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**Gastronomy and sustainability:  
A study of the role of the Michelin  
Green Star sustainability award in  
food system transformation**

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MSc International Environmental Studies

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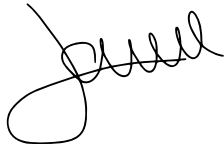
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## **Declaration**

I, Janine Marquez Garat, declare that this thesis is a result of my research investigations and findings. Sources of information other than my own have been acknowledged and a reference list has been appended. This work has not been previously submitted to any other university for award of any type of academic degree.

Signature:

A handwritten signature in black ink, appearing to read 'Janine Marquez Garat', written in a cursive style.

Date: August 15<sup>th</sup>, 2022

Dedicated to my mother Nora, who taught me to always fight for my dreams with confidence and perseverance; she never gave up.

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## Abstract

In 2020, the renowned Michelin Guide started to award restaurants for sustainability. This award is called The Green Star (GS); chefs and restaurants who follow or want to follow the Michelin starred system are in general known for their willingness to seek luxurious and high-quality products to cook. The fact that a Michelin star is given based on the level of sustainability of a restaurant and their chefs, could create a paradigm shift within the restaurant industry.

This change of paradigm in fine dining could bring other kinds of restaurants, customers and farmers onto more sustainable pathways. The main objective of this paper is to shine a light on the different actors' perceptions about this award and the role that chefs have, and how the award can contribute to sustainability in the restaurant industry in order to illuminate certain aspects in the debate regarding the transformation of the food system. This is stated through the following research question: What characterises actors' perceptions of sustainability and transformative potential of the Michelin Green Star?

In order to address these possible changes and the transformative capacity of the GS, thirty-two semi-structured interviews were conducted with different actors from three different countries in Europe: the Netherlands, Spain and Norway. The latter is the focus of this research; interviews in Spain and the Netherlands were conducted for comparison with Norway.

This thesis addresses a knowledge gap regarding the relevance of sustainability awards in within fine dining and the overall food system transformation. The sample for this study includes Michelin starred-restauranteurs and chefs, other restauranteurs and chefs, food and wine producers, consumers, culinarians, and other potential game-changers in food systems transformations.

Key words: Sustainability, chefs, Michelin Guide, Green Star, food system transformations.

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## Abbreviations

EC	European Commission
FLW	Food Loss and Waste
GND	The Green New Deal
GS	Green Star
MG	Michelin Guide
MLP	Multi-Level Perspective
NMBU	Norwegian University of Life Sciences
NNC	New Nordic Cuisine
SDGs	Sustainable Development Goals
UN	United Nations

## 1 Introduction

In the last decades, eating out has become an increasingly important part of all age groups' lifestyles and diets (Lachat et al., 2012). However, the restaurant and food-catering sector is arguably one of the largely neglected aspects of the food systems when we talk about sustainable food systems transformations (Namkung & Jang, 2013).

Different opportunities regarding sustainability are opening up, such as the role that restaurants have in the global food chain, the development of value chains with more focus on local and mid-range producers and distributors, and the participation and cooperation towards Sustainability Development Goals (Martin-Rios, 2020). One sustainability innovation in the sector is the Green Star (GS): a sustainability award from the Michelin Guide, that awards the restaurant industry in Europe and beyond for "being sustainable". This might not only attract more customers, but also it could bring more restaurants, food and wine producers and consumers onto more sustainable pathways.

Arguably the GS could play a crucial role for renewed thinking on sustainability and as such it may illuminate important aspects of the food system transformation debate. The GS is meant for restaurants that follow a sustainable pathway, to show their ethical commitment while relying on consumers to sustain their businesses as a result of going green (Michelin Guide, 2021 cited in Nimri et al., 2021).

This study aspires to shed light on the relevance that the Michelin Guide (MG) and the chefs that follow the aforementioned Michelin star system may have on the overall "food chain". More specifically, I seek to focus on the perceptions that the different actors have about the new Green Star and how this can contribute to sustainability in the restaurant industry and food system transformations. Different approaches towards sustainability are discussed in this paper: what sustainability means to the different actors, and if luxury is compatible with it.

More than a century ago, what we know as the Michelin star system, related to restaurants, was created originally a tyre company. Today it has grown to be a pioneer within the restaurant world. They have done this by creating a guide that advises people whether a restaurant is worth going to. Nowadays the reality is similar, though related, grown to focus more on the sustainable aspect. The GS will inform potential customers if a high-end restaurant is

sustainable enough to merit a visit. The MG is known for awarding restaurants with high-quality standards; innovations by Michelin-starred chefs have the potential to make a great impact on the entire culinary industry (Surlmont & Johnson, 2005) , for trendsetting in the gastronomy sector and setting an example. Haute cuisine is like an “artistic” industry based on creativity, where subjectivity plays a role (Surlmont & Johnson, 2005). It is claimed that chefs might have a key role to play in influencing actors within the food system - “along the chain, from production to consumption” (Richardson & Fernqvist, 2022).

According to Pesci and Brinkley (2021), chefs and restaurants can make consumers more interested in certain foods and encourage farmers to grow certain products. At a time when improving agriculture, biodiversity and the promotion of healthy diets are all at the forefront of the food industry, chefs can be important allies in the transformation of food systems, by for example getting involved in plant breeding and conservation, and adding lesser-known plants to their menus (Moreau & Speight, 2019). However, the influence that restaurants have on farming practices and re-localization of food sourcing is still largely unexplored (Pesci & Brinkley, 2021).

In this study, some key features from the Multi-Level Perspective (MLP) framework will be used, which has been used previously for food systems transformations (El Bilali, 2019). Moreover, the adaptive cycle created by Gunderson and Holling (2002) will be used for concepts such as *sustainability*. With this lens, it is possible to analyse if the GS could be used as an improvement towards sustainability in the restaurant industry and food systems transformations at different levels.

## **2 Research questions**

Sub-research questions:

1. What is the role of chefs and fine dining restaurants in the transformation of food systems according to the different actors?
2. How can the food system be transformed with the help of the restaurant industry?
3. Is luxury compatible with sustainability?

Main research question:

4. What characterises actors’ perceptions of sustainability and transformative potential of the Michelin Green Star?

### 3 Thematic background and framework

#### 3.1 Background

The last few years have seen the emergence of different initiatives such as the European Green Deal and the Farm to Fork Strategy (Commission, 2019). In early 2019, the scientific report EAT-Lancet was launched, outlining how a growing population can be fed based on a healthy diet and sustainable food practices within the planetary boundaries and ensuring the achievement of the UN Sustainable Development Goals (SDGs) and the Paris Agreement (Willett et al., 2019). Almost concurrently with the Lancet report, Canada launched its Food Guide, differing from previous editions by encouraging a plant-based diet and an increased consumption of whole grains (Moreau & Speight, 2019).

Moreover, other programs have appeared, such as the educational initiative Food Forever 2020 (Food4ever, s.a.). This program involves more than 2020 chefs working towards Target 2.5 (safeguarding the genetic diversity of crops and animals), promoting biodiversity through recipes, impacting genetic diversity of food, directly and indirectly (Moreau & Speight, 2019). It was created by different governments (the Netherlands, Germany, Norway, and Switzerland) and the Global Crop Diversity Trust (Crop Trust) (Moreau & Speight, 2019).

Chefs and culinary programs play an important role in the debate about biodiversity within food and agriculture systems (Moreau & Speight, 2019). Since it can have an influence in agriculture and plant diversity, apart from health and diets (Moreau & Speight, 2019), by transforming raw ingredients into delicious healthy food, engaging the public in food and agriculture (Moreau & Speight, 2019). Therefore, understanding which initiatives and projects are the most effective is key.

Chefs can create a link between “seeds, farmers’ fields, and public plates” (Moreau & Speight, 2019), by transforming raw ingredients into delicious healthy food (Moreau & Speight, 2019). Hence, they can have an influence on consumption and production by creating sustainable food trends and food values (Richardson & Fernqvist, 2022). Helping to build a rapprochement between producers and consumers (Pesci & Brinkley, 2021).

In Pesci and Brinkley (2021)’s, the case of the famous Chez Panisse in Berkeley, California was examined for a nearly 50-year period. The findings show that regional farmers were inspired by this restaurant to follow more sustainable agricultural practices. Chez Panisse was



founded in Berkeley in 1971 by Alice Waters during a time when California was at the epicentre of the social and environmental movements which had emerged in the 1960s (Pesci & Brinkley, 2021). This restaurant was inspired by French nouvelle cuisine (Barber, 2015) and is renowned for being a pioneer in the farm-to-table approach, also spurring the local, organic and slow food movements (Pesci & Brinkley, 2021). It is important to remember however, that at the time farmers were not mentioned in restaurants, and ‘organic’ and ‘local’ were not the buzzwords they are now (Barber, 2015).

