient sourcing, but mentioned only waste sorting and the availability of vegetarian and vegan menus that she did because of laws and regulations and social norms. However, she perceived benefits of waste sorting to her quality of life.

If it comes to vegan dishes, allergies, or waste sorting, I do it because of a sense of responsibility, as well as regulations. All are aligned together. In Sweden, we have to sort waste at home, and also at restaurants. There is a bin for food waste. [...] There is no pollution in Sweden, nor dark fumes above...um...the PM2.5. There is no such thing. When I go outdoors, I can breathe easily. We have to collaborate (by following regulations), otherwise we won't have this good quality of life. (TR3 owner)

Since these restaurant owners and managers connect sustainability to food safety, hygiene, and business viability, they do not have motivational knowledge about the concept of sustainable practices such as organic, local food, and small producers, etc., as drivers to perform sustainable practices. Indeed, the element of meaning is missing, and environmentally sustainable practices have not yet been fully adopted or even overlooked among these restaurants. However, they show good performance in environmentally sustainable practices driven by existing regulations (material) or social norms (meaning) rather than motivational knowledge, which are waste management and vegetable-based diet.

The third understanding from respondents is that they clearly related the sustainability concept to environmental sustainability, such as reuse, repair, minimizing food waste, and ingredient sourcing. Restaurants in this group integrate more sustainable practices into their operations than restaurants in the two groups above. Their understandings are presented as examples below.

The TR8 owner said that:

We try to incorporate sustainability in many different ways. Even things like our furniture are chosen with sustainability in mind. We also prepare our food fresh every day, and at our restaurant we avoid unnecessary waste. That's the approach we try to follow. [...] We also use organic products. Even the chicken we import is organic, coming from countries like France and Denmark. At the same time, we try to source ingredients as close to us as possible. For example, our beef and other meats come from farms here in the Skåne region. Ideally, we'd like to source them from even closer by, but unfortunately that just isn't possible because those options aren't available. (TR8 owner) (Translated with ChatGPT)

In the case of TR8, the restaurant owner's education and personal experiences influence his sustainable lifestyle and inspire him to implement sustainable practices in the restaurant. He is half Swedish and half Thai and grew up in Sweden. He said that Swedish education shaped his attitude and perspective on sustainability. Although he had lived in Thailand for many years, his lifestyle there was influenced by his values on sustainability. He worked in Thailand, and his work experience is also related to sustainability. He explained that:

It's my way of life. I always bought organic products when I was in Thailand. I never bought chicken from a monopoly company. Sometimes I chose 'local' chicken instead and got groceries from markets. [...] I went to school in Sweden from year 5 to 12, and learned about the concept of sustainability there. [...] I also worked for sustainability festivals in Thailand. (TR8 owner)

His educational and work experiences have shaped his attitude and values about environmental sustainability. Therefore, his clear understanding of environmental sustainability is the motivational knowledge that motivates him to adopt multiple sustainable practices at his restaurant. Examples of practices at TR8 are sourcing organic ingredients (organic), cooking all in-house flavor bases, including curry paste (real food), collaborating with a small local brewery (small producers), and sorting waste (waste), etc.

TR9 also related the meaning of sustainability to environmental sustainability. She mentioned multiple sustainable practices in her restaurant, such as local food and waste management.

Here, sustainability is a normal practice by law or infrastructure. Like waste is sorted into right places, and it is easy for us to do so. Our customers also prefer these practices. So, customers, infrastructure, and laws all of these allow us to practice sustainably. If we don't do this, it seems like we go against the grain. [...] There are packages that we can return, such as tofu boxes. [...] Customers are curious to know where we get ingredients from, and they are glad to know that we use local ingredients. [...] To be honest, I never thought about it at all when I started the business. I thought I would just maintain the business. But when I learned more about the norms here, it made me curious about and willing to follow them. I realized that it is not difficult to do the right things, and everyone collaborates as a part of it. (TR9 owner)

At TR8 and TR9, meaning is integrated into practices and plays its role in sustaining practices. These restaurants have motivational knowledge of sustainability as drivers to perform sustainable practices. They are able to provide various examples of sustainable practices in their restaurants, such as organic, local food, diversity and seasonality, etc., driven by their motivational knowledge. Additionally, they also performed well in waste management and vegetable-based diet practices, which need less reliance on motivational knowledge.

The next section presents findings on the implementation of environmentally sustainable practices in the restaurants in this study in more detail.

5.2 Common environmentally sustainable practices in the restaurants in this study

When categorizing practices using the ten principles for food sustainability in restaurants (adapted version), the common environmentally sustainable practices implemented across the ten restaurants in this study are waste, vegetable-based diet, and real food. These three practices are similar in that materials, competences, and meanings are completely interconnected to constitute the practices.

5.2.1 Waste

The findings show that the practice of waste management is successfully integrated into most restaurants in this study. In waste management, materials, competences, and meanings are fully integrated and interconnected, resulting in the success of the practice. Waste management practice includes three sub-practices. The first is “zero-waste” practice; the second is applying dehydrating, fermenting, or preserving techniques to prevent food waste; and the last is monitoring restaurants’ waste production. Restaurants implement each practice in various ways, so each practice is highlighted with outstanding examples from respondents.

The main materials of these sub-practices are food waste and non-food waste (such as packaging waste).

“Zero-waste” practice

“Zero-waste” practice focuses on how restaurants manage food waste from vegetables and animals. Examples of food waste mentioned by respondents include parts of vegetables (such as broccoli stems) and meats (such as sliced beef) that are cut off before cooking, which are materials in this practice. Interestingly, these materials carry different meanings for respondents (restaurant owners and managers) and customers. While respondents perceive these parts as edible, customers perceive them as inedible. In the “zero-waste” practice, materials and meanings are integrated with competences in cooking these parts with “root-to-leaf” and “nose-to-tail” methods and turning vegetable and meat parts into staff meals.

Several restaurants mentioned that they apply the “root-to-leaf” method to broccoli, as it is one of the general vegetables that they always use.

The TR2 owner explained the usage of the “root-to-leaf” method with broccoli stems.

When we serve customers, we use only broccoli heads and don’t use stems. [...] But broccoli stems are nutritious. We save them for ourselves. We boil them and have them with chili dips, or stir-fry them, but we don’t serve them to customers. We’re concerned that customers might complain that this part is hard and bitter. [...] If we boil broccoli stems and have them with chili dips, they’re very sweet. (TR2 owner)

The quote above shows that the TR2 owner gives meanings to broccoli stems as edible and nutritious, while customers give meanings to the same objects as hard and bitter. The TR2 owner has competences to transform unwanted parts of broccoli into edible goods using Thai cooking methods, in which she peels the skins, boils them until they are soft and sweet, and serves them with chili dips. She also mentioned that another way to cook broccoli stems is to cook Stir-fried Vegetables with broccoli stems and other vegetables.

Similarly, the “nose-to-tail” method deals with parts of meat that are cut off. Although packaged meat has already been trimmed off unwanted parts, such as fat, skin, and bone, there are still parts to cut off during food preparation. The TR8 owner illustrated how the restaurant applies knowledge of multiple cooking methods to prevent these parts from becoming food waste; for example, sliced beef that is cut off becomes deep-fried beef for a staff meal instead.

The TR5 co-owner shared another way competence and meaning are integrated in this practice, by using vegetables that local customers are familiar with to prevent food waste.

If we use Thai ingredients and vegetables for 100 percent, the price would be different. [...] Our customers are regular customers, and they get used to these (local) vegetables. Some of them are not familiar with Thai vegetables and remove them. Sometimes, Thai vegetables smell too strong [...] For broccoli and paprika, they are more familiar with and able to eat them all. (TR5 co-owner)

In this case, competence is TR5 know-how in vegetables that local customers are familiar with, and aligns with the meaning that customers perceive these vegetables as “edible”. They are familiar with local vegetables, compared to Thai or Asian vegetables that they might not be familiar with and refuse to try. This shows that the meaning of “what is edible” is perceived differently among local customers. The restaurant also plans menus to use similar vegetables as much as possible, so each vegetable can be used in different dishes and minimize the chances of becoming waste.

The practice of dehydrating, fermenting, or preserving techniques

Regarding the practice of dehydrating, fermenting, or preserving techniques, respondents do not mention using any of these practices, even though Thai cuisine has numerous such practices. However, the core of these practices is repurposing ingredients to prevent food waste, and many restaurants repurpose coriander roots to make new flavor bases such as the TR4.

We try to use all parts of vegetables. For example, we use coriander stems and leaves. Mostly, Swedes cut stems off, but we can use them because we know that stems have a better aroma than leaves. We use stems as an ingredient in Thai spicy salad, and we use leaves as a topping. [...] If we get coriander roots, we will make seasoning. We try to use all parts, as Thai people normally do. It also saves our costs. (TR4 owner)

Competence plays a key role in this practice of using and repurposing different parts of coriander (materials). From the TR4 owner's quote above, competence shows in the ways different parts of coriander are used, from roots, stems, and leaves. Stems are used as an ingredient, and leaves are used as a topping in Thai spicy salad. Generally, coriander roots are unwanted parts that producers cut off before packing coriander for sale. In Thai cuisine, coriander roots carry a different meaning. They are widely used for their refreshing, citrusy aroma and are an important ingredient mixed with garlic and ground pepper to make "Sam-Gler (marinade from coriander root, garlic, and white pepper)". "Sam-Gler" is commonly used to marinate meat before frying or grilling, or to add to soup. Therefore, the meanings and know-how of using and repurposing coriander are main elements in performing this practice.

Monitoring waste production

Packaging waste is a common non-food waste in restaurants that many restaurants attempt to reduce. Restaurants in this study that succeed in reducing packaging waste demonstrate that it is important to integrate materials, competences, and meanings. Materials include infrastructure such as mutual agreements with suppliers to reduce plastic usage, which some restaurants discuss with suppliers to remove plastic-wrap-covered vegetable containers (except for easily bruised vegetables), and having a deposit system to collect and return containers to suppliers.

The TR1 explained the packaging deposit process as follows:

Mostly, we receive big cartons. If we receive plastic containers, we have to return them. There is a 40 SEK deposit per container, and we get a refund when we return the containers the next time they deliver our order. (TR1 owner)

The meaning that appears in this practice is that packaging is not waste to be discarded, but rather resources that can turn into money through a deposit system. The deposit system operates not only for major suppliers, but also for small producers. Restaurants that order tofu from small producers can collect and return tofu blocks the next time they get tofu. This indicates that competences in operating the deposit system can appear in both major suppliers and small producers.

In terms of monitoring waste production, restaurants apply multiple practices, which are preventing, reducing, and sorting both food and packaging waste.

For waste prevention, inventory management is a key competence in preventing food waste. Owners of TR2, TR5, and TR9 said that they have implemented inventory management. For example, the owner of TR9 said that they started with menu planning and calculated the proper quantity of ingredients to order based on previous data on daily dish sales. As a result, they can order the optimal quantity of ingredients and prevent food waste by avoiding ordering more than what they need.

The last practice is waste sorting, which all restaurants perform well. Each restaurant segregates waste following the local municipalities' waste regulations. Local municipalities provide infrastructure for waste segregation as material, while restaurants have competence in applying skills in segregating waste into the correct

categories: food waste, plastic packaging, paper packaging, metal packaging, colored glass packaging, and clear glass packaging, among others. This practice is not difficult for restaurant staff because segregating waste is the norm in Sweden. Thai and Swedish staff share a common understanding that waste must be sorted. They sort waste at home, and they can sort waste in restaurants in a similar way.



Figure 1: Waste sorting and infrastructure.

5.2.2 Vegetable-based diet

The practice is that restaurants offer vegan and vegetarian options. The vegetable-based diet practice shows the integration of materials, competences, and meanings. In terms of meanings, vegetarian and vegan options are common in restaurants in Sweden because of social norms and customer preferences. Accordingly, the restaurants in this study offer vegan or vegetarian options on almost all menus, as restaurant chefs already have skills and know-how in preparing vegan and vegetarian dishes. The restaurant owners and managers said that cooking vegan and vegetarian dishes is not difficult due to the availability of vegan and vegetarian dishes in Thai culture, as the owner of TR9 referred back:

We're already familiar with vegan and vegetarian dishes. For example, we have the Vegetarian Festival (a nine-day festival where people celebrate by eating vegetarian meals for the entire festival). Also, Thai food comes with diverse flavors, so it is not difficult to cook vegan and vegetarian dishes. [...] With these diverse flavors, we can offer new dishes to our customers with the weekly delicious vegan lunch dishes. (TR9 owner)

These restaurants already have competence from their personal experiences with vegan and vegetarian menus in Thailand, and Thai cooking techniques for cooking vegetarian and vegan menus.

Regarding materials, vegan and vegetarian dishes need ingredients for meat substitutes. The findings show that tofu and vegetables are the most common meat substitutes, and restaurants in this study can add or omit specific ingredients per customers' requests. For example, customers can request vegan Pad Thai without eggs, or Tom Yum with tofu or vegetables. Therefore, the availability of meat substitutes, cooking skills to adapt regular menus to vegan or vegetarian menus, and social norms are complete elements in sustaining vegetable-based diet practice.

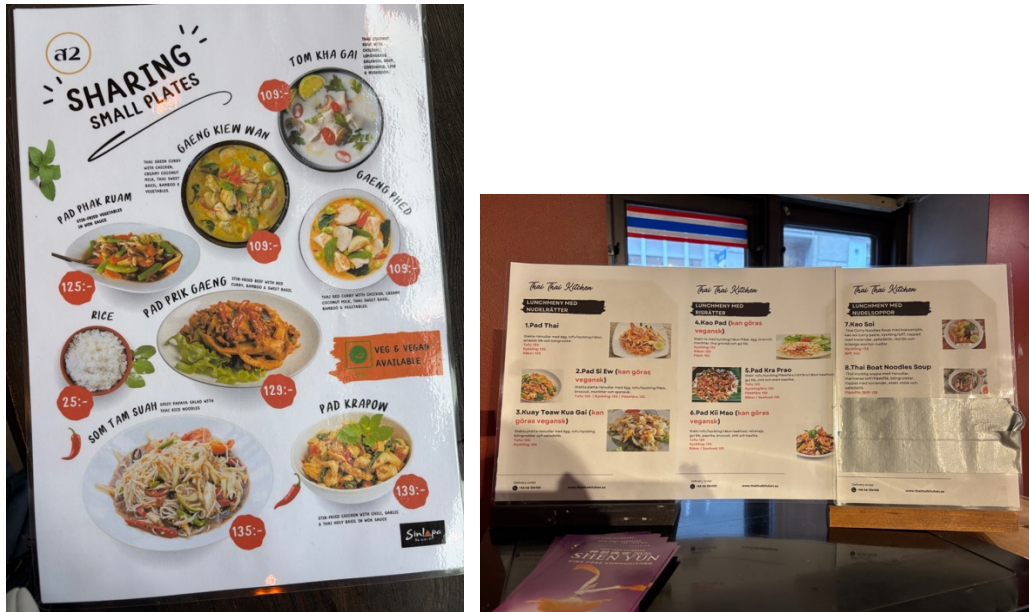


Figure 2: Vegan and vegetarian menu at restaurants in this study.

5.2.3 Real food

Real food is a practice in the food preparation stage. The practice focuses on not buying and not using processed and ultra-processed ingredients, and preparing in-house flavor bases. It is another practice where materials, competences, and meanings are aligned.

Main in-house flavors in the studied Swedish Thai restaurants are in-house sauces and curry paste. All restaurants can make their own in-house sauces for several dishes, but only a few restaurants can make their own curry paste. In-house sauces include base sauces for best-selling dishes, and sauces or dips for side dishes.

Preparing in-house flavor bases requires competences, which are knowledge of ingredient combinations and cooking skills to create different seasonings, base sauces, and/or herbs to develop new flavors. These competences are shared in the kitchen with recipes, as the TR9 owner explained this practice that:

We have recipes for everything. Som Tum sauce, stir-fry sauce, and so on. So we can keep the standard. Otherwise, the taste is not the same. We want our customers to get the same taste whenever they are back at our restaurant. (TR9 owner)

Pad Thai sauce is an in-house sauce that is often mentioned by restaurant owners because Pad Thai is the best-selling dish at their restaurants. Owners said they prefer to make their own Pad Thai sauce for two reasons. The first reason is that the sauce requires fewer ingredients, compared to curry paste, which requires over ten ingredients. The ingredients needed to make Pad Thai sauce are tamarind paste and palm or coconut sugar, while fish sauce is optional. Pad Thai sauce also requires a few steps to make. This shows alignment between materials and competences, where fewer ingredients make it easier to make flavor bases and match the competences in making Pad Thai sauce. The second reason is related to meaning,

that the in-house Pad Thai sauce has better quality, and it tastes better than the processed one.

Additionally, restaurant owners gave examples of in-house sauces and dips that restaurants make, such as base sauce for stir-fried dishes, sauce for Thai spicy salad, spicy sauce with herbs for fish dishes, Satay dip, or sweet and sour soya dip for leek cake. Similarly, these sauces require fewer ingredients and align with staff competencies in making in-house sauce.



Figure 3: In-house Pad Thai sauce and curry paste.



Figure 4: In-house flavor bases.

Eight restaurants said that they generally use processed curry paste because it is more convenient than making in-house curry paste. Making in-house curry paste requires lots of ingredients, complicated steps, and time-consuming processes. The TR4, TR10, and TR9 owners explained that the primary reason for using processed curry paste and condiments is convenience in terms of workforce, cost savings, and time savings.

[TR4] We buy curry paste imported from Thailand, but we still have to season and adjust it ourselves. [...] Making our own curry paste means extra work—it costs more and takes more time, so our production costs will be higher. That's why we prefer to buy ready-made imported curry paste. (TR4 owner) (Translated with ChatGPT)

[TR10] It's already prepared, which makes things much more convenient and saves us time. (TR10 owner)

[TR9] Even though we make some in-house sauces ourselves, we might not put effort into making sweet and chili sauce. It's easier for us to buy processed sweet and chili sauce, which tastes good. Also, we don't want to waste our staff's time making the sauce. (TR9 owner)

Notably, the findings show that two restaurants make in-house curry paste, which is rarely practiced among all case studies. Besides materials and competences, the practice is driven by motivations to provide in-house curry paste. The two restaurant owners explained the motivations differently. The first restaurant owner (TR8) explained that making in-house curry paste was a way to avoid preservatives and additives added to processed curry paste. The second restaurant owner (TR9) explained that cooking everything from scratch, such as curry paste, was their way to present the restaurant's uniqueness and offer dishes that are valued for the price their customers pay. From these two explanations, the meaning of the first explanation relates to food safety, while the meaning of the second explanation relates to restaurant presentation and worthiness.

Table 4: Summary of the integration of elements in common environmentally sustainable practices.

Practices	Integration of elements		
	Materials	Competences	Meanings
Waste	- Food waste. - Packaging waste. - Waste sorting regulations. - Waste sorting and deposit systems.	- Root-to-leaf and nose-to-tail methods. - Thai cooking methods. - Repurposing leftovers. - Know-how in waste sorting.	- Edible vs. non-edible. - Resource in deposit system. - Social norm to sort waste.
Vegetable-based diet	- Meat substitutes (such as tofu and vegetables).	- Skills and know-how in cooking vegan and vegetarian dishes.	- Social norms and customer preferences.
Real food	- Condiments and herbs. - Few ingredients.	- Knowledge on ingredients combination and cooking skills in creating new flavors.	- Cooking steps and ingredients are not too complicated. - Better quality.

5.3 Less implemented environmentally sustainable practices in the restaurants in this study

Unlike the three practices above, environmentally sustainable practices in food preparation (innovation and tradition) and ingredient sourcing are partially implemented in restaurants in this study. This subsection presents the implementation of these practices and analyzes the connections among materials, competences, and meanings to explain how and why they are less implemented in the restaurants in this study.

5.3.1 Innovation and tradition

Applying Thai cooking knowledge and traditions requires high competences. These examples from TR7 and TR3 were ways restaurants apply traditional cooking methods.

[TR7] Herbs, for example, in Tom Yum. We stir-fry (herbs) with cooking oil to release their aromas and remove their raw smell. They have a raw smell if we don't stir-fry them first. Then we cook Tom Yum and add other seasonings. (TR7 owner)

[TR3] We stir-fried (the curry paste) with oil first. It is a way to preserve them and make them less spicy for non-Thai customers. (TR3 owner)

The examples show multiple competences. The first is competence in presenting the aroma of Tom Yum ingredients. In preparing Tom Yum, main herbs like lemongrass, chili, kaffir lime leaves, and galangal are usually stir-fried with cooking oil to release their aroma. Then the herbs are added to water in the next step. The second competence is to increase aroma and reduce spiciness in curry paste by stir-frying curry paste with cooking oil. Other competences mentioned by respondents are stir-frying vegetables with high heat to preserve taste and crunchiness, and adding various fresh herbs to spicy salad dishes to balance flavors and aroma.

Cooking knowledge and traditions are also associated with meanings, primarily as an indicator of authenticity. Restaurants that focused on authenticity, for example, TR2, TR7, and TR10, represented Thai cuisine by prioritizing authentic taste and flavor, and offering standard Thai dishes. These restaurants adopted more traditional cooking methods and represent traditional Thai cuisine. While some restaurants were less strict about authenticity and valued creativity, for example, TR4, TR5, and TR8 represented Thai cuisine by using more local ingredients, such as local vegetables, than restaurants that prioritize authenticity. These restaurants created new dishes or cooked typical dishes using techniques from both traditional Thai cooking methods and techniques from other cuisines.

Moreover, competences in the form of personal experiences and cooking methods from their roots and traditions are inspirations for many restaurant menus. TR8 is an outstanding example of how competences are essential elements of the practice. The owner of TR8 explained that the restaurant menu was inspired by his and the kitchen team's personal experiences. For several years, the owner traveled across

Thailand as well as to neighboring countries. The kitchen team came from different regions of Thailand, and the restaurant menus were based on their favorite dishes. With their diverse cultural backgrounds, they had different cooking skills from different regions, which was a competence that brought diversity to the menus. Therefore, the restaurant served traditional dishes from different regions in Thailand, or dishes that were derived from neighboring countries, such as Northeastern Thai Sausage, Thai Rice Vermicelli Noodles with Pineapple, Ginger, and Dried Shrimp, and Burmese Beef Curry. They excluded standardized Thai dishes such as Red Curry and Pad Thai from restaurant menus, making an opportunity for customers to try new dishes.



Figure 5: Thai Rice Vermicelli Noodles with Pineapple, Ginger, and Dried Shrimp.

The TR8 owner expressed his intention to understand the food culture and origin of the dish offered at the restaurant:

The dishes we serve here come from different regions, but they are not purely 100 percent Thai. For example, the eastern region shares a border with Cambodia, the other regions share borders with Myanmar or Malaysia. So we adapt recipes from these countries, and also attempt to explore and study their origins. Where do they derive from, and try to cook them the same as the original recipe, in our style. (TR8 owner)

Findings from other restaurants show that another competence that inspires restaurant menus is the owner's roots. Many Swedish Thai restaurants offer dishes from their home regions. For example, TR1 offers dishes from northeastern Thailand such as Som Tum, Larb and Soup No Mai; TR3 serves dishes from southern Thailand such as Southern Style Chicken with Sticky Rice and Stir-Fried Crispy Pork with Curry Paste; and TR7 serves dishes from northern Thailand such as Khao Soi and Northern-Thai Sausage.