### 3.1.1 The Michelin Guide and its awarding criteria

The story of the Michelin Guide started more than a century ago, in 1900. According to Karpik (2000 cited in Surlemont & Johnson, 2005), it was created to provide motorists with technical advice, ranging with information about garages for car repairs to the list of doctors operating in most cities of France. In 1908, the guide had developed into a handbook for tourists with tips on the main places to visit. Then, in 1933, the Michelin guide evolved towards its present function: a guide for hotels and restaurants. The guide expanded enormously internationally and by 2002, 1.2 million copies were being sold in ten countries (Surlemont & Johnson, 2005). Each year the release of the guide is covered internationally, nationally and regionally by media, exposing the nominees to the public (Surlemont & Johnson, 2005). Advancing in the Michelin star system gives restaurants the possibility to charge more and to become more recognized; any award of a star is viewed as a “recognition of achievement and excellence” (Surlemont & Johnson, 2005).

Moreover, the original idea of the restaurant guide was that stars were given according to the quality of the restaurant represented by one, two or three stars. Nowadays, the Michelin Guide states that a one-star restaurant is one with high-quality cooking, worth a stop; two stars is for excellent cooking, worth a detour; and three stars represents exceptional cuisine, worth a special journey (Surlemont & Johnson, 2005). The policy or guidelines of the MG are not revealed for the criteria to advance in the Michelin star system. The inspectors are anonymous and multiple inspections are carried out in order to avoid bias, to ensure consistency, and the restaurant will not shut down, or go bankrupt (Surlemont & Johnson, 2005).

Apart from the stars, the Michelin Guide also has the Bib Gourmand award founded in 1957 which recognises good food for a good price, as well as the Michelin Plate since 2016 which

awards creativity in the dishes. The most important distinction, and the one that brings the most customers and is the most popular, is the regular red stars. Since 2020, the MG has additionally started to award restaurants with a green star for sustainability. Any fine-dining restaurant can obtain this award, independently of other stars and awards that the restaurant might have.

### 3.1.2 The food system and the need for its transformation

Nearly one third of global food is either lost or wasted (Billore et al., 2021) and food systems are the main drivers of environmental degradation and poor health (Willett et al., 2019). Food system can be defined as all the elements and activities related to food, from production to consumption (Willett et al., 2019), the web of interactions and relations interconnected through food (Ingram, 2011), a complex adaptive system (Baungaard et al., 2021) or as Barber (2015) suggested: “a set of Olympic rings. That all hang together”.

In order to understand the food system it is necessary to address the interactions between humans and non-humans, to implement an integrative socio-environmental approach to consider the feedbacks, to analyse synergies and trade-offs (Ingram, 2011). The food system consists of much more than environmental sustainability of food production and health consequences through consumption (Willett et al., 2019), it also affects culture, society, animal welfare and the economy (Willett et al., 2019), for that reason it is important to consider the food system as a broader concept; not only the activities but also the feedback loops (Béné et al., 2019).

However, managing these interactions in complex system transformation can be extremely challenging (Grin et al., 2010 cited in Baungaard et al., 2021). Yet, involving different actors in food supply chains (Willett et al., 2019) and understanding these interactions in order to transform the food system (Ingram, 2011) is key.

Drastic changes need to happen. As Willett et al. (2019) states, a “Great Food Transformation” needs to occur, which involves a range of actions by all food system sectors across all levels towards the aim of healthy diets for all from sustainable food systems. In order to transform food systems, networks and change agents that can help with the formation of certain alliances are key, since they can connect different actors, such as state and business actors, scientific-technical elites, and citizens’ movements (Scoones, 2016). Transformations are constructed in

networks (Scoones, 2016) and they can only be achieved if all actors work towards it, “in all parts of the food system” (Willett et al., 2019).

### 3.1.3 The food system and the planetary boundaries

There is a plethora of evidence that the food system is responsible for one third of manmade greenhouse gases (Willett et al., 2019). This includes organic and inorganic nitrogen in fields, methane from rice-flooded fields and livestock, and CO<sub>2</sub> (carbon dioxide) due to loss of soil organic carbon in croplands, plus the energy that is consumed (Willett et al., 2019).

The planetary boundaries, an approach that attempts to regulate the ability of the planet to stay within stable Holocene-like conditions (Steffen, 2015), identify and quantifies the Earth’s system processes, in which human civilizations can thrive (Steffen, 2015). The planetary boundaries framework considers 9 boundaries, which 3 of which already have transgressed thresholds at a global level.

Some critiques to this framework are directed towards it requiring the consideration of the “sub-global levels”, and where the global equilibrium is seen as disturbed by these changes (I.P.E.S, 2015). In addition, since the creation of this framework, more market-led approaches, and topics such as natural capital, climate change and biodiversity system evaluation, have become relevant within the sustainability arena (Scoones, 2016), due to these factors a hint of scepticism is important to maintain.

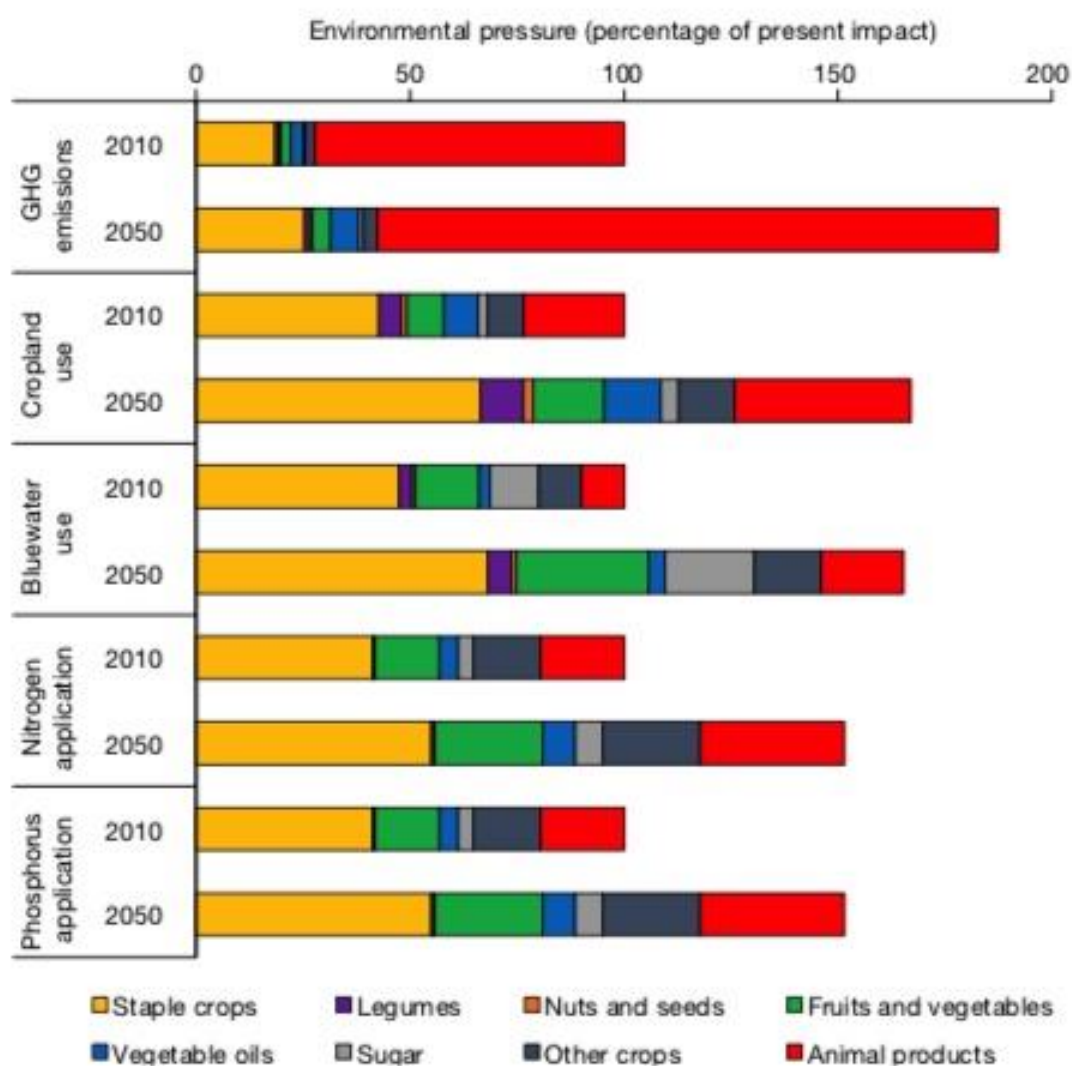
**Table 1** Food system activities and the planetary boundaries.