However, there is a misalignment between competences and meanings. Restaurants mentioned that the majority of restaurant menus were not from their regions, but from central Thailand, as the TR7 owner described as follows:

Our menus are central Thailand dishes, but I come from northern Thailand. It's just because the dishes from central Thailand are more popular. People might not know dishes from other regions. I mean, people here. They've already known dishes from central Thailand. [...] But we also serve some dishes from northern Thailand, such as Khao Soi and Northern-Thai sausage. (TR7 owner)

Although they have the competence to cook regional menus, their competence is not fully performed because of misalignment with the meaning of Thai cuisine given by their customers. Among non-Thai customers, the central region cuisine is better known than other regional cuisines, so they prefer menus from the central region over other regions. Therefore, restaurants have to offer these regional dishes as special dishes during weekends or offer only two to three regional dishes on the menu. In this case, the misalignment between competence and meaning limits the practice's ability to offer a regional menu to customers.

5.3.2 Ingredient sourcing

Ingredient sourcing encompasses four environmentally sustainable practices, which are local food, organic, small producers, and diversity and seasonality. In these practices, ingredients are materials in constituting practices because they are the primary unit that influences how practices will perform and align with concepts of practices. Findings indicate that environmentally sustainable practices in ingredient sourcing are less implemented in restaurants in this study because of a lack of materials and meanings.

As these practices share similar materials, the materials that constitute the four practices are explained as follows. Ingredients and suppliers are key materials. Overall, restaurants in this study source both domestic and imported ingredients from multiple suppliers.

Ingredients

The TR9 owner clearly stated how the restaurant sources ingredients.

Our ingredients come from everywhere. We're a Thai restaurant, so we can mainly source local ingredients only up to a point. But in the end, we need to depend on imported herbs, spices, and seasonings. Otherwise, we'll lose the authenticity of Thai food. Some ingredients are unavoidable. Because we serve curry, we also make our own curry pastes, and we need lots of fresh ingredients. [...] Now, it's up to us to figure out how to save on costs. If we can source alternative ingredients here, we use them as much as possible. For ingredients that really have no alternative here, we have to use imported ingredients. [...] Alternative ingredients are... almost everything except herbs, curry pastes, seasonings, and sauces. Meat, pork, mushrooms, duck, chicken, and fresh vegetables all have local alternatives. They're actually fresher because they come from nearby. For example, with chicken, we try to source as much as possible from Sweden. However, that's not always possible because of price or quality. (TR9 owner), (Translated with ChatGPT)

The TR9 owner stated that sourcing all ingredients locally is challenging. Some ingredients do not have alternatives available in Sweden, and the restaurant needs to preserve the authenticity of Thai food. So the restaurant had to use imported ingredients, mainly herbs, spices, and condiments, for authenticity. However, they also attempted to find alternative ingredients locally, such as vegetables and meat.

The analysis categorizes ingredients into four main categories: vegetables, meat, herbs and spices, and condiments.

Vegetables

Restaurants in this study used both domestic and imported vegetables, but primarily used domestic vegetables. Respondents gave examples of domestic vegetables that can be sourced fresh, which were broccoli, cauliflower, tomato, onion, spring onion, pumpkin, paprika, etc.

However, restaurants also needed to buy similar vegetables from nearby European countries such as Poland, the Netherlands, and Spain to compensate for Swedish vegetables in winter. These vegetables were freshly imported.

Some restaurants used frozen and processed vegetables, one restaurant owner stated that she used frozen corn and beans. Many restaurants used canned bamboo shoots from Thailand.

Meat

Restaurants sourced meat from both domestic and imported sources. Meat sourced in Sweden was chicken and chicken wings with the Från Sverige (From Sweden) label. Other meats restaurants could particularly source from the Skåne region were pork and beef. Some restaurants selected to use frozen imported chicken from France, Denmark, and specifically, frozen chicken from Thailand.

Other imported ingredients mentioned by restaurant owners were seafood such as shrimp, squid, and mussels, which were frozen to preserve freshness and ensure food safety.

Herbs and spices

Herbs and spices were imported from Thailand and Asian countries, and were available year-round at Asian shops. Herbs such as lemongrass, finger roots, galangal, holy basil, and basil were sourced fresh for use in menus or to make curry paste. Several restaurants commonly used frozen herbs, especially kaffir lime leaves. The reason is that fresh kaffir lime leaves are strictly restricted in the EU due to pest-control regulations; only frozen kaffir lime leaves are allowed to be imported.

Condiments

The last category of ingredients was condiments, for example, curry paste, fish sauce, oyster sauce, and soy sauce, etc. Condiments were more processed compared to other ingredients in these four categories. Some condiments were processed ingredients that are imported from Asian countries. These ingredients cannot be produced in Sweden or are too complicated to make in-house, for instance, coconut milk, canned bamboo shoots, canned pineapple, and sweet and chili sauce.

Suppliers

The ten Swedish Thai restaurants sourced ingredients from multiple suppliers. Variations in each restaurant's suppliers are due to materials on the suppliers' side and meanings on the restaurants' side.

Wholesalers were restaurants' major suppliers. Wholesalers can provide materials that meet these meanings that restaurants value. In terms of materials, wholesalers offer a wide range of ingredients from around the world and can transport raw materials directly to restaurants using refrigerated trucks that maintain proper temperature for food transport. This is crucial for restaurants, as the Swedish Food Agency enforces regulations on contamination and temperature control for food transport. Most restaurants (TR1, TR3, TR4, TR5, TR6, TR8, TR9) ordered from wholesalers because of the meanings that they prioritize convenience, punctual delivery, consistent ingredient quality, and temperature control.

For example, the TR8 owner said that his restaurant ordered ingredients only from a regular wholesaler because the wholesaler has all the good-quality ingredients that his restaurant needs. It is also time-saving, as the restaurant does not need to spend more time sourcing ingredients from different suppliers.

Asian shops in Möllevången, Malmö, were the second most common food suppliers to Swedish Thai restaurants. These shops are small, independent shops that provide different materials from the other three suppliers. The materials they provide are a variety of Thai and Asian ingredients imported directly from Thailand and other Asian countries. The shops offer products for both individual customers and restaurant customers. Restaurants stated that these Asian shops were where they get herbs and spices, either fresh or frozen, and other essential ingredients such as coconut milk, noodles, and canned bamboo shoots. In terms of meaning, these ingredients are essential to the authenticity of Thai cuisine because they have better taste and aroma than local ingredients (if available) when used as ingredients in menus or making curry paste. Many ingredients such as coconut milk, lemongrass, galanga, etc. are also essential to the authenticity of Thai cuisine, as these ingredients cannot be produced locally and need to be imported.

Hypermarkets were major sources for vegetables and meat. Restaurant owners who had cars drove to hypermarkets and selected ingredients themselves; otherwise, they ordered online for delivery. In terms of meaning, hypermarkets provide convenience because owners can select ingredients themselves, and they have their own cars to deliver ingredients back to their restaurants.

Supermarkets were another food supplier to restaurants. Out of ten restaurants, TR 2 was the only restaurant that depended on supermarkets for ingredient sourcing. The TR2 owner bought ingredients twice a week, every Wednesday and Saturday. The reason for buying ingredients at the supermarket is that:

I shop for fresh ingredients myself, instead of ordering. For vegetables, I must choose the freshest ones, and I carefully select them myself. I check for the expiry date, and, for example, salad, if I notice that it starts to wilt, I won't buy it. If paprika is soft, I won't buy it either. I'll choose the hard paprika. [...]. (TR2 owner)

We don't have to buy too many ingredients because we shop twice a week. When we get the ingredients, we will finish them in two days, before buying the new lot of ingredients. [...] Our restaurant is closed on Monday and opens six days a week. We want to use fresh ingredients every day, and we rarely use frozen ingredients. (TR2 owner)

In terms of meaning, the owner values freshness and prefers to select fresh ingredients herself to ensure quality, as she can check quality before buying.

The table below summarizes restaurants' ingredient sourcing and suppliers.

Table 5: An overview of restaurants' ingredient sourcing and suppliers.

Restaurant/principles	Suppliers	Organic						Local food						Small producers
		Standard						Source						Sourcing from small-scale producers
		EU Food Safety Policy	Organic (KRAV/ EU organic)					Domestic (Sweden)			Imported			
TR1	W, SH	x	nd					x	x		x	x	x	No
TR2	SH, S	x	x					x	x		x	x	x	Yes
TR3	W, SH	x						x	nd		x	x	x	No
TR4	W, SH, H	x	x					x	nd		x	x	x	No
TR5	W	x			/			x			nd	x	x	Yes
TR6	W	x	x					x	x		x	x	x	No
TR7	H	x	nd					x	x		x	x	x	Yes
TR8	W				x	x		x	x		x	x	x	Yes
TR9	W, SH	x						x	x			x	x	Yes
TR10	SH, H	x	x		/			x	x		x	x	x	No

nd = no data

/ = partially implemented: the category has been implemented for a specific period, for example, when organic options are cheaper.

	Vegetables
	Meat
	Herbs and spices

W = Wholesalers
SH = Asian shops
H = Hypermarkets
S = Supermarkets

These ingredients and suppliers are materials that constitute practices in ingredient sourcing. In the next sections, 5.3.3 to 5.3.6 explain how these materials integrate with other elements in ingredient sourcing practices: local food, organic, small producers, and diversity and seasonality, in restaurants in this study.

5.3.3 Local food

The practice of local food focuses on buying first from local and personally known producers, second from distributors, and only third from major retailers.

This practice requires integrating materials and meanings to perform, as clearly found at TR1. TR1 manager specifically mentioned the meaning in relation to ingredient sourcing. She said that:

Sweden focuses on the environmental aspect. And our restaurant starts from ingredients to use some Swedish seasonal vegetables instead of using all imported vegetables from Thailand. For meat, instead of using frozen meat, we partially use local meat. It also reduces transportation. (TR1 owner)

As TR1 connected the meaning of focusing on the environment with ingredient sourcing, the restaurant partially implemented sustainable practices related to ingredient sourcing procedures for local food. TR1 was one of the Swedish Thai restaurants in this study that attempted to source vegetables and meat from domestic suppliers and neighboring European countries, and used substitute ingredients when available.

Most of the vegetables we use are locally grown fresh produce. We don't use frozen vegetables—almost all of our vegetables are fresh. Some of them come from Poland, for example, instead of being imported directly from Thailand. Of course, there are certain Thai vegetables that we have to use and simply can't avoid. For a dish like *Pad Ka Prao*, we need Thai holy basil. But for ingredients like spring onions and coriander, which are available from local produce suppliers, we use those that are grown here instead of importing them from Thailand. (TR1 owner) (Translated with ChatGPT)

However, findings from other restaurants in this study indicate that material and meaning constraints challenge the adoption of local food practices. Material constraints refer to limitations on ingredients. The first limitation of ingredients is that main herbs, spices, and condiments essential to Thai cuisine are not produced locally. So they have to rely on imported ingredients. The second ingredient limitation is that local ingredients are not available year-round. Although restaurants in this study can partially source vegetables and meat produced in Sweden, they need to use imported vegetables from other European countries when Sweden faces limited ingredient supply in winter.

Another material constraint that influences ingredient usage in local food practice is price. Although the same ingredients are available both locally and imported, some restaurants prefer imported ingredients, such as chicken, because of the lower price. The TR7 owner said that:

Mostly we use imported chicken from Denmark. Buying chicken that is raised here is more expensive than imported chicken. Swedish chicken, like the one with Från Sverige (from Sweden), is so expensive. (TR7 owner)

Therefore, a lack of materials causes limitations in local food practice. The TR9 owner clearly stated this limitation.

Our ingredients come from everywhere. We are a Thai restaurant, so we can mainly source local ingredients only up to a point. But in the end, we need to rely on imported herbs, spices, and condiments. Otherwise, we will lose the authenticity of Thai food. Some ingredients are unavoidable. Because we serve curry. We also make our own curry pastes, and we need lots of fresh ingredients. (TR9 owner)

From her statement, a meaning constraint also appears, as imported herbs, spices, and condiments are attached to authenticity. She stated that authenticity is essential for restaurants to provide customers with authentic Thai food. These imported ingredients are “unavoidable”, and the restaurant has to source them from imported sources as they have better taste and aroma to create authentic taste and flavor.



Figure 6: Pad Sa Tor (Thai Stir-Fried Stinky Beans) uses imported ingredients such as stinky beans for authenticity.

The reasons restaurants use their current suppliers also show the misalignment between meaning and local food practice. While the practice prioritizes local and personally known producers, the findings show that suppliers to restaurants are wholesalers, Asian shops, hypermarkets, and supermarkets. Restaurants in this study prioritize getting ingredients from these suppliers because they provide values that restaurants need, such as convenience, punctual delivery, consistent ingredient quality, and freshness, so none of them source main ingredients from local and personally known producers.

5.3.4 Organic

In Sweden, organic ingredients are certified with KRAV or EU organic labels (KRAV 2026), and their prices are generally higher than conventional ingredients. Although the practice states that restaurants primarily source organic ingredients from local and personally known producers, only one out of nine restaurants in this study consistently purchases organic products.

In this study, organic practice is not less integrated because of material constraints, as restaurants are aware of organic products available in the market. However, it is more because of the misalignment in meanings that restaurants focus on different values when adopting organic ingredients.

TR8 is the restaurant that consistently purchases organic products. The main driver is the meaning that the restaurant's owner gives to organic products. He values organic ingredients as better than conventional non-organic ingredients, so he intends to source only organic ingredients. Moreover, the restaurant has enough revenue, as a material, to afford organic products. The restaurant positions itself as a casual fine-dining restaurant and charges higher prices than other restaurants in this study, between 95 and 435 SEK. Its price range is the most expensive among all restaurants in this study and generates revenue that allows it to afford the costs of organic ingredients.



Figure 7: Pad Ka Prao cooked with organic ingredients.

For the other restaurants in this study, most of them still primarily source non-organic ingredients, and they perceive the values of non-organic and organic ingredients differently from TR8. While TR8 values organic ingredients as better than conventional non-organic ingredients, other restaurants value that non-organic ingredients also meet acceptable safety standards. These restaurants trust and are satisfied with ingredients that meet the EU food safety policy standards, which include standards on food hygiene, animal health, plant health, and monitoring of contaminants and residues. In their opinion, it is not necessary to use organic ingredients if ingredients meet the EU food safety policy standards. The TR4 owner said that:

It is not necessary to use organic ingredients. (The conventional ingredients) are safe and packed in proper packages. So it is ok to use ingredients that meet conventional standards. (TR4 owner)

The second different value is that restaurants value an affordable price when purchasing ingredients. Prices of organic ingredients are significantly higher than those of conventional ingredients, so restaurants cannot afford the higher price of organic ingredients, as stated by the TR3, the TR6, and the TR9 owners:

[TR3] We can't use organic eggs for cooking because they're very expensive. (TR3 owner)

[TR6] No, we can't (buy organic ingredients). We set our menu prices quite low, so we use ingredients that meet the EU standards. (TR6 owner)

[TR9] If we can, we use very few organic ingredients. But it's not our priority; it is more of an alternative, because not everyone can afford it. (TR9 owner)

The TR3 owner also said that if the restaurant switched to organic ingredients, it would cost more, and the restaurant would need to increase dish prices. Currently, the dish prices are considered high, and if the prices also increase, customers will not be able to afford them.

The TR3 owner said that:

It's not our concept to serve organic food. If we do that, organic dishes would be very expensive, and sales would drop. If I could, I would like to serve organic food, but it would be difficult because of the costs. (TR3 owner)

However, some restaurants occasionally adopt organic practices when organic ingredient prices are lower. The TR5 manager explained that:

When vegetable prices are lower, we can buy some organic vegetables such as broccoli. Mostly, prices are lower in the summer. (TR5 owner)

It is clear that organic practice is less implemented among restaurants in this study because of meaning that restaurants trust the safety of ingredients that meet the EU food safety policy standards and value affordable prices. So organic practice is not the practice that these restaurants prioritize, as conventional ingredients meet their values.

5.3.5 Small producers

Small producers' practice is to primarily source ingredients from small producers. This practice is partially implemented at some restaurants such as TR2, TR8, and TR9 because small producers provide materials that restaurants need. On the other hand, most restaurants in this study have not implemented this practice because of a lack of materials.

In the case of restaurants that have implemented this practice, they have adopted it because small producers provide materials that restaurants need and have different products from main suppliers. While restaurants in this study mostly source their main ingredients from wholesalers, Asian shops, hypermarkets, and supermarkets, these suppliers may not provide specific products. So restaurants source specific products such as bean sprouts, tofu, craft beer, etc. from small-scale producers.

Small producers are not limited to producers of fresh raw ingredients. Some of them produce beverages and desserts. TR8 restaurant ordered craft beer from a producer in a nearby town. In the case of TR8 restaurant, the restaurant owner and brewery owner also collaborated in developing specialty beer for the restaurant.

I collaborate with a brewery. The owner and I are friends, and we develop beer together. Now we have lager and IPA. We did menu tastings first, and then blended beers to pair with our dishes. I'm not specialized in making beer, but my friend does. (TR8 owner)



Figure 8: Beer from local brewery.

Similarly, TR9 was another restaurant that sourced various items from nearby small producers. The restaurant orders craft beer, coffee, and chocolate from producers in the same town and nearby towns.

We order local beer, they make craft beer. [...] I think the brewery is in Eslöv, and there is another brewery that I can't remember its exact location [...] We also have coffee from Love Coffee. They import coffee beans and roast the beans themselves. [...] We also order chocolate from a nearby shop. (TR9 owner)

According to subchapter 5.1, both TR8 and TR9 are restaurants in the group that understand environmental sustainability and connect the concept with tangible practices. They mentioned that they value sourcing from nearby and supporting small producers. Therefore, they practice sourcing from small producers more intensely than other restaurants in this study.

Many restaurants order bean sprouts and tofu from Vietnamese producers because they can deliver fresh bean sprouts and tofu to restaurants weekly, and the price is lower than buying from regular shops.



Figure 9: Bean sprouts and tofu from small producers.

The TR2 owner explained that she used to buy tofu from Asian shops and later bought from small producers.

I used to buy ten to fifteen kilograms of tofu from Asian shops, and the producer asked if I would like to buy in a large portion. They offered delivery service to the restaurant. I also got bean sprouts, which are nice as they are freshly grown. If the producers deliver bean sprouts to Asian shops on Monday and I go to the shop on Wednesday, they get soggy. So I ordered them directly from producers, and they are delivered to the restaurant every Wednesday, and I get fresh, nice, and crunchy bean sprouts. (TR2 owner)

The TR2 owner also indicated the meaning that drives her to buy from small producers. She said that she preferred to buy some ingredients from individuals, personally known small-scale producers, because of the freshness of the ingredients and lower price.

As mentioned previously, several restaurants reported that a lack of materials was an obstacle to sourcing products from small-scale producers. The lack of materials mentioned by these restaurants included product shortages, transportation, and uncertainty about product quantity and quality.

The first obstacle was that restaurants may risk product shortages if ordering from small producers, as some products might not be available for a certain period. This can cause a lack of materials when ingredients are unavailable and will significantly affect restaurants' operations as they need to ensure that they consistently have certain ingredients.

The second obstacle was transportation. Even if restaurants are willing to buy ingredients from small producers, they have to pick up the products themselves. Many restaurants lack the materials for transportation because they do not have their own cars, so they cannot pick up products from the producers. Even if they have cars, they encounter another material constraint as vehicles must comply with

regulations on temperature control that products must be transported at a specific temperature for each product.

The last material challenge was uncertainty in product quantity and product quality. Small producers may not always be able to provide products with consistent quality and quantity, compared to regular suppliers that guarantee product quantity and quality.

Although some restaurants in this study are able to integrate small producers practice into their operations, these material constraints are barriers to the majority of restaurants adopting this practice.

5.3.6 Diversity and seasonality

The practice of diversity and seasonality is relevant to ingredients available in typical seasons. The practice states that, design the menu first, by considering the best ingredients available in that particular season in that area, and later thinking of specific recipes.

Seasonal ingredients are essential material elements to constitute this practice; however, the availability of these materials is limited to summer. With the Swedish short growing season, restaurants explained that they can follow this practice when summer products are available. In Sweden, summer is a peak agricultural period, and ingredient availability creates a great opportunity to source, prepare, and cook with seasonal produce. Among four ingredient categories (vegetables, meat, herbs and spices, and condiments), restaurant owners particularly referred to vegetables when talking about summer ingredients. Summer vegetables are materials that restaurant owners described how they design menus from these summer products:

TR10 restaurant owner described that she could follow seasonality and bought various vegetables in summer. She said that they were of better quality. With her competence, she knows how to cook summer vegetables into different dishes.

I bought them from a farm near Bjärred. There are tomatoes and cucumbers. They are fresh and can be stored longer. Summer vegetables are fresh and locally grown in Sweden. I use tomatoes for salad as a side dish, and Som Tum. [...] I also use summer potatoes for Massaman Curry. (TR10 owner)

She specifically mentioned seasonal ingredients she used in her menus, which were summer tomatoes for a side dish and Som Tum, and summer potatoes in Massaman Curry.

She also has gardening skills, and she grows some Thai herbs and vegetables in a small space in the restaurant backyard during summer. She said that it was another way that she adopted this practice:

All vegetables I use in summer are local. I grow some vegetables and herbs in the space there. There are basil, holy basil, long beans, and Chinese chives. I got seeds from my friends every year. With this, I can save a lot of cost in summer because I rarely buy vegetables. (TR10 owner)

Other restaurants, such as TR8 and TR1, also described that they added seasonal vegetables to dishes. In order to do so, they have cooking techniques as competences to adjust standard recipes to use seasonal vegetables that may not be standard ingredients in those recipes. TR8 orders ingredients from wholesalers, which inform restaurants about seasonal ingredients they provide during the period. The restaurant owner gave an example of pumpkins, which were extra vegetables added to Green Curry during pumpkin season.

TR1 adjusted standard recipes to use more Swedish seasonal vegetables by using paprika and broccoli for Pad Khing to compensate for Chinese broccoli, or using paprika, broccoli, and carrot for Stir-Fried Cashew Nuts.

For dishes like Stir-Fried Cashew Nuts, we adapt the recipe by using paprika, broccoli, and adding carrots. Likewise, for Pad Khing, instead of using Chinese broccoli as we typically would in Thailand, we add broccoli and paprika to the dish. (TR1 owner)
(Translated with ChatGPT)

However, overall, the practice is less implemented in restaurants in this study because of material constraints. Although more seasonal vegetables are available in summer, restaurant owners said that ingredients were similar year-round, as stated by the TR3 owner.

Ingredients are the same all year round. Here, seasons do not matter; we serve the same dishes in summer and winter because all ingredients are constantly the same.
(TR3 owner)

This material constraint makes diversity and seasonality practice challenging to achieve in restaurants in this study.

To summarize, innovation and tradition, local food, organic, small producers, and diversity and seasonality are practices that are implemented less in restaurants in this study. The findings show that elements constituting these practices are misaligned, as summarized in the table below.

Table 6: Summary of the misalignment between elements in the less implemented environmentally sustainable practices.

Practices	Misalignment between elements	Findings
Innovation and tradition	- Misalignment between competences-meanings.	Restaurants in this study have competence in cooking regional menus. However, customers give the meaning of Thai cuisine different from restaurant owners. Therefore, the majority of restaurant menus are not from their regions, but from central Thailand. This limits the performance of the practice to offer a regional menu to customers.
Local food	- Material constraints. - Meaning constraints.	- Limitation of ingredients, as herbs, spices, and condiments are not locally produced. - Local ingredients are not available year-round. Restaurants need to use imported vegetables from other European countries. - High prices of local products. - Authenticity: imported herbs, spices, and condiments are unavoidable in preserving the authenticity of Thai cuisine. - Local producers may not be able to fulfill values that restaurants need from suppliers.
Organic	- Misalignment in meanings.	- Restaurants trust in and are satisfied with EU standards ingredients. - Restaurants value an affordable price, and organic products are not affordable.
Small producers	- Material constraints.	- Risk of product shortage. - Transportation difficulty. - Uncertainty of quantity and quality of products.
Diversity and seasonality	- Material constraints.	- Ingredients are not diverse throughout the year. - Summer ingredients available in short period, only in summer.