Examples by Ingram (2011) on how eight boundaries (the rows) correspond with the “four sets of food system activities” (the columns).

	Producing food	Processing & packaging food	Distributing & retailing food	Consuming food
Climate change	GHGs from fertilizers; changing albedo	GHGs from energy production	GHGs from transport and refrigeration systems	GHGs from cooking
N cycle	Eutrophication and GHGs from fertilization	Effluent from processing and packaging plants	NOx emissions from transport	Food waste
P cycle	P mining for fertilizers	Detergents from processing plants		Food waste
Fresh water use	Irrigation	Washing, heating, cooling		Cooking, cleaning
Land use change	Extensification and intensification	Deforestation for paper/card	Transport and retail infrastructure	
Biodiversity loss	Deforestation, hunting, fishing	Hydroelectricity dams for aluminium smelting	Invasive species	Consumer choices
Atmospheric aerosols	Smoke and dust from land-use change		Emissions from shipping	
Chemical pollution	Pesticides	Effluent from processing and packaging plants	Transport emissions	Cooking, cleaning

In order to tackle climate change, a system-approach is needed, considering also the current COVID-19 pandemic, which has exacerbated the interrelationships between health and food systems (Baungaard et al., 2021). It is important to put efforts towards making the latter more resilient to shock as mentioned by the European Commission (EC)’s Farm to Fork Strategy (Commission, 2020). Food systems have to be reviewed now that safe boundaries of food production are being crossed (Willett et al., 2019) not to mention dietary trends within a growing population will exacerbate risks for people and the planet (Willett et al., 2019).

We are facing the challenge of “having to feed” 10 billion people by 2050 (Springmann et al., 2018). It is not merely a matter of feeding the growing population, but also providing a sustainable and healthy diet (Willett et al., 2019). Hence, essential decisions need to be made involving policy makers and societies, since agriculture has intrinsic trade-offs regarding sustainability and nutrition (Krishnan et al., 2019). Decisions about economic growth and the different aspects of sustainability (Krishnan et al., 2019) need to be taken democratically, so that society and certain decision makers can understand the risks and benefits.



**Figure 1** Present environmental pressures and projected (2050) in regard to 5 environmental domains divided by food group.

This figure represents the present and projected environmental pressures (which are allocated to the final food product) on five environmental domains, divided by food group. Figure taken from Springmann et al. (2018).

### 3.1.4 Sustainability

It is difficult to agree upon one definition of sustainability. The word comes from the verb ‘to sustain,’ but what do we want to sustain? And for whom? (Leach et al., 2010) Is it what have we been doing up until now? Or do we want to sustain in the sense of balance, equilibrium and resilience? The definition, according to the literature, depends on the discipline. For instance, in agriculture and its academic research, the focus is on how to enhance sustainability and productivity, such as sustainable intensification (Béné et al., 2019).

Which version of sustainability is understood, and in what direction the transformation of food systems are going, comes down to politics, connecting science with policy and different actors at different levels (Scoones, 2016). For that reason the politics of knowledge and the political economy are highly relevant (Scoones, 2016) for understanding power relations and the different narratives and discourses of sustainability.

There are two fundamental moments for this buzzword, sustainability, of our time (Scoones, 2016). The first was in 1969, when we saw Earth from the Moon for the first time, surrounded by space. There is no doubt that seeing this vulnerable planet with limited resources changed some of humanity's collective mindset. The second moment was the Brundtland report in 1989 (Scoones, 2016), and sustainable development was defined as: "meeting the needs and aspirations of the present generation without compromising the ability of future generations to meet their needs" (Brundtland, 1989).

There are different perceptions and meanings of sustainability, but should we all agree on a common meaning? Should the Brundtland report definition be updated or left as it is? Or should we all have different perceptions, understanding sustainability differently as a kind of faith that leads us towards the same goal in our own way? According to Scoones (2016), sustainability can be used as a boundary term, as an umbrella concept that we all share and helps us to reach certain goals, and it should be "the benchmark for food system reform" (I.P.E.S, 2015). Including the different meanings and perceptions of it, connecting diverse actors with different interests (I.P.E.S, 2015). Further, sustainability started to be connected with development in the 1980s, firstly with the UN Conference on Environment and Development in 1992 (Rio) (Scoones, 2016). Nowadays, sustainability represents an arena of understanding around development (Scoones, 2016).

Radical alternatives to sustainability and development have become more common, such as experiments in the context of changing agri-food systems (Scoones, 2016). However, the concept has become too broad, and efforts in the last 30 years to achieve sustainability have become massive (Scoones, 2016). Moreover, things can be messy; power relations and the different disciplines can shape the concept as they want through different narratives.

In addition, some argue that a fourth sustainability dimension is necessary: the "cultural" dimension, apart from the three pillars, which are social equity, human welfare (often with an

economic dimension) and environmental integrity (Béné et al., 2019). This fourth dimension is about the importance of “cultural acceptability” (Béné et al., 2019).

In summary, outcomes regarding sustainability and development are inevitably variable, contingent, and conjunctural, which makes it difficult to monitor and evaluate change (Scoones, 2016). Further, indicators or metrics of transformation will not be sufficient, and a process-based, reflexive learning approach is needed (Scoones, 2016). Yet, it is important to make these efforts and use resources efficiently, as Scoones (2016) maintains.

### 3.1.5 Farm 2 fork and the Green New Deal in Europe

Activists and academics have struggled to shift the attention to the link between conventional agriculture and contaminated waters, land erosion, cancer, pesticide residues and declining rural communities (Kloppenburg Jr, 1991). Food production still results in air, water and soil pollution and contributes to the loss of biodiversity and climate change (Commission, 2019) and it needs excessive amounts of natural resources, while an important part of food is wasted (Commission, 2019).

Currently, there are new technologies, scientific discoveries which combined with public awareness and demand for sustainable food are leading to greater efficiency in the food production system (Commission, 2019), and European food should become the global standard for sustainability since it is known for its nutrition, high quality, and safety (Commission, 2019). For this reason, The Green New Deal (GND) launched the ‘Farm to Fork’ Strategy in spring 2020, an initiative made to stimulate sustainable food consumption.

The Farm to Fork Strategy contains proposals to improve the position of farmers in the value chain, and to consider all the operators in the food value chain, causing debate around all the stages of the food chain, focusing on a more sustainable food policy (Commission, 2020). In order to strengthen efforts to tackle climate change, protect the environment and preserve biodiversity (Commission, 2020).

### 3.1.6 Terroir-driven restaurants

In the last decades, a different category for restaurants has emerged and it is represented by more creative restaurants with an organic approach, sourcing ingredients locally through foraging and embedding the cuisine within local culture, history and environment (Tresidder, 2015). In response, in part, to the carbon footprint that conventional food systems have and the concerns regarding genetically modified crops and the depletion of natural resources, among others (Tresidder, 2015).

Restaurants operating while simultaneously minimising negative environmental impacts (Liu et al., 2020 cited in Nimri et al., 2021) is a trend that has been growing in the hospitality sector (Tresidder, 2015). Restaurants “going green” (Liu et al., 2020 cited in Nimri et al., 2021) and topics such as freshness and taste, as well as locating the experience in the geography and soil of the locality or destination (Tresidder, 2015) have been influencing the sector.

Some terroir-driven restaurants have been influencing the way we see food, such as Noma in Denmark. This Restaurant and its School have a big influence on the practices of other restaurants in Europe in terms of sustainability, changing mindsets regarding food and more specifically food systems.

### 3.1.7 Nudging

The food service provision sector or catering services should minimise their impacts, such as environmental impacts which are measured by their carbon footprint, and societal impacts which are represented by unhealthy food choices (Filimonau et al., 2017), irresponsible consumer choices can be related to negative impacts in the food service provision. Filimonau et al. (2017) argues that customer ‘nudging’ can be an effective tool and yet little research has been done regarding its application in the private food provision sector. Menus can be designed by chefs to show certain information to customers; restaurants have a crucial responsibility since they are the “architects of consumer choices” in order to intervene in their decision-making process (Filimonau et al., 2017).