Although the adoption of practices in ingredient sourcing encounters barriers, an interesting piece of information that emerges from the findings is that the adoption of sustainable ingredient sourcing practices enhances the inclusivity of Thai cuisine in Swedish culture.

Thai cuisine as an ethnic food can blend into Swedish culture by adopting norms and values on sustainability in restaurant operations. Integrating meanings that are valued in Swedish culture elevates Thai cuisine from “ethnic cuisine” to a more inclusive cuisine in society, as its norms and values align with Swedish culture.

One example of aligning norms and values is food origins, which restaurant owners said it was important to local customers. Local food, organic, small producers, and diversity and seasonality are practices closely related to the concept of food origins. Although restaurants in this study partially implement these practices, they highlight the advantages of the implementation.

The TR10 owner highlighted this statement:

When we first opened the restaurant, customers asked where we imported ingredients from. But that was a long time ago. Now they don't ask anymore, and they have become our regular customers. They come quite often, and we can survive because of them. They asked us at the beginning because we were a new restaurant. Then, when they trust us and there are no problems, they don't ask anymore. (TR10 owner)

The TR1 owner highlighted the benefit of sustainable practices adoption to a restaurant's image:

It improves the restaurant's image, from cheap street food to quality food with social responsibility. Maybe customers want to pay more if they know we use clean, safe ingredients and don't harm the environment. It helps with the restaurant's image. (TR1 owner)

The TR9 owner highlighted the benefits of using local ingredients:

Customers are impressed that we use local ingredients, such as meat. They asked if we use Swedish chicken, or where we source chicken from, for example. It makes us try to do so. [...] When we learn what local people value and care about, we have to care about that too. (TR9 owner)

As stated by several restaurants, new customers, especially local customers, mostly ask for information on food origins. When they learn that ingredients such as chicken are sourced from the Skåne region or from Sweden, they tend to form a good first impression and a positive attitude toward restaurants. After that, many of them become the restaurant's regular customers, which indicates that they trust the process of ingredient sourcing that aligns with their norms and values. This is a clear benefit of materials-meaning integration, that the implementation of sustainable ingredient sourcing supports the inclusion of Thai cuisine in Swedish culture.

5.4 The main barriers that influence the adoption of environmentally sustainable practices

Results presented across previous sections show variation in the integration of environmentally sustainable practices in the ten Swedish Thai restaurants in this study. Commonly implemented practices are waste, vegetable-based diet, and real food. Other practices, which are innovation and tradition, local food, organic, small producers, and diversity and seasonality, are less implemented.

The less implemented practices result from the misalignment between materials and meanings, as presented in the previous section. To summarize, the misalignment emerged in two key areas of environmentally sustainable practices, which are ingredient sourcing and waste. In terms of ingredient sourcing, material and meaning constraints create challenges in affordability, sourcing from small producers, and quality of ingredients. In terms of waste, although the practice is well integrated in restaurants in this study, it still encounters meaning constraints in a perception of ‘what is edible’.

5.4.1 Material and meaning constraints in ingredient sourcing

Material and meaning constraints: affordability of local and organic products

Affordability is the first challenge to adopting sustainable ingredient-sourcing practices, especially local and organic practices. The high price of local and organic products is a major material constraint on sourcing local and organic products in restaurants in the study. Findings show that restaurant owners and managers mutually stated that organic and local ingredients are much more expensive than conventional ingredients. As ingredients are a major cost of restaurants, if they switch to using organic and local ingredients, it will raise the costs of restaurants and affect the financial status of the business, as explained by the TR7 owner, who said they did not use organic or local vegetables because:

All organic (ekologisk) stuff is so expensive that we can't use it in our restaurant, because the costs will be very high. Like broccoli, for the normal one it costs only 15-16 SEK. For the organic one, it's up to 30 SEK. So how could we survive if we use organic for all of our ingredients? The price per dish would also be higher. (TR7 owner)

In addition, some restaurants shared that they recognized the benefits and advantages of organic and local ingredients and expressed interest in using more of these ingredients. However, they stated that organic and local ingredients were an alternative because of the high price, which they could not afford. They mentioned that even local ingredients were more expensive than imported ingredients. This is a misalignment between meaning and material that, although restaurants are aware of the advantages of organic and local ingredients, high prices are a material constraint that makes these products unaffordable. As a result, they have to prioritize their business viability by using conventional ingredients. TR9 clearly stated that:

Of course, our ingredients meet the EU standards, and if we can, we use very few organic ingredients. But it's not our priority; it's more of an alternative, because not everyone can afford it. Local ingredients are more expensive than imported ingredients. It limits our choice. It's not because we don't want to use them, but with these high costs, we cannot sustain our business. (TR9 owner)

As restaurants face the material constraint, which is unaffordable local and organic ingredients, they have to find cheaper options. A concrete example is local food practice, where many restaurants source imported meat because it is cheaper than local meat. In this regard, the TR7 owner described that imported meat was cheaper than local meat.

Mostly we use imported chicken from Denmark. Buying chicken that is raised here is more expensive than imported chicken. Swedish chicken, like the one with Från Sverige (From Sweden), is so expensive. (TR7 owner)

Therefore, material constraints and the misalignment between material and meaning in the affordability of local and organic products result in less implementation of local and organic practices, and also force restaurants to source ingredients from less sustainable options.

Material constraints: sourcing from small producers

Regarding sourcing ingredients from small producers, material constraints when sourcing fresh ingredients include limited ingredient options and certainty, and transportation difficulties. To elaborate, small producers generally produce certain products such as vegetables, meat, and eggs. Therefore, a material constraint occurs as restaurants need to source from different producers in order to get all ingredients. Moreover, products from small producers are less consistent than those from major suppliers, where restaurants can get all ingredients at once and ensure they consistently receive what they need. Therefore, ordering from food suppliers is more convenient and cost-efficient. The TR4 owner shared her thoughts on sourcing from small producers:

We don't source from small-scale producers because it incurs extra costs, and it is not our restaurant's concept. We order from our suppliers. It is convenient, and we know that we always get the ingredients we need. If we order from small producers, sometimes they may not have the ingredients, or they may have inconsistent quantities. (TR4 owner)

Another material constraint is transportation difficulty. Regulations on food transportation state that certain types of food must be transported under typical temperature conditions and free from contaminants. As many small producers do not offer delivery service, restaurants may have to pick up products by themselves. However, this is a barrier because restaurants generally do not have their own refrigerated trucks for food transportation. TR10 owner shared the challenges in temperature control and sourcing from small producers:

We can get everything we need from Snabbgross, and they deliver our order to the restaurant. But if we get ingredients from farms, we might not get everything at once. [...] That does not mean we don't want to get stuff from small producers; we really want to, especially for eggs from farms. But it is not that easy because of the temperature control; our car is not for food transportation, so it is easier to order from the supplier. [...] The temperature control is very, very important. (TR10 owner)

Sourcing from small producers is inconvenient because of these material constraints. Therefore, Swedish Thai restaurants in this study mostly do not source fresh ingredients from small producers, and implement small producers' practices less.

Material and meaning constraints: quality of ingredients (authenticity)

Restaurants in this study that prioritize the authenticity of Thai cuisine faced a meaning constraint that, in order to preserve authenticity, they prefer imported herbs and spices from Thailand over similar ingredients available locally. The owner of TR3 explained that it was difficult to cook Thai food without imported herbs and spices from Thailand.

Vegetables are imported from Thailand, holy basil, coriander, Thai basil, all of them are imported from Thailand. [...] If we don't have these imported herbs and use only Swedish vegetables and herbs, it would be difficult to cook Thai food. (TR3 owner)

The TR4 and TR1 owners identify material constraints by comparing Thai herbs with local herbs, which provide different aromas.

[TR4] The climate conditions here are different, creating a different taste. If we buy Swedish mint, its aroma is not as strong as Thai mint. This is different from Thai herbs. Coriander is kind of..., also has a different aroma. (TR4 owner)

[TR1] For the taste. If we change ingredients, for example, vegetables, the taste might change a bit. If we replace Thai ingredients with ingredients that we source from here, like replacing Thai basil with Italian basil, the aroma is different. But sometimes we use it in the season when we can't find Thai basil. (TR1 owner)

The quality difference between Thai herbs and local herbs is a major material constraint, leading restaurants to prefer Thai herbs over local herbs. As restaurants in this study need to depend on imported ingredients, this is a barrier to following environmentally sustainable practices in ingredient sourcing, particularly in local food, organic, and small producers.

5.4.2 Meaning constraint: a perception of 'what is edible'

Although waste is the most implemented practice in restaurants in this study, it still encounters meaning constraints around perceptions of 'what is edible'. This perception relates to the practice of minimizing food waste by adopting nose-to-tail and root-to-leaf methods. Perceptions of edible goods are shaped by norms, cultures, and personal experiences (Long 2018) and influence decisions to try new foods. Interestingly, this perception affects restaurants' food waste management, as some parts of vegetables and meat that restaurants cannot serve to their local customers because these parts are 'inedible' in their perceptions. Examples are

broccoli and vegetable stems, which are edible when cooked properly, as described by the TR2 owner:

When we serve customers, we use only broccoli heads and don't use stems. We save them to eat later, but we don't serve them to customers. We are concerned that they might complain that this part is hard and bitter. (TR2 owner)

Another opinion from the TR8 owner indicates how individual experiences and cultural patterns shape perceptions of what is edible. It also shows how this perception relates to meat-based food waste.

I really want to serve all parts of animals, like trotters, heads, or chitterlings. But people here are not ready for these. We made Slow-Braised Pork Leg on Rice (for staff meal). [...] There are things that people consider food waste, just because they don't eat them. Anyway, they eat sirloin steak and other stuff, but they don't know that other parts are also edible. [...] It is how they grow up. If you go to a supermarket and see what they sell, you'll only find a few kinds of meat, like skirt steak, sirloin steak, and the like. (TR8 owner)

However, restaurant staff give different meaning to these leftovers, as they perceive these leftovers as 'edible'. Therefore, restaurants can save these 'inedible' parts of vegetables and meat by adopting nose-to-tail and root-to-leaf methods and cooking them into staff meals.

To summarize, these barriers indicate how the material and meaning constraints influence the adoption of sustainable practices. These material and meaning constraints relate to several factors, including perceptions, ingredient limitations, infrastructure, and values, among others. Understanding material and meaning constraints may lead to a better integration of environmentally sustainable practices in Swedish Thai restaurants.

6. DISCUSSION

The analysis of environmentally sustainable practices implementation with practice theory and the ten principles for food sustainability in restaurants (adapted version) not only shows how restaurants in this study implement each practice, it also explicitly shows variation in implementation across practices, including which practices are commonly implemented and which are implemented less across the ten restaurants. The interconnection and misalignment of materials, competences, and meanings help explain why variation occurs by providing a more in-depth understanding of the drivers and barriers to adopting environmentally sustainable practices.

The findings reveal that environmentally sustainable practices that involve the integration of materials, competences, and meanings are commonly implemented among restaurants in this study. These practices are waste, vegetable-based diet, and real food. In contrast, environmentally sustainable practices that are partially implemented show a lack of materials and meanings, or a misalignment of materials, competences, and meanings, resulting in less integration of practices. These practices are innovation and tradition, local food, organic, small producers, and diversity and seasonality.

This is consistent with the concept of making and breaking links (Shove et al. 2012) that when all three elements are integrated, the environmentally sustainable practices are sustained and performed in these ten restaurants. Conversely, if links between elements are not connected because of missing elements or misalignment, environmentally sustainable practices are partially implemented or not completely adopted in the restaurants in this study.

The following discussion of findings is based on literature on sustainable practices adoption in restaurants, and ethnic restaurants and sustainability. The discussion is structured around the research questions.

6.1 Research question 1

What environmentally sustainable practices are currently implemented in Swedish Thai restaurants in the Skåne region?

The findings show that Swedish Thai restaurants in this study currently implement environmentally sustainable practices primarily in waste management, followed by partially implemented practices in food preparation (vegetable-based diet, real food, and innovation and tradition) and ingredient sourcing (local food, organic, small producers, and diversity and seasonality).

The findings confirm the study by Azad (2024) that waste management practices are perceived as more important than other practices among ethnic restaurateurs. As stated by Hakkarainen and Nilsson (2016), current Swedish municipal waste regulations focus only on waste sorting; it is no surprise that all restaurants in this

study follow waste sorting regulations and integrate waste practices well. Currently, there is no regulation on waste prevention, so it depends on how these restaurants decide to implement extra practices to prevent food and non-food waste. Similar to the study by Hakkarainen and Nilsson (2016) and Filimonau et al. (2020), Swedish Thai restaurants in this study also implement similar practices such as repurposing surplus food waste, using surplus food waste in cooking staff meals, and applying nose-to-tail and root-to-leaf methods. The adoption of these practices is supported by competence in Thai cooking knowledge and techniques. In contrast, demand forecasting, which is a common practice in these two studies and the study of ethnic restaurants (Aljaffal 2017), was not often mentioned by restaurants in this study. This thesis also examines non-food waste management and adds to previous studies by showing that, in addition to waste sorting, the packaging deposit system is another way to manage packaging waste in restaurants effectively and can be implemented with both major suppliers and small producers.

Vegetable-based diets and real food are practices in the food preparation stage that restaurants in this study also commonly implement. These practices emphasize that deep knowledge, skills, and traditional cooking techniques play an important role in their success (Kumar 2023; Pearson 2025). Restaurants' adoption of vegetable-based diet and real food practices also supports the claim that vegan and vegetarian menus and repurposing ingredients (by making in-house flavor bases) are parts of sustainable food preparation and also benefit food safety (Kumar 2023). Because these practices are well integrated in restaurants in this study, they may be implementable in other Thai restaurants in Sweden or other countries to develop sustainable practices.

However, the findings on ingredient sourcing practices among Swedish Thai restaurants in this study contradict previous studies on ethnic restaurants in Australia by Aljaffal (2017) and in Finland by Azad (2024). Restaurants in these studies can source most ingredients (vegetables, meat, and fish) locally, and use only imported herbs and spices for authenticity. However, the findings show that ingredient sourcing practices are problematic for Swedish Thai restaurants in this study, as these restaurants used imported products, including herbs and spices, condiments, and partially vegetable and meat products, as they encounter a lack of materials that are not available locally. This suggests that ingredient sourcing practices could be different across geographical contexts. In terms of suppliers, Swedish Thai restaurants source specific ingredients from small-scale producers, similar to the study by Ljunggren (2012).

As explained by Vargas et al. (2021), there is no consensus definition of local food and seasonal food, and the concepts are defined from different perspectives. Findings indicated that Swedish Thai restaurants in this study also define local food by proximity within Sweden. This definition aligns with Tomatis et al. (2023) and supports Granvik et al. (2017) that the definition of local food among food actors in Sweden is attached to proximity, that food is produced, processed, and consumed within the same geographical area. The definition of local food by Swedish Thai restaurants in this study contrasts with Lang and Lemmerer (2019) and Zanella (2020), which connect local with other aspects such as small producers,

independent growers, or seasonality. In terms of seasonal food, restaurants in this study used both domestic and imported ingredients; however, they referred to seasonal ingredients in relation to Swedish seasons such as summer vegetables. This links to Vargas et al. (2021)'s concept of local seasonal and DEFRA's concept of local seasonality that ingredients are produced in season and consumed within the same locality.

However, as Swedish Thai restaurants heavily rely on imported ingredients, I suggest that the concept of produced in season (Vargas et al. 2021) and DEFRA's concept of global seasonality could be beneficial in investigating seasonality of imported ingredients. The two concepts suggest that "seasonal" ingredients are grown in their natural season but can be consumed in similar or other geographical areas. Moreover, considering the statement made by Born and Purcell (2006) that non-local products are not always unsustainable if they are grown and transported sustainably, imported ingredients used in Swedish Thai restaurants might be considered sustainable to some extent if they are grown and transported sustainably. Because this study does not investigate how imported ingredients are grown and transported, it could inspire further research on the sustainability of imported ingredients.

Although Swedish Thai restaurants in this study encounter the challenge of seasonality, their solutions have been both consistent and inconsistent the study by Roy (2024). Restaurants in this study show consistency in that some restaurants adapt menus to available ingredients in seasons, such as in summer. On the contrary, the case of Swedish Thai restaurants in this study shows inconsistency in that although restaurants apply repurposing techniques as shown in waste practices, they do not use repurposing techniques to preserve seasonal ingredients for use in other seasons.

To summarize, Swedish Thai restaurants implement waste practices the most, while practices in food preparation such as vegetable-based diet and real food are also well integrated into restaurants' operations. However, ingredient sourcing practices are partially implemented, as they are the most challenging and encounter barriers.

6.2 Research question 2

What factors influence the implementation of environmentally sustainable practices, and which are the main drivers and challenges for performing sustainable practices in the restaurants?

The findings identify drivers and barriers that influence the implementation of environmentally sustainable practices. Understanding of sustainability among Swedish Thai restaurant owners and managers is a crucial driver of implementing environmentally sustainable practices in restaurants. This is in line with several previous studies (Kasim & Ismail 2012; Cantele & Cassia 2020; Chevallier-Chantepie & Batt 2021; Jang 2022) that highlighted restaurant owners' and managers' attitudes, awareness, and knowledge toward sustainability as key drivers of sustainability adoption. Moreover, restaurateurs who understand sustainability

and can relate to environmental sustainability explicitly implement environmentally sustainable practices more than those who have different understandings. They implement practices that comply with regulations and align with social norms, such as waste and vegetable-based diet, and also implement other practices that are driven by their attitude and values toward environmental sustainability, such as organic and small producers.

However, the attitude- and value-driven practices are clearly less implemented among restaurants where owners link their understanding to food safety, hygiene, and business viability. This conforms to the study by Aljaffal (2017) that some ethnic restaurateurs link the meaning of sustainability with cleanliness and hygiene, and well implement waste management practices that are related to these aspects. Restaurants in this category also implement other practices such as innovation and tradition, and small producers; however, these implementations are more spontaneous (Azad 2024) rather than truly driven by sustainability values, due to limited knowledge of sustainability among ethnic restaurant owners and managers (Batat 2021).

Findings align with Cantele & Cassia (2020) that the stronger environmental awareness and attitude the owners have, the more environmentally sustainable practices they implement. It is also in line with Jang (2022), as in the case of Swedish Thai restaurants in this study, the owners' and managers' understanding of sustainability is even more important. In small, independent restaurants, owners and managers have power in decision-making to implement environmentally sustainable practices in restaurant operations. In the Swedish Thai restaurant context, they tend to face more challenges in implementing sustainable practices, so understanding of sustainability is significantly important to sustainable practices adoption in their restaurants and overcoming these challenges. Therefore, the findings not only align with, but also add to the studies by Kasim & Ismail (2012), Cantele & Cassia (2020), Chevallier-Chantepie & Batt (2021) and Jang (2022) from a Swedish Thai restaurant perspective, which is the perspective from ethnic restaurants.

The discussion shows that the level of understanding of sustainability could be both a driver and a barrier. If owners and managers have a high level of understanding of sustainability, their understanding effectively drives the implementation of environmentally sustainable practices. In the case of owners and managers with limited understanding, this limited understanding of sustainability becomes a barrier to adopting sustainable practices.

Apart from understanding of sustainability among restaurant owners and managers, the implementation of environmentally sustainable practices is influenced by other drivers and barriers. Consistent with Reynolds (2025), contextual factors such as regulations and infrastructure strongly influence the effectiveness of practice adoption, as seen in waste practices. However, the findings argue that the success of practice is not solely due to drivers such as regulations and infrastructure, but requires the integration of competences and meanings. This is explicitly indicated in waste practice, for example, that practices need the integration of elements to

operate and sustain themselves. Another argument to Reynolds (2025) is that not only regulations and infrastructure, but also social norms are another contextual factor that strongly influences practices, as indicated in practices such as vegetable-based diet.

As stated by Reynolds (2025) and Hernandez-Maskivker et al. (2026), the restaurant segment influences constraints. Swedish Thai restaurants, as small independent ethnic restaurants, face several barriers. Barriers identified by restaurateurs in this study align with studies by Roy & Ballantine (2020), Zanella (2020), and Chevallier-Chantepie & Batt (2021), for example, high prices, product quality, convenience, inconsistency of product supply, and financial constraints. The analysis using practice theory provides a more in-depth understanding of these barriers. It not only identifies which barriers occur among Swedish Thai restaurants in this study, but also highlights that barriers are complex and related to several aspects. These barriers appear in the form of constraints or the misalignment between materials, competences, and meanings.

A significant challenge is that Swedish Thai restaurants in this study need to maintain authenticity (meanings), but they encounter a lack of ingredients (material constraints) or misalignment between materials and meanings in local food, organic, small producers, and diversity and seasonality practices. If Swedish Thai restaurants strictly adopt these practices by sourcing only Swedish or EU ingredients, domestic seasonal ingredients, and from local producers, while also limiting imported ingredients, it would be difficult to maintain authenticity, as imported ingredients are important to the authenticity of Thai cuisine. Moreover, adapting menus to seasonality or using more local ingredients also decreases the authenticity of Thai cuisine. Therefore, Swedish Thai restaurants face a challenge in balancing authenticity with sustainable ingredient sourcing.

The findings also point out that although restaurant owners and managers value sustainability and are interested in adopting more environmentally sustainable practices, these barriers prevent them from implementing environmentally sustainable practices. Among restaurant owners and managers with limited understanding of sustainability, these barriers further reduce their willingness to implement environmentally sustainable practices.

As discussed, the adoption of environmentally sustainable practices in Swedish Thai restaurants in Skåne is influenced mostly by owners' and managers' perceptions of sustainability. Other factors, such as geographical location, price, and convenience, may influence to a lesser extent. However, it can be summarised that barriers are complex and interconnected with materials, competences, and meanings. Therefore, understanding the relationship between these elements through practice theory may provide a foundation for finding solutions for how Swedish Thai restaurants can become more sustainable and overcome these barriers.

This thesis also presents the role of ethnic restaurants in contemporary society in bridging different cultures. As stated by previous studies, ethnic food carries

cultural backgrounds, experiences, and identities of ethnic groups (Long 2004; Arvela 2013; Williams-Forsen & Walker 2013). Swedish Thai restaurants in this study are places that carry ethnic cultural backgrounds, identities, and experiences of Thai restaurateurs, and are also perceived as a food culture that is different from Swedish culture, the dominant culture (Long 2018). Significantly, the findings that the adoption of ingredient sourcing practices enhances the inclusivity of Thai cuisine in Swedish culture show the role of Swedish Thai restaurants as cultural bridges between Thai and Swedish culture. Adopting sustainable practices that are aligned with meanings of Swedish culture, such as social norms and sustainability values, is one way ethnic restaurants enhance the inclusivity of ethnic culture in contemporary society (Fox 2015).

Finally, this thesis indicates that Swedish Thai restaurants are important actors in Skåne's food system. Swedish Thai restaurants support the role of restaurants as changemakers by acting as intermediaries between producers and consumers (Richardson & Fernqvist 2024), and their practices are connected to, and can positively impact, sustainability issues (Higgins-Desbiolles & Wijesinghe 2019). The implementation of environmentally sustainable practices in Swedish Thai restaurants in this study explicitly demonstrates how ethnic restaurants address sustainability challenges. Significantly, it highlights that ethnic restaurants may have potential as actors in Skåne in transitioning to a sustainable food system through sustainable practices adoption.