Moreover, front of house should be a part of the study considering their role with interacting with the customers (Filimonau et al., 2017) or as Barber (2015) states, they are the ones who



manage the orchestra, and may have something to say about how customers' preferences can be architected (Filimonau et al., 2017). This aspect can be relevant when we think about fine dining: the staff are supposed to be knowledgeable about the produce and cooking techniques, and in some cases they have to explain about the food to just a few tables. Future research should look at upscale (such as fine dining) catering establishments and investigate the application of 'nudging' to their clientele (Filimonau et al., 2017).

### 3.1.8 New Nordic Cuisine

Dining out has been a growing trend in the last decades and has become more and more important in the Nordic region (Byrkjeflot et al., 2013). Economic prosperity and people travelling more, apart from globalisation and the explosion of cooking shows have been some of the reasons for Nordic countries to have the need for coming back to their own identity (Byrkjeflot et al., 2013).

The New Nordic Cuisine (NNC) proposed an alternative to the Mediterranean and French cuisines which dominated in the Global North as "good taste" for centuries (Leer, 2016). Apart from other movements such as slow food and new Spanish cuisine, who also challenged the established "centuries-long French hegemony" (Byrkjeflot et al., 2013). Ferran Adria chef from el Bulli in Spain has been also active in moving away from the hegemony of the French cuisine and he was sure "the next big cuisine will come from the North . . ." (Byrkjeflot et al., 2013). The movement started around 2004 with a manifesto (table 3) based on produce from the Nordic terroir (Leer, 2016). Chefs of this region are shaping a new "taste of the North", with ingredients such as: "birch sap, bulrushes, puffin eggs, foraged chickweed, Arctic brambles" and livestock breeds from Vikings' times (Byrkjeflot et al., 2013).

Some critical events that took place before 2005 which have helped in the creation of NNC: it was not only the creation of restaurant Noma, but also the Symposium that Claus Meyer and René Redzepi from Noma organised, called "the New Nordic Cuisine". Chefs from Scandinavian countries joined this symposium and the new Nordic kitchen in 10 rules were established, the creation of a manifesto (Byrkjeflot et al., 2013). The manifesto was about preserving the core values of Nordic cuisine such as purity and simplicity from local ingredients of the Nordic terroir (Byrkjeflot et al., 2013), which is the first aim presented in the

manifesto (Leer, 2016). The second aim is to “reflect the changes in seasons” and the third is about using those ingredients and produce that are “excellent in Nordic Climate” (Leer, 2016).

Nowadays, Nordic countries have become known for pushing and having a sustainable food production and consumption approach in the restaurant industry. In addition, the movement has helped to recognize Scandinavia internationally, associating it with contemporary culture (Leer, 2016).

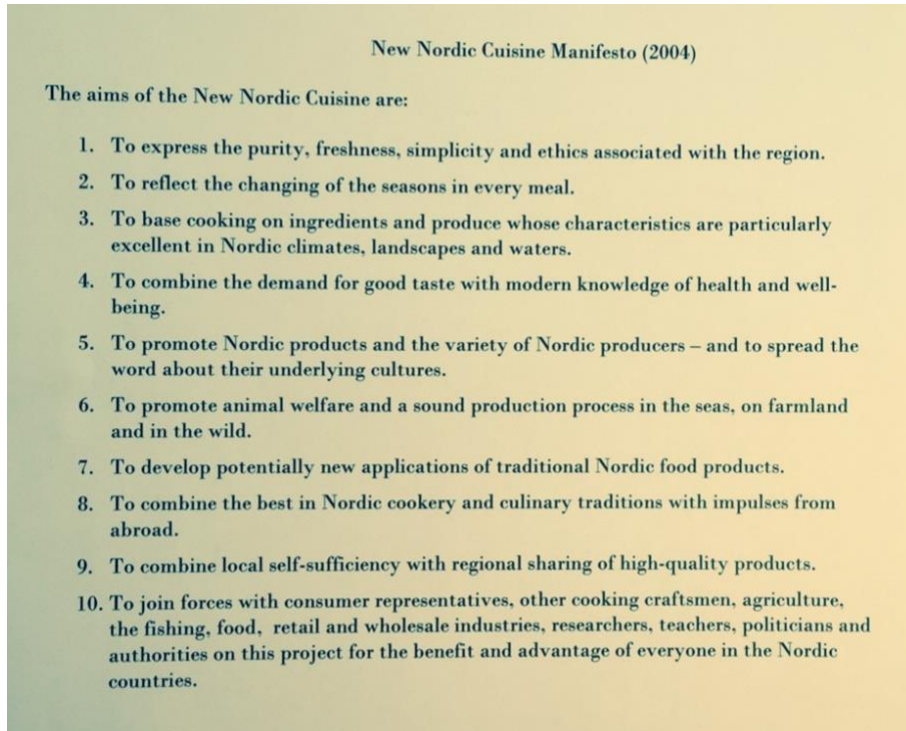
**Table 2** *The process of creating New Nordic Cuisine.*

Table from Byrkjeflot et al. (2013).

Stages	Emergence, pre-2005	Legitimation, 2005–2006	Contested expansion, 2007–2010
How?			
Main focus	New Nordic cuisine as a professional project	New Nordic food as a political and scientific project	New Nordic diet as a social project
Label	Draws on a stable category—“Nordic”—with a positive connotation for high economic development, design, and innovation, not on local traditions	Broadens invitation for participation beyond gastronomy to food industry and farming	Contestation over label use—limiting use vs. certification; elitist vs. mass
Exemplars	Noma (restaurant) and Redzepi (chef)	Food ambassadors Research centers	Projects selected for funding
Values	Manifesto	Aarhus declaration	OPUS program
Priorities	Defined by guiding values in the manifesto	Defined in Program I, 2007–2009: Communicate what new Nordic food is about; kitchen and gastronomy, health, welfare, and taste; develop the periphery (coastal and rural areas)	Defined in program II. 2010–2014: branding; campaigns for innovative projects in relevant sectors; use of new Nordic food concept for competitiveness, tourism
Practices	No practices	Invitation for practice creation (NICE, Nordic Innovation Center call for initiatives and selection of projects)	Guidelines for practice creation; e.g., on food diplomacy, on communicating Nordic cuisine (deliberate use of language), on Nordic diet
Main actors	Entrepreneurs and chefs	Politicians, civil servants, scientists	Diverse, increasingly at the national level

**Table 3** *The New Nordic Manifesto based on produce from the Nordic terroir.*

Table taken from Leer (2016).



New Nordic Cuisine Manifesto (2004)

The aims of the New Nordic Cuisine are:

1. To express the purity, freshness, simplicity and ethics associated with the region.
2. To reflect the changing of the seasons in every meal.
3. To base cooking on ingredients and produce whose characteristics are particularly excellent in Nordic climates, landscapes and waters.
4. To combine the demand for good taste with modern knowledge of health and well-being.
5. To promote Nordic products and the variety of Nordic producers – and to spread the word about their underlying cultures.
6. To promote animal welfare and a sound production process in the seas, on farmland and in the wild.
7. To develop potentially new applications of traditional Nordic food products.
8. To combine the best in Nordic cookery and culinary traditions with impulses from abroad.
9. To combine local self-sufficiency with regional sharing of high-quality products.
10. To join forces with consumer representatives, other cooking craftsmen, agriculture, the fishing, food, retail and wholesale industries, researchers, teachers, politicians and authorities on this project for the benefit and advantage of everyone in the Nordic countries.

### 3.1.9 Chefs

In their study, Richardson and Fernqvist (2022) maintain that chefs who practice sustainable gastronomy have an important role in transforming the food system into a more sustainable one (see Appendix 1). They argue that chefs and sustainable gastronomy should be studied when a food system approach is meant to be applied. In order to acknowledge this, culinary schools need to update and modernise their curriculum fostering independent initiatives, such as the Chef's Manifesto, that help chefs to effect change by giving them skills and tools (Richardson & Fernqvist, 2022).

An example of chefs fostering the sustainability of food systems is the JAKI(N) Project by Eneko Atxa, chef and owner of Azurmendi in the Basque Country (Martin-Rios, 2020). This is a restaurant which uses sustainable energy, it has a collective compost heap, and it collaborates with the biggest seed bank of the Basque Country. The project is based on work with small producers to recuperate endangered crops, adding value to it (Azurmendi, 2022).

The project has joined with neighbours to collect organic waste and transform it into compost, so all the producers of the area can access the compost created. At the moment, it contains 400 different kinds of seeds with local varieties of vegetables in order to preserve genetic diversity (Azurmendi, 2022).

Another example is the partnership created by a plant breeder (Michael Mzourek at Cornell University), a chef (Dan Barber), and a seed grower (Matthew Goldfarb). They promote plant breeding as an important component of the food chain (Moreau & Speight, 2019). This partnership/company ensures that its seeds are openly available through the USDA-ARS National Plant Germplasm Systems at the same time that it supports development and research for organic seed breeders (Moreau & Speight, 2019).

#### 3.1.9.1 The role of chefs

Over the past twenty years, there has been a surge in popular interest in chefs (Giousmpasoglou et al., 2020). They have been more exposed not only through the internet and social media, but also through cookbooks and cook programs. There is a flourishing trend for cookery books authored or compiled by Michelin-starred chefs (Cooper, 2012 cited in Giousmpasoglou et al., 2020). Chefs have become public figures advising on food, changing eating and drinking patterns in Europe and transforming hunger into a hedonistic experience (Henderson, 2011 cited in Giousmpasoglou et al., 2020). The phenomenon of celebrity chefs emerged concomitantly with the growth in popularity of TV food programs (Scholes, 2011 cited in Giousmpasoglou et al., 2020).

The public's attention has been stimulated by television as well as social media, which aids in platform building for a chefs' identity as a brand name (Cooper et al., 2017 cited in Giousmpasoglou et al., 2020). The public's attention has also been influenced by food critics and the food media (Giousmpasoglou et al., 2020). Matwick and Matwick (2018, cited in Giousmpasoglou et al., 2020) claim that there is an interesting paradox which is the trend towards a decrease in home cooking and an increase in cookbook sales that suggests that cookbooks serve a wider purpose beyond cooking.

### 3.2 Framework used (concept and theory)

The food system relies on agriculture, however, conventional farming practices have been challenged and the literature argues that “agriculture is trapped in a lock-in situation” (Bui et al., 2016). The concept of ‘lock-in’ is a recurring theme in analyses of agro-food regimes to explain the resistance to change (El Bilali, 2019).

According to Geels (2019), in order to address persistent and worsening environmental problems (such as climate change, biodiversity loss, resource depletion) fundamental changes have to be made in these systems, which are conceptualised as ‘socio-technical’: the fulfilment of societal functions involves not only technologies, but also situated consumer practices, cultural meanings, public policies, business models, markets, and infra- structures (Elzen et al., 2004 cited in Geels, 2019).

In order to transform the food system to a more sustainable one, a socio-technical transition must take place (Geels, 2011). Socio-technical transitions have been studied in the innovation studies’ field since the early 2000s and has been used to analyse sustainability transitions (Geels, 2011). The food systems needs to be seen not as linear but as a web of relations where all actors must be considered; not only consumers, restaurants and producers but also institutions and perceptions (Commission, 2019). According to Scoones (2016), “transformations are constructed in networks, alliances, and coalitions and connect diverse actors”, so farmers, social movements, media, public policies, researchers, firms and investors and their activities (Geels, 2011) are highly relevant in the transformation of the food system.

For sustainable transitions to occur, radical innovations need to happen, innovation occurs when tensions are internal to the regime or system, there is a pressure from a landscape level. Radical innovations show a tendency to emerge in small niches (Geels, 2011). Niches act across multiple levels and can lead to transformations in the regime (or system) within a landscape (the context) (Scoones, 2016). Within the niches, there is experiential learning with novelties and development of new rules and relations. Therefore if all these processes align, a window of opportunity for system innovation occurs (Pereira et al., 2018). The landscape includes rules and institutions where the actors are embedded, including the norms and belief systems (Geels, 2011) and it is the most challenging to change since usually requires change in power relations embedded in these complex problems and the pressures from society (Scoones, 2016).

Niches are protected spaces for people to work on new roads, developing new practices with innovation (Bui et al., 2016). According to Scoones (2016), different niches and initiatives keep coming up to move towards transformations, however, some are successful, and some do not succeed. The unsuccess of the niche can be due to many reasons, such as marginalisation of epistemologies (Ludwig et al., 2021), or/and does not suit with the hegemonic narratives within the dominant epistemology (Leach et al., 2020). For niches to succeed, actors such as change agents and the right network spreading these ideas is necessary to occur. It has to be led by change agents such as business actors (e. g., restaurant owners or chefs), citizen's inspiring movements, known farmers such as winemakers/vignerons).

Niches' creators push forward the regime transformation by reconfiguring the system, by breaking certain lock-ins (Bui et al., 2016), creating different options (and creating solutions) which could lead to creating new relations in local food chains. One niche created can develop other niches (Bui et al., 2016), without predicting it, and slowly (or rapidly) change the regime, creating new rules. The niche possesses' different stages are, first the initiative, then construction of it including the actors and lastly the creation of a new model of regime, from practices to new rules. Niche-innovations such as the GS could appear as an experimentation (phase 1), actors such as chefs could help the niche to evolve (phase 2 and 3: stabilisation and diffusion) and eventually transform the food system and reach the phase 4, where the niche is anchored and becomes institutionalised, examples of this hypothesis are: the government asking restaurants for certain requirements, regarding waste, the use of plastic, the use of local foods, among others. For the purpose of this paper, I will be focusing on the first stages.

This thesis will be seen briefly with the Multi-Level Perspective (MLP) lens. It will be addressing part of it: the first phase of the niche (the GS), the regime (the food system) and the change agents (chefs in general and some of the interviewees).

### 3.2.1 Concepts to define

- **Socio-technical transitions:** involve changes in technology but also changes in consumer practices, policies, cultural meanings, infrastructures, and business models (El Bilali, 2019).

- **Sustainability:** “Sustainability is the capacity to create, test, and maintain adaptive capability” (Holling, 2001)
- **Lock-ins:** the resistance to change, highly used in the analyses of agro-food regimes (El Bilali, 2019).
- **Vignerons:** “peasant winegrowers who produced the grapes that formed the base of the regional wines” (Guy, 1997)
- **Gastronomy:** “the art or science of good eating” (Merriam-Webster cited in Bellini et al., 2018), a cultural field (Ferguson, 1998) that emerged in France during the first half of the 19th century (Rao et al., 2004). The term came into public view in 1801 after the poem “La Gastronomie, ou l’Homme des champs à table” (Gastronomy, or the man of the fields at table) by Joseph de Berchoux (Ferguson, 1998). Gastronomy are “artisans and artists”, the producers, the chefs and eaters “whose discourses participate in the dynamics of traditions, cultures, and imaginaries” (Bellini et al., 2018).
- **Classical Cuisine:** according to Rao et al. (2004), it dates back to the French Revolution of 1789, in opposition to *ancien régime*. In the ancient regime the chef was property of a patron or noble. After the French revolution chefs were offering their services to the public.
- **Nouvelle cuisine:** a lighter and more delicate version of the French cuisine without heavy sauce or fatty dishes (Leer, 2016)
- **Fine dining/ Haute cuisine/ High-end restaurants.** In this paper the three terms are indistinct, referring always these three terms to the same definition, which was used for *High-end restaurants*: “focuses on describing the high standard of the restaurants” (Buhl-Madsen, 2017)
- **Locavorism:** refers to cuisines based on local products. The actual meaning of “local” is however a subject of debate (Leer, 2016)
- **Terroir:** “traditionally connected with French wine production (Leer, 2016).
- **Taste of place** (Pesci & Brinkley, 2021). In the case of the New Nordic terroir, the concept tends to be used in the context of the traditional image of the uncultivated, pristine, wild, fresh Nordic nature.”
- **Luxury gastronomy:** it is more than. “eating or food as a commodity. It is considered as a high-end artistic and authentic food experience that is lived within a sociocultural context in which food production and consumption are connected with heritage, identity, history, culture, environment, and personal aspects” (Batat, 2020)

- **Plant-forward dining:** “a style of cooking and eating that emphasizes and celebrates, but is not limited to, plant-based foods— including fruits and vegetables (produce); whole grains; beans, legumes (pulses), and soy foods; nuts and seeds; plant oils; and herbs and spices—and that reflects evidence-based principles of health and sustainability” (Moreau & Speight, 2019).
- **Organic farming:** “a system aimed at producing food with minimal harm to ecosystems, animals or humans” (Seufert et al., 2012), sustainability and organic is extremely linked (Willett et al., 2019)
- **Food philosophy:** refers to a cluster of practices, values and beliefs that evolves over a period of time within a particular cultural context and is shared on a collective level (Schösler et al., 2013).

#### 4 Research design and methods

I conducted semi-structured interviews, as they allow for flexibility and intelligibility, apart from adding extra insights about the topic in discussion. Thirty-two interviews were conducted: twenty-six of the respondents were male and five female, aged between 28 to 66 years. Data collection was conducted in person or through zoom and WhatsApp, and each interview lasted approximately 25 minutes. Interviews were undertaken between October 2021 and June 2022. I tried to be consistent within the applied research methods for reliability (Noble & Smith, 2015). However, before each interview I revised the questions to check that the interview fits the person well, and I was not asking anything that is not applicable to the interviewee.