6.3 Reflections on methodology

This thesis adopted semi-structured interviews. The interview guidelines were developed based on the ten principles for food sustainability. It had both strengths and limitations. Strengths were that the interview questions covered themes of environmentally sustainable practices in ingredient sourcing, food preparation, and waste management. It was also beneficial for categorizing in-depth information on environmentally sustainable practices implemented in restaurants in this study. Moreover, I could compare the different extents of performance between practices. As I also adapted the ten principles for food sustainability to the Swedish Thai restaurant context, this approach helped examine environmentally sustainable practices with cultural consideration from an ethnic restaurant perspective.

The limitation was that the interview guidelines mostly focused on which practices were implemented in Swedish Thai restaurants in this study and how these practices were performed, but there were few in-depth questions about drivers and barriers to practice implementation. Reflecting on this, I could ask more in-depth questions about drivers and barriers to gain a deeper understanding of practice performance. However, practice theory was strongly supported in the analysis process. The theoretical framework assisted me in analyzing drivers and barriers based on the data I collected, and the analysis explained the performance of practices.

During interviews, I learned that changing and adapting interview guidelines after the first two or three interviews was useful. I realized this after I learned that some interviewees showed limited understanding of the general sustainability concept.

Therefore, I adapted interview guidelines to be clearer and better suited to interviewees' understanding. However, the adaptation did not influence interviewees' answers on their understanding of sustainability, as they answered based on their own understanding. During the analysis process, I realized that the data collected on understanding of sustainability was beneficial for analyzing the meanings and influence of their understandings on sustainable practice adoption.

6.4 Recommendations on future research

The results presented in this thesis reflect only environmentally sustainable practices in Swedish Thai restaurants in the Skåne region and are not representative of Swedish Thai restaurants in Sweden or Thai restaurants in other countries. Other Thai restaurant owners may have similar or different understandings of sustainability. They may implement environmentally sustainable practices differently, and encounter similar or different drivers and barriers than the restaurants in this study. Moreover, the cases in this study include only small independent restaurants owned by Thai immigrants, while other types of Thai restaurants and Thai restaurants owned by non-Thai owners exist elsewhere. Therefore, Thai restaurants in other contexts can be areas of research for exploring the implementation of environmentally sustainable practices.

Moreover, this study presented drivers and barriers to the adoption of environmentally sustainable practices. These drivers and barriers are complex and related to several aspects. Further research can explore how restaurants can leverage drivers and address barriers to integrate sustainable practices effectively.

Most importantly, this thesis presented that Swedish Thai restaurants, as ethnic restaurants, have a challenge in maintaining authenticity while implementing environmentally sustainable practices as much as possible. As authenticity is important to cuisine, this raises a significant question: how can ethnic restaurants become actors for food sustainability and implement environmentally sustainable practices without losing the cuisine's authenticity?

7. Conclusion

This thesis aims to investigate the adoption of environmentally sustainable practices in Swedish Thai restaurants in the Skåne region, Sweden. The analysis using practice theory and the ten principles for food sustainability in restaurants (adapted version) indicates that no practice is solely an individual action, but practices are complex and shaped by the integration of materials, competences, and meanings.

The findings demonstrate that the practices with well-integrated and aligned materials, competences, and meanings are effectively performed in Swedish Thai restaurants in this study. These practices are waste, vegetable-based diet, and real food. Practices with material constraints, meaning constraints, or misalignment between materials, competences, or meanings are only partially performed in restaurants in this study. These practices include innovation and tradition, local food, organic, small producers, and diversity and seasonality.

Drivers and barriers can be understood as the integration, constraints, or misalignment between materials, competences, and meanings. The findings reveal that the understanding of sustainability among restaurant owners and managers is a key driver of sustainable practice adoption. The more restaurant owners and managers understand and engage with the sustainability concept, the more environmentally sustainable practices are implemented. Furthermore, the adoption of environmentally sustainable practices is also influenced by other drivers, e.g., knowledge, personal experience, and product quality, and barriers, e.g., inconvenience, high price, misalignment of values, etc.

Therefore, this thesis theoretically contributes to sustainable practices in the hospitality industry by indicating that the adoption of sustainable practices is a complex action that needs the integration of materials, competences, and meanings. One way to better understand drivers and barriers is to apply the lens of practice theory to investigate the integrations, constraints, or misalignments between these elements, which leads to ways of improving the performance of sustainable practice implementation.

This thesis also contributes to the fields of sustainable practices and ethnic restaurants by highlighting how Swedish Thai restaurants, as ethnic restaurants, implement environmentally sustainable practices in the back-of-house, which is the starting point of sustainability in restaurants. The thesis also highlights factors, drivers, and barriers that influence the implementation of these practices from ethnic restaurant perspectives.

Finally, this thesis emphasizes the potential of Swedish Thai restaurants as actors in the food system, as their operations relate to sustainability issues. By implementing environmentally sustainable practices, Swedish Thai restaurants may become crucial changemakers that positively impact the transition to a sustainable food system in the Skåne region.

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10. Appendix

10.1 Appendix 1- Interview consent form (English & Thai version)

Independence Project in Food Studies, Swedish University of Agricultural Sciences

Preliminary thesis title: Towards Sustainable Swedish Thai Restaurants: the interplay of the adoption of sustainable practices and Thai cuisine in the Skåne region, Sweden.

Master's student: Ladapa Intharamaha

Participant name:

This thesis examines sustainable practices and Thai cuisine in Swedish Thai restaurants in the Skåne region, Sweden (specifically focused on restaurants in Malmö and Lund). The aim is to understand what sustainable practices are adopted, and how these practices influence Thai food in the restaurants, focusing on cultural identity representation. Moreover, the study will also compare the similarities and differences in the adoption of sustainability practices.

Thank you for agreeing to be interviewed as part of the master's thesis. This consent form is necessary to ensure that you understand the purpose of your involvement and that you agree to the conditions of your participation as follows. Please read the interview consent form carefully before signing.

I, the undersigned, confirm that (please tick the appropriate box)

	Yes	No
1. I understand the information about this thesis project and the interview.		
2. I voluntarily participate in this thesis project.		
3. I have the right to withdraw my consent to participate in this thesis project at any stage. To withdraw from the project, please contact the master's student (Ladapa Intharamaha)		
4. I understand the purpose of my involvement in this thesis project that I participate as an interviewee. I understand that my involvement in this research is: • Confidential. • Withdrawing from the project will not affect my relationship with the researchers or any organisations involved.		

5. The interview I agree • That the interview will be recorded and transcribed by the interviewer. • That the information I share can be quoted and published using a pseudonym. • That I have the right to see transcribed parts of the interview and quotes used in this thesis. • That the interviewer will keep the records, transcriptions, and related materials in a safe place. These materials will not be forwarded to the third party without consent from the participants.		
6. I agree that the interviewer will conduct an on-site observation at the restaurant		

Participant:

Name of participant	Signature	Place and date
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Master's student:

Ladapa Intharamaha	Signature	Place and date
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แบบฟอร์มแสดงความยินยอมให้สัมภาษณ์

การศึกษาล้นคว้าอิสระในหัวข้ออาหารศึกษา, **Swedish University of Agricultural Sciences**
ชื่อหัวข้อวิทยานิพนธ์ (เบื้องต้น): **Towards Sustainable Thai Restaurants: the interplay of the adoption of sustainable practices and Thai cuisine in the Scania region, Sweden.**

นักศึกษาปริญญาโท: **ลฎาภา อินทรหมา**

ผู้เข้าร่วมการสัมภาษณ์:

วิทยานิพนธ์นี้มีวัตถุประสงค์เพื่อศึกษารูปแบบและความสัมพันธ์ระหว่างการประยุกต์ใช้ความยั่งยืน (sustainable practices) และอาหารไทย ของร้านอาหารไทยในเมืองมัลเมอ (Malmö) และลุนด์ (Lund) ในมณฑล Skåne ประเทศสวีเดน วัตถุประสงค์หลักของการศึกษาดังกล่าว ได้แก่ การศึกษาการประยุกต์ใช้ความยั่งยืน ผลกระทบของการประยุกต์ใช้ความยั่งยืนต่ออาหารไทย โดยเฉพาะในด้านการนำเสนออัตลักษณ์ทางวัฒนธรรม รวมทั้งศึกษาเปรียบเทียบความเหมือนและความแตกต่างของการประยุกต์ใช้ความยั่งยืนในร้านอาหารกรณีศึกษาดังกล่าว

ข้าพเจ้าขอขอบพระคุณอย่างยิ่งที่ท่านยินดีให้สัมภาษณ์ อันเป็นส่วนหนึ่งในวิทยานิพนธ์ระดับปริญญาโทของข้าพเจ้า แบบฟอร์มฉบับนี้ทำขึ้นเพื่อรับรองว่า ท่านเข้าใจวัตถุประสงค์ของการสัมภาษณ์ รวมทั้งเห็นด้วยกับเงื่อนไขต่างๆ ในการเข้าร่วมเป็นส่วนหนึ่งของการศึกษาตามที่ปรากฏด้านล่าง

โปรดอ่านแบบฟอร์มนี้อย่างละเอียด และลงลายมือชื่อด้านล่าง

ข้าพเจ้ายืนยันว่า (โปรดทำเครื่องหมายในช่องที่เหมาะสม)

	ใช่	ไม่ใช่
1. ข้าพเจ้าเข้าใจข้อมูลเกี่ยวกับวิทยานิพนธ์และการสัมภาษณ์		
2. ข้าพเจ้าสมัครใจมีส่วนร่วมในวิทยานิพนธ์		
3. ข้าพเจ้ามีสิทธิที่จะถอนตัวจากการเข้าร่วมในวิทยานิพนธ์ได้ทุกเมื่อ โดยติดต่อนักศึกษาปริญญาโท (ลฎาภา อินทรหมา)		
4. ข้าพเจ้าเข้าใจวัตถุประสงค์ว่าข้าพเจ้าเข้าร่วมวิทยานิพนธ์ในฐานะผู้ให้สัมภาษณ์ ข้าพเจ้าเข้าใจว่าการมีส่วนร่วมในวิทยานิพนธ์นี้ - เป็นความลับเฉพาะ - การถอนตัวจากการเข้าร่วมในวิทยานิพนธ์จะไม่มีผลใดๆ ต่อความสัมพันธ์ระหว่างข้าพเจ้าและผู้วิจัย หรือองค์กรใดๆ		

5. การสัมภาษณ์ ข้าพเจ้ารับทราบว่า • จะมีการบันทึกการสัมภาษณ์และถอดเทปเรียบเรียง โดยผู้สัมภาษณ์ • ข้อมูลที่ข้าพเจ้าให้สัมภาษณ์จะถูกอ้างอิงและเผยแพร่โดยใช้นามแฝง • ข้าพเจ้ามีสิทธิในการเข้าถึงเอกสารถอดเทปสัมภาษณ์และการถูกอ้างอิงในวิทยานิพนธ์ • ผู้สัมภาษณ์จะเก็บรักษาไฟล์เสียงบันทึกการสัมภาษณ์ ไฟล์ถอดเทป และสื่ออื่นๆ ที่เกี่ยวข้องในสถานที่ปลอดภัย สื่อเหล่านี้ห้ามส่งต่อไปบุคคลที่สามโดยไม่ได้รับความยินยอมจากผู้ให้สัมภาษณ์		
6. ข้าพเจ้ายินยอมให้ผู้สัมภาษณ์ทำการสังเกตและเก็บข้อมูล ณ ร้านอาหาร		

ผู้เข้าร่วม:

_____	_____	_____
ชื่อผู้เข้าร่วม	ลายมือชื่อ	สถานที่และวันที่

นักศึกษาปริญญาโท:

_____	_____	_____
ลฎภา อินทรมหา	ลายมือชื่อ	สถานที่และวันที่

10.2 Appendix 2- Interview guidelines (English & Thai version)

General questions

1. Could you please introduce yourself (full name)? How long have you been in Sweden? How long have you been opening or working at this restaurant?
2. Have you ever opened a restaurant in Thailand before? If yes, do you notice differences between operations in Thailand and in Sweden, regarding ingredient sourcing, cooking methods, hospitality, and customers' preferences?
3. Which regions in Thailand do the food on the menu mostly come from? How would you describe the genres or characteristics of Thai food at the restaurant?
4. What is the most popular dish that customers often order? Do they share a meal, or do they have their dishes individually?
5. In general, how would you define "sustainability" for the restaurant? Do you think there is any difference in the sustainability of restaurants between Thailand and Sweden?