##### 4.1 Transcription and coding

Transcripts were done with the help of “happy scribe”, hearing again after this is done in order to correct any mistakes done by the application. I coded using NVivo 10 software, since that allowed me to assign different codes to the same piece of text. The first time that I coded I created different codes as I was going through the interview: I started transcribing and reading data from the qualitative data (*familiarizing with data*), followed by *generating initial codes* through coding interesting features of the interviews, *searching for themes* (arranging codes into potential themes), *reviewing themes* (examining if the themes align with the codes and entire data set), *defining and naming themes* (ongoing analysis of refining the specifics of each theme and generating clear definitions and names for each theme). However, I ended up with



many messy codes, so I decided to code for second time and I signed up to an Nvivo course of 14 hours “Nvivo core skills (MAC)”, I went through my research questions, and I attempt to have a code base before I start coding everything again. I started from labels or codes that I set up prior to coding. So, I went from an inductive to a deductive approach in terms of coding.

- ▼  Awards and certifications
  - ▶  Awards
  - ▶  Certifications
- ▼  Communication
  - 360 guide
  - Clothing
  - Farmer-restaurants
  - Farmers or chefs turnin...
  - Government-led
  - Greenwashing
  - ▶  Inspiring projects
  - Networks
  - Platforms
- ▼  Consumers
  - consumers taking char...
  - Health
  - Lack of awareness
  - Learning during the din...
  - Role of consumers
  - Too much information
  - Younger and coming g...
  - Covid
  - Endangered species
- ▼  Farming
  - Admiration towards far...
  - Compost
  - Farmers and farming cr...
  - Farming situation
  - Role of farmers
  - Flavour, deliciousness
- ▼  Food system
  - critiques actual situation
  - similarities with the clo...
- ▼  Michelin Guide
  - critiques
  - ▼  GS
    - Chefs aiming to get it
    - ▶  GS contributions
    - GS critiques
    - More challenging th...
    - Oportunities
    - improvements, updating
    - Michelin starred chefs
    - Red stars should consi...
- ▼  Narratives
  - Critiques to the differe...
  - Other food
- ▼  Restaurant industry
  - ▶  Examples and approac...
  - ▶  Luxury and sustainability
  - Main challenges in ord...
  - Perceived situation
  - ▶  Produce
  - Restaurant philosophy
  - Staff
  - ▶  The other restaurants
  - ▶  Waste
  - What is to be sustaina...
  - Wholesalers
- ▼  Role chefs
  - Chefs farming
  - Less meat as possible
  - needs to improve
  - role model
  - Role restaurants
  - Spreading the word
- ▼  Sustainability meaning
  - Cultural dimension
  - Economic dimension
  - Environmental dimensi...
  - Social dimension
  - Sustainable food system
- ▼  The dining experience
  - Costumers' point of view

**Figure 2** Codes made in the second time as deductive approach.

This image is a screen shot from NVivo 10 software.

#### 4.2 Validity and reliability; credibility and transferability challenges

Reliability is about the consistency within the applied analytical methods (Noble & Smith, 2015), in order to enhance reliability, a consistent protocol of questions was used for every informant within the sample. Second, the interviews were recorded in order to not miss any data and avoid data collection biases. In addition, a general semi-structured interview design was used to contribute to external validity, which is the applicability of the results to other contexts and settings (Noble & Smith, 2015).

Credibility and transferability can compromise the validity of the research, credibility can be summarized as “how believable are my findings” and transferability is about how transferable are to other contexts (Bryman, 2016, p. 49). With this said, the research can present possible challenges. I have to be aware of my own bias. I have been working in restaurants since 2016, first in New Zealand where I was trained to be a sommelier, then Sidney, then Oslo, where I have been living since 2019. Although this can be a problem for jeopardization, I use the advantages that this profession as a sommelier and waitress have given me: which are the contacts, knowing how to approach chefs; thinking about when is best to contact them, among other aspects. The interviews were performed mainly Tuesday to Thursday between 10am till 2pm, where chefs and restaurateurs can make some time between planning and their own meetings with farmers, logistics, etc. I was fully aware of their time, and I tried to make myself available within this timeframe. Regarding contacts I worked for two of the chefs interviewed, and in my email, I said who I was, and where I was studying.

The rest of the cases, I wrote in an email that I like them am working in the industry so they see me as a colleague, trying to make themselves available but also showing them that I know some of the business so I would be an easy person to talk to. In the Netherlands I said the same, but I also emphasised that I was doing an Erasmus exchange at Wageningen university, which for some of the interviewees was relevant, since some of them work with this University in relation to certain projects.

Another challenge regarding credibility and transferability was Covid-19. The interviews were conducted from October 2021 until June 2022. In that period Covid-19 striked with its variant Omikron between December 2021 to (around) the end of February 2022 in Europe, so that might affect some of the answers, for instance how positive or negative the interviewees were when they answered. I did the interviews with informants 3 to 20 in this period.

The closure of restaurants during the COVID-19 pandemic was highly harmful to farmers who depended on “Farm-to-Table connections” (Severson, 2020). I did the first two interviews in Amsterdam, those first two have questions such as: “which sustainable practices have you implemented in the last two years?”, which then I realised that this question is not appropriate to ask during pandemic times, although it can create a good conversation with interesting in-sites, but I decided to take it away.

### 4.3 Methods of sampling and data collection

For this research, I combined second-hand and first-hand data, research literature and personal research, respectively. Primary data was obtained through qualitative semi-structured interviews with consumers of fine dining restaurants, chefs and restaurateurs from fine dining and Michelin Green Starred Restaurants and farmers who supply them. A *Purposive sampling* was executed; “a form of *non-probability sample* in which the researcher aims to sample cases/informants in a strategic way, so that those sampled are relevant to the research questions that are being posed” (Bryman, 2016, p. 714). Actors were selected through non-probability and continuous sampling (Bryman, 2016, pp. 420-430) to ensure variety in the resulting sample.

Moreover, I tried to not only hear what the chefs had to say but also see what the farmers that deliver produce for those restaurants think, and if there is a correlation. If the opinion of a farmer delivering food for ‘x’ restaurant correlates with the story that ‘x’ restaurant tells, also to shed light on the opinion that customers and restaurateurs might have about the same topic, creating variety. According to Richardson and Fernqvist (2022)’s study, chefs are the nexus between farmers and consumers, so the chefs’ influence on farmers can result in influencing customers and vice versa.

Furthermore, I have followed the principles of *maximum variation sampling* (Bryman, 2016, p. 409), Norway being a representative of the Nordic countries. By having my sample from different countries in Europe (Norway, The Netherlands and Spain). My unit of analysis was selected according to my research questions in order to create a sample that exemplify the considered population (Bryman, 2016, pp. 420-430)

When Covid-19 restrictions increased, I used Ecosia and Google search engines to do website analysis. New actors emerged and I gathered informants through social media, such as gastronomic inspirer (informant 12) and chef and food designer (informant 13), in this case I was searching for change agents and saw that they were part of Lafuga movement, “a laboratory for the future of gastronomy” as informant 12 stated. This movement “started in Italy and... it's about the future of food... right now it is only across Europe, but it will be bigger, the idea is to make it worldwide” informant 13 maintains.

In Spain Covid-19 restrictions were decreasing and I had the opportunity of doing face-to face interviews. I interviewed restaurateurs, wine makers, consumers/workers from the restaurant industry (they used to live in Norway: informant 16 and 30), and an owner from an organic wine store owner. I contacted winemakers apart from restaurateurs since wine is very linked with food and farming.

My main focus was on Norway, where I am living and where my University, Norwegian University of Life Sciences (NMBU) is based. In Norway is where I interviewed the largest number of fine dining chefs, mainly working for Michelin starred restaurants. The number of farmers interviewed in Norway were three, a smaller percentage than Spain since in Norway just 3% of the land of the country is suitable for agriculture and it has a very short growing season (Asdal, 2008). Hence, Norway relies heavily on food imports, mainly from Sweden, Denmark, the Netherlands and Germany (Asdal, 2008).

Through continuous and purposive sampling selection, I opened the scope, and I obtained representative information for the different insights and points of view about transformation of food systems and sustainability in the restaurant industry in Europe, hoping that this could bring other perspectives and break with certain lock-ins.

#### 4.4 Interviews

The interviews' design was purposeful and verbal informed consent was obtained to record and to “use quotes in the final report”. In Spain I did the interviews in English, although I gave the possibility to use some terms in Spanish since Spanish is my native language, if the interviewee needed it; some terms were said in Spanish and I translated them, except for informant 20, in

this case I translated the questions in the moment and then I translated again to English during the listening of the recording.

**Table 4** Interviewees categorized by role/job and per country.

This table explained how I categorized the Interviewees conducted in Norway, the Netherlands and Spain: “Chefs, cooks and restaurateurs” are the restaurant managers and chefs from fine-dining restaurants and restaurants who have the GS. “Farmers/vignerons” are those that deliver their produce to fine dining and Michelin-starred restaurants. “Consumers” are the sommeliers, and people that enjoy going to this kind of restaurants, at least once a year. “Change agents” are those actors that are active in changing the food system and the restaurant industry in some way, by setting and following certain projects. The latter does not exclude that chefs can also be seen as change agents. The colors of the categories of this table are used in table 3.

Country	Chefs, Cookers and Restaurateurs	Farmers/vignerons	Consumers	Change agents, culinarians, developers	Not only consumers, but also restaurateurs
Norway	9	3	2	1 (informant 22)	5
the Netherlands	4	1		1 (informant 12)	
Spain	3	2			1
<b>Total 32</b>	<b>16</b>	<b>6</b>	<b>2</b>	<b>2</b>	<b>6</b>

Due to the breakout of Covid-19, Omikron variant, I was not able to do as many face-to-face interviews as I wanted in the Netherlands, a country where I did my Erasmus exchange (Wageningen University) from August 2021 till January 2022. I was planning to do the face-to-face interviews in December 2021, but lockdown happened, and I had to do them through zoom in January (since nobody was answering my emails in December, as an expected reaction from the pandemic breakout). Then, I went to Spain from the end of January 2022 until the end of February 2022.

In Spain I did some interviews in person and some through zoom to interviewees from Spain except for informant 19, an interviewee from the Netherlands. Interviews were conducted in Barcelona, Malaga, Cadiz, and Sevilla; to have a small overview of the situation there. Many of the informants were directly related with the wine industry, since it is a wine country, which I thought was interesting to see if any similarities with the perceptions of farmers in Norway.

#### 4.5 The sample

Thirty-two actors were interviewed: these actors were from the Netherlands, Spain and Norway. In the Netherlands I interviewed two chefs and restaurant owners from restaurants that had been awarded Michelin Green Stars, one co-owner and a manager from a restaurant and wine bar in Amsterdam, one chef from a restaurant with a cooking school, one 31-year-old gardener who produces food for restaurants and families (veggie boxes) and one food and wine writer or a “gastronomic inspirer” as he called himself, who has a five-star hotel and restaurant. The latter is certainly an agent of change, who has written books about food and wine, in addition to being actively involved in different food networks working towards change.

In Spain, I conducted interviews with two consumers of fine dining restaurants who also work in the restaurant industry. I also interviewed two wine bar managers, one owner of an organic wine store (Seville), and two winegrowers (Penedes and Cadiz), one of whom has developed his own designation of origin (denominación de origen, DO) for his family wines.

In Norway, I interviewed some consumers who work in the restaurant industry, two consumers of fine dining restaurants who do not work in the restaurant industry, and chefs and restaurant managers from fine dining restaurants. Four of the chefs have been awarded one Michelin star and one has three stars, two of them have the GS from Michelin out of a total of six in Norway with this award. Moreover, there are two of them, who do not have a Michelin star but are in the 360eatguide a new initiative from Nordic countries to also award sustainable restaurants. Some of the Michelin starred restaurateurs that I interviewed are also in this guide.

<b>Chefs, Cookers and Restaurateurs</b>	<b>Farmers/vignerons</b>	<b>Consumers</b>	<b>Change agents, culinarians, developers</b>	<b>Consumers and restaurateurs</b>
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**Table 5** This table shows the background of each informant and how and when the interview took place, so the reader can have a better view of the interviewees and the interviews.

Informants in this table are categorized by number assigned in this thesis, date, country, occupation, roles and place where they work; years in the restaurant industry and frequency going to fine dining restaurants. Even though the informants agreed to their inclusion in this study, I have chosen not to provide their names. In some cases, I refer to a restaurant from Norway without providing information as to its exact location, as this may reveal the identity of those connected with it.

‘x’: means not applicable

Informant/ date/how was conducted	Occupation	Workplace or/and Role or/and award	Years in the restaurant industry	Frequency dining out	Location	Country of origin	Age	Sex
1 19/10/21 Face-to- face	Co-owner and chef.	Michelin green starred restaurant	Absent question in first interview	x	The Netherlands (Amsterdam)	The Netherlands	38	M
2 19/10/21 Face-to- face	Co-owner	Restaurant and wine bar	Absent question in first interview	x	The Netherlands (Amsterdam)	The Netherlands	34	M
3 20/12/21 Face-to- face	Restaurant manager, Sommelier and consumer	He worked for several Michelin starred restaurants	12	3 or 4 times a year	Norway (Oslo)	United Kingdom	30	M
4 20/12/21 Face-to- face	Sommelier, restaurateur and consumer	Working for a group that owns many restaurants	10	2 or 3 times a year	Norway (Oslo)	Norway	27	M
5 20/12/21 Face-to- face	Sommelier, co-owner, and consumer	Wine importer and bar co- owner.	2	2 or 3 times a year	Norway (Oslo)	Norway	36	M

6 6/01/22 Face-to-face	Architect and consumer	x	x	Once every month	Norway (Oslo)	Norway	36	M
7 6/01/22 Face-to-face	Student and consumer	x	x	Once every month	Norway (Oslo)	Norway	30	F
8 7/01/22 Face-to-face	Manager, co-owner and consumer	Wine Bar co-owner, opening a new restaurant soon	3	3 to 4 times a year	Norway (Oslo)	Norway	41	M
9 6/01/22 Face-to-face	Farmer and owner	Deliver to fine dining restaurants	x	x	Norway (Lier)	Norway	43	F
10 8/01/22 Face-to-face	Farmers and owners of the farm	Biodynamic practices/ Deliver to fine dining restaurants	x	x	Norway	Norway	29/ 72	M
11 12/01/22 Zoom	Farmer "Gardener"		x	x	The Netherlands (Amsterdam)	The Netherlands	31	M
12 12/01/22 Zoom	Culinarian, professor, and owner of luxury 5-star hotel and restaurant. "Gastronomic inspirer"	Working on projects about the future of food/wine.	40	x	The Netherlands	The Netherlands	66	M
13 13/01/22 Zoom	Chef and owner	Involved in sustainability and	10	x	The Netherlands	The Netherlands	49	M



	“Food designer and chef”	cooking workshops			(Ede-Wageningen)			
14 17/01/22 Face-to-face	Restaurateur and chef “Chef and right now I'm a restaurateur in the food business”	Bar and restaurant, working on side food-industry-projects	More than 10	x	Spain (Barcelona)	Colombia	36	M
15 17/01/22 Zoom	Restaurateur	Wine bar	More than 10	x	Spain (Barcelona)	France	37	F
16 20/01/22 Zoom	Sommelier and consumer	Wine bar	8	x	Spain (Barcelona)	Sweden	28	F
17 21/01/22 Zoom	Vigneron and owner	Biodynamic practices	x	x	Spain (Penedes)	Spain	47	M
18 25/01/22 Face-to-face	Vigneron	Biodynamic practices	x	x	Spain (Cadiz)	Spain		M
19 11/02/22 Zoom	Owner and chef	Michelin green starred restaurant	x	x	The Netherlands	The Netherlands	45	M
20 15/02/22 Face-to-face	Wine store owner	Organic wines only			Spain (Seville)	Spain		M
21 23/02/22 Face-to-face	Head chef and restaurant manager	Awarded with 360eatguide	20	x	Norway (Oslo)	Sweden	38	M
22 25/02/22 Face-to-face	“Bar owner, waiter, bartender... Gastronomy industry”	Perform pop-ups in restaurants with vegan food and	8	x	Norway (Oslo)	Cuba	28	M

		natural wines.						
23 28/02/22 Zoom	Farmer	Deliver to fine dining restaurants	x	x	Norway	Norway	56	F
24 1/03/22 Face-to-face	General manager and creative leader	1 Michelin Star. Just opened a new restaurant	24	x	Norway (Oslo)	Sweden	39	M
25 2/03/22 Zoom	Head chef and restaurant manager	Awarded with 360eatguide	20	x	Norway	Norway	35	M
26 2/03/22 Zoom	Head chef and owner	1 Michelin Star and 1 Green star	30	x	Norway (Trondheim)	Norway	52	F
27 3/03/22 Zoom	Assistant head chef at restaurant	1 Michelin star.	10	x	Norway (Trondheim)	Norway	27	M
28 4/03/22 Zoom	Head chef at restaurant	1 Michelin star.	x	x	Norway (Lindesnes), Stavanger	Denmark	36	M
29 15/03/22 Zoom	Creative leader and restaurant owner	Three-Michelin starred restaurant and the GS	25	x	Norway (Oslo)	Denmark	39	M
30 24/03/22 Whatsapp	Consumer and sommelier	Working as a wine importer at the moment	14	Very often, a lot due to work purposes	Spain (Malaga)	Spain	30	M
31 30/03/22 Zoom	Project manager	360eatguide	0	At least every other week.	Sweden (Malmö)	Sweden	39	F
32 3/06/22 Zoom	Restaurant manager	Plant based restaurant	6		Norway (Stavanger)	Norway	43	M

## 5 Results

This chapter introduces the actors and their texts. It presents their perceptions and thoughts about the topic of this thesis. The claims are limited to the selected actors, and they are provisional and related to the topics in discussion.

### 5.1 The Green Star

#### 5.1.1 Dichotomy towards the MG and the GS: green washing and conservative or/and still a good solution and initiative?

Informants had mixed thoughts and feelings about the MG and the GS. Many informants expressed a dichotomy; the same person that criticized the Michelin guide could say nice things about it afterwards, and the same person could say nice things about the award but also say things like “it arrived too late”. The gastronomic inspirer from the Netherlands (informant 12) stated it was “too little too late” and at the same time acknowledged that the award is or can become very important, stating after: “that’s too harsh, I’m glad that is there (the GS)”. Some chefs, mainly in the Netherlands, stated that the MG was a bit too late with the GS award. Some of them have been working on being more sustainable for decades and setting trends; it is in their DNA as two chefs from the Netherlands with GS stated (informants 1 and 19). They thus did not take this award too seriously. Or as green starred restaurant in Amsterdam chef and owner (informant 1) said:

In the older days, once Michelin Star was on top of the game, but now, I think they have to renew themselves, and I think they're busy with it. So that's good.

The GS has been called “just a trend”, suggesting that this award is not serious enough; the sommelier, restaurateur and consumer from Oslo (informant 4) states that “the Michelin guide is going after or following the trends that were already there in the industry”. The GS has been also linked with greenwashing by several informants, such as informant number 1, the head chef at a green-starred restaurant in the Netherlands. He has always worked “at restaurants that have Michelin stars, one and two, and I like the game” he said, “so I think it is good, but now a lot of restaurants started to greenwash their company, and I think Michelin does the same now”.

The Michelin Guide has previous records for its conservative attitude (Surlmont & Johnson, 2005), however, some informants believe that this situation is slowly turning around. The head

chef from a Michelin-starred restaurant with a green star in Trondheim, Norway, believed that with the GS “they are showing that they are getting up to date”, despite the fact that “they are a little bit old fashioned...”.

Despite being called conservative, informants believe that it is important for the chefs that do the hard work to be recognized, even though it might not be perfect. Informants agree with being sustainable as a restaurant takes more time and effort, but it can be positive since chefs from this study relate sustainability to creativity. The owner of a luxury five-star hotel and restaurant from the Netherlands (informant 12) stated that:

It is good to know that Michelin finally recognizes that chefs that take a lot of trouble because it is very difficult to be sustainable to source your products, it takes a lot more effort than people think. I am happy that Michelin finally recognizes that, because this should be recognized, that these chefs that do all that to show the example, should be rewarded.

Regarding this point informant 30 says that:

... the Michelin is a very conservative guide and they've been doing many changes... one of those is specifically the green star, which I think is genius.

On the contrary, the fact that a GS is given for sustainability to restaurants can be misleading since other restaurants might not get it because they are evaluated subjectively by the Michelin Guide (since they do not reveal the criteria) not sustainable or not deserving of the award. As informant 27 states, “the Michelin guide doesn't visit every single restaurant”

There are hundreds of restaurants in cities, and maybe some diners think that restaurants that doesn't get the GS are not sustainable enough, but, the Michelin guide hasn't even been there.

**Table 6** Ambivalence regarding the GS and the MG.

This table shows the main ambivalence that relevant informants in the discussion have about this award and the MG, according to the stories narrated by them.

Ambivalence in regard to this award and the MG	
Critique	But...
Too late, green washing?	It is good that is there
	It is a recognition for the chef that does the hard work
Just a trend that was already in hospitality	It is genius
The MG is conservative and old fashioned	Now seems that they are getting up to date
	But “I have always worked at restaurants that have Michelin stars, one and two, and I like the game”
Red stars and green stars as a separated award, does not make sense...	It is ok to have the two awards as different things

### 5.1.2 A separated award

If the Michelin Guide is going to award sustainability, why are the regular, red stars also not considered? Should it not be more coherent? Several informants brought this up at the interview; six informants emphasized the fact that the green star should not be separated from the regular stars. Informant 4 argued that the Michelin Guide should include sustainability within the red stars. For him, it did not make sense to create a separate award and he stated that this had been done because “sustainability is not included in the red stars”. Following this opinion, it has been stated that the Michelin guide should reassess the awardees of the regular stars, as an owner and chef from a green-starred restaurant in the Netherlands (informant 19) argued: “the MG should not be giving stars to restaurants who has threatened species in the menu”. However, not all the informants think the same about the GS as a separate award. Take, for instance, informant 27:

I think it's good that they have stars regular on focus only on the quality of the food and the experience in the dining room and that they have their own competition on the side where the only focus is sustainability.

The owner of Luxury 5-star Hotel and restaurant from the Netherlands (informant 12) stated also that “they should reconsider to whom they have given the red stars”. In addition, the sommelier and consumer from Oslo (informant 4) said that “it should be some kind of system that combines the green star into the classic stars and not be a side thing”. Informant 30 (a Spanish sommelier who lived in Oslo for 8 years), predicted and stated the following necessity:

In the future, if you want to keep your star or... two stars or three stars, you will have to have sustainability as well.

The sommelier and wine bar owner from Oslo, informant 5, says that:

The normal stars should mean something in the sense of sustainability as well, because for me, there's no chance that they can make a three star or one star cuisine without very good ingredients (he meant sustainable sourced). And from that point, I think the stars also is delivering in the same way. But apparently not since there is a green star as well (a separate award).

Informants 1 and 30 agree any restaurant can get a red star, as long as it serves foie gras and...

(1), informant 30 says that:

It's easier to get a star and do what and use unsustainable products than really squeezing your brain to be able to be sustainable because it's not easy.

Informant 19, the owner of a green-starred restaurant in the Netherlands, argued that:

The Michelin Guide should consider how the staff is treated or if animals that are threatened with extinction are served when they give a normal, regular star... but they decided to make a separate award...

Consumers also argue that “with the price that you end up paying (as a consumer), it should be a certain level of control over where things come from” (sommelier and restaurant manager from UK based in Oslo, informant 3). The Norwegian consumer of Michelin Starred restaurants (informant 7) also stated that:

My wish is that you do not get a star at all, if you cannot qualify for the green star, because then you know that this choice is a good choice. But I do not know if the green star will be that effective yet, because the Michelin stars has such high power in a way... I do think Michelin as a huge institution and has a responsibility.

Similarly, informant 19, the head chef and owner of a green-starred restaurant in the Netherlands, said that:

A restaurant has to be sustainable if they want to get appreciation from an organization like Michelin.

### 5.1.3 Opportunities GS

The GS has been considered a game-changer (informant 30) since it promotes sustainability not only in the restaurant industry (informant 30), but also acts as an inspiration for restaurants and chefs, as well as with consumers, as informant 2, restaurant owner in Amsterdam, suggested:

The green star, it as a reward for what you do, and it will create more awareness that some things have to change.

Also, informant 30, sommelier and restaurateur, said that

I believe that what Michelin has done already created change, because before those restaurants doing sustainability were not in the spotlight. And now because of the green star, they are more in the spotlight by the press and the media. So, I believe that it was genius move.

Informant 27, the head chef at a Michelin-starred restaurant in Trondheim stated that the GS is extremely positive, not only by inspiring other restaurants and chefs to be more sustainable as informant 28,-the head chef at Michelin starred restaurant in Stavanger, stated when he says that this award “is important because many restaurants want to get it... it's like a gold medal that you can get for... being sustainable”; or informant 21, the head chef at a restaurant in Oslo, who says that these kind of sustainability awards are very healthy for the restaurant industry:

“it’s a nice thing to have... or to show off that you have actually