** Note: A broad definition of sustainability in this regard is the business's concepts, practices, or operations for sustaining and growing the business, while minimizing negative impacts. It aims to minimize negative impacts on living creatures (mankind, animals, plants, etc.) and resources (soil, water, natural resources, etc.), not only in the present, but also in the future. The three pillars of sustainability are people (social sustainability), planet (environmental sustainability), and profit (economic sustainability).*

Sustainable practices

Examples of sustainable practices include using diverse, seasonal, or local ingredients; collaborating with small-scale farmers and producers; and minimizing food and packaging waste.

1. Could you please explain the restaurant operation, from ingredient sourcing to serving?
2. Could you please explain how you source ingredients?

Do you use...

Local	Non-local/imported
Seasonal	Out-of-season
Organic/EU organic/Krav	Non-organic
Fresh spices/herbs/paste (depends on the dishes, some of the dishes must be cooked with fresh spices/herbs, while some of the dishes must be cooked with dried herbs)	Dried spices/herbs
Fresh meat, fish, and/or vegetables.	Frozen meat, fish, and/or vegetables.

Fresh seasoning (for curry paste, sauce, dip)	Canned/semi-processed foods (for example, meatballs, coconut milk, ready-to-eat sauce, and dip)
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1. Do you collaborate with small-scale producers or providers?
2. Does the restaurant apply cooking methods that represent ingredients at their best? If so, how?
3. Do you have any signature or traditional dishes? Is there any dish that you are proud to present?
4. How does the restaurant manage food waste and other waste, such as packaging? Have you ever consulted with food providers to minimize packaging waste?
5. Do you have any practice that is similar to “nose-to-tail” or “root-to-leaf” cooking?
6. What is the major challenge in cooking vegan/vegetarian/gluten-free options?

In-depth questions

1. What are the main reasons for adopting these sustainable practices? Do laws and regulations influence the adoption of these sustainable practices (please mention specific laws and regulations if needed)?
2. Are guests eager to know about and ask for information on sustainable food practices? For instance, asking questions about food origins, organic, seasonal, or fresh ingredients, waste minimization, etc.
3. Are staff dedicated to applying sustainable practices? What do they think about these practices? Do they find them difficult to implement?
4. Do you think it is difficult to adopt these sustainable practices? Have you ever encountered any obstacles or challenges regarding these practices? If so, how?
5. Do sustainable practices, for instance, adopting the usage of organic, seasonal, or Swedish-produced ingredients such as Från Sverige, etc, affect the “authenticity” of Thai food on the dishes? These could be in terms of taste and appearance. If so, how and why?
6. Do you think the adoption of sustainable practices, for example, adopting the usage of organic, seasonal, or Swedish-produced ingredients, minimizing food and other wastes, etc, adds value to Thai food at the restaurant? If so, how and why?
7. Do you think Thai restaurants in Sweden practice sustainability differently than restaurants in Thailand? If so, how and why?

The interview questions are adapted from the ten principles for food sustainability from the article Zanella, M. A. (2020). On the challenges of making a sustainable kitchen: Experimenting with sustainable food principles for restaurants. *Research in Hospitality Management*, 10(1), 29–41.
<https://www.ajol.info/index.php/rhm/article/view/198062> [2026-01-26]

คำถามทั่วไป

1. ช่วยแนะนำตัวหน่อยค่ะ (ชื่อ-นามสกุล) คุณอยู่สวีเดนมานานเท่าใด และเปิดร้านอาหารหรือทำงานที่ร้านอาหารนี้มานานเท่าใด
2. คุณเคยเปิดร้านอาหารที่ไทยมาก่อนหรือไม่ หากเคยเปิดร้านอาหารที่ไทยมาก่อน คุณสังเกตเห็นสิ่งใดในกระบวนการดำเนินงานของร้านอาหารที่เหมือน หรือ แตกต่างกัน ระหว่างที่ไทยและสวีเดน เช่น การเลือกใช้อัตถุคติ วิธีการทำอาหาร การบริการในร้าน ความต้องการของลูกค้า ฯลฯ
3. เมนูอาหารในร้านส่วนใหญ่เป็นเมนูของภาคใด และหากคุณจะนิยามลักษณะของอาหารไทยที่ร้าน จะนิยามว่าเป็นอาหารไทยรูปแบบใด
4. เมนูที่ลูกค้าชอบสั่งที่สุดคือเมนูใด และลูกค้าสั่งมาแบ่งกันรับประทานหรือรับประทานเป็นเมนูจานเดียวเฉพาะของตนเอง
5. คุณคิดว่า ร้านอาหารที่มี “ความยั่งยืน” เป็นอย่างไร และคิดว่าร้านอาหารในไทยและในสวีเดนมีความแตกต่างเรื่องความยั่งยืนอย่างไรบ้าง

* หมายเหตุ: ความยั่งยืน (sustainability) มีความหมายกว้างๆ คือ เป็นแนวคิดและแนวปฏิบัติของการทำธุรกิจ หรือ การดำเนินการใดๆ เพื่อการมีอยู่ คงอยู่ และเติบโตของตนเอง โดยไม่เบียดเบียนสิ่งอื่นๆ ทั้งที่มีชีวิต (คน สัตว์ พืช ฯลฯ) และไม่มีชีวิต (ดิน น้ำ ทรัพยากร ฯลฯ) อื่นๆ ทั้งในปัจจุบัน และในอนาคต และครอบคลุม 3 มิติหลัก คือ สังคม สิ่งแวดล้อม และเศรษฐกิจ

การประยุกต์ใช้ความยั่งยืน

ตัวอย่างของการประยุกต์ใช้ความยั่งยืน เช่น การใช้วัตถุดิบที่หลากหลายตามฤดูกาล วัตถุดิบที่หาได้ในท้องถิ่น การทำงานกับเกษตรกรรายย่อย การลดขยะอาหารและบรรจุภัณฑ์ เป็นต้น

1. รบกวนช่วยเล่ากระบวนการในร้านอาหาร ตั้งแต่การเลือกซื้อวัตถุดิบ จนถึงเสิร์ฟอาหารให้ลูกค้า
2. รบกวนช่วยเล่าว่าคุณเลือกซื้อวัตถุดิบอย่างไร คุณใช้...

วัตถุดิบท้องถิ่น	ไม่ใช้วัตถุดิบท้องถิ่น / ใช้วัตถุดิบนำเข้า
วัตถุดิบตามฤดูกาล	วัตถุดิบนอกฤดูกาล
วัตถุดิบออร์แกนิก / EU organic / Krav	ไม่ได้ใช้วัตถุดิบออร์แกนิก
เครื่องเทศ สมุนไพร พริกแกง สด (ขึ้นอยู่กับเมนู เนื่องจากบางเมนูเหมาะกับการใช้เครื่องเทศและสมุนไพร สด ในขณะที่บางเมนูเหมาะกับเครื่องเทศ หรือสมุนไพรแห้ง)	สมุนไพร เครื่องเทศ แห้ง
เนื้อสัตว์ ปลา ผัก ที่สดใหม่	เนื้อสัตว์ ปลา ผัก แช่แข็ง
พริกแกง ซอส น้ำจิ้ม ปปรุงเอง สดใหม่	พริกแกง ซอส น้ำจิ้ม สำเร็จรูป อาหารกระป๋อง / แปรรูป เช่น ลูกชิ้น กะทิ

1. ร้านอาหารมีความร่วมมือกับพาร์ทเนอร์ที่เป็นผู้ผลิต เกษตรกรรายย่อย หรือผู้จัดจำหน่ายรายย่อยหรือไม่
2. ร้านอาหารใช้กระบวนการทำอาหารที่ชูจุดเด่นของวัตถุดิบหรือไม่ หากมีกระบวนการดังกล่าว มีวิธีการใดในการชูจุดเด่นของวัตถุดิบ
3. ร้านอาหารมีเมนูต้นตำรับ เมนูเก่าแก่ หรือเมนูโบราณหรือไม่ มีเมนูใดที่ทางร้านอาหารอยากนำเสนอเป็นพิเศษ
4. ร้านอาหารจัดการขยะอาหารและขยะอื่นๆ เช่น บรรจุก้นทิ้ง อย่างไร เคยคุยกับพาร์ทเนอร์เรื่องการลดขยะ บรรจุก้นทิ้งหรือไม่ และในการทำอาหารมีวิธีการทำอาหารด้วยแนวคิด “การใช้วัตถุดิบทุกส่วน (nose-to-tail or root-to-leaf)” ทั้งผัก ผลไม้ เนื้อสัตว์ หรือไม่
5. ร้านอาหารประสบความสำเร็จในการทำเมนู vegan / มังสวิรัติ / gluten-free หรือไม่ อย่างไร

คำถามเชิงลึก

1. เหตุผลหลักที่ทางร้านประยุกต์ใช้ความยั่งยืนคือเหตุผลใด กฎหมาย ข้อบังคับ ของประเทศสวีเดนความเกี่ยวข้องหรือไม่ (ระบุชื่อกฎหมายหรือข้อบังคับ)
2. ลูกค้าสนใจอยากรู้ และสอบถามข้อมูลเกี่ยวกับความยั่งยืนในร้านอาหารหรือไม่ เช่น ข้อมูลเกี่ยวกับแหล่งที่มาของวัตถุดิบ อาหารออร์แกนิก อาหารตามฤดูกาล ความสดใหม่ หรือการพยายามลดขยะให้เหลือน้อยที่สุด เป็นต้น
3. พนักงานในร้านมุ่งมั่นตั้งใจที่จะประยุกต์ใช้ความยั่งยืนด้วยหรือไม่ พนักงานมีความคิดเห็นอย่างไรบ้าง คิดว่าการประยุกต์ใช้ความยั่งยืนยากหรือไม่
4. คุณคิดว่าการประยุกต์ใช้ความยั่งยืนในร้านอาหารยากหรือไม่ เคยประสบกับปัญหาหรือความท้าทายหรือไม่ อย่างไร

5. การประยุกต์ใช้ความยั่งยืนของร้านอาหาร (เช่น การใช้วัตถุดิบออแกนิก การใช้วัตถุดิบตามฤดูกาล ใช้วัตถุดิบที่หาได้ในสวีเดน ฯลฯ) มีผลกระทบกับ “ความดั้งเดิม” ของอาหารไทยอย่างไร เช่น ในด้านรสชาติ รูปลักษณ์ของอาหาร ถ้ามีผลกระทบ มีผลกระทบอย่างไรบ้าง เพราะเหตุใด
6. คุณคิดว่าการประยุกต์ใช้ความยั่งยืนในร้านอาหาร เช่น การใช้วัตถุดิบออแกนิก การใช้วัตถุดิบตามฤดูกาล วัตถุดิบที่หาได้ในสวีเดน การลดขยะ ฯลฯ เป็นสิ่งที่เพิ่มคุณค่าให้อาหารไทยของที่ร้านหรือไม่ อย่างไร
7. คุณคิดว่าร้านอาหารไทยในสวีเดน มีการประยุกต์ใช้ความยั่งยืน แตกต่างจากร้านอาหารไทยในประเทศไทยหรือไม่ หากแตกต่าง มีความต่างอย่างไร เพราะเหตุใด

คำถามสัมภาษณ์ปรับมาจาก หลักการสืบข้อเพื่อความยั่งยืนทางอาหาร จากบทความ Zanella, M. A. (2020). On the challenges of making a sustainable kitchen: Experimenting with sustainable food principles for restaurants. *Research in Hospitality Management*, 10(1), 29–41. <https://www.ajol.info/index.php/rhm/article/view/198062> [2026-01-26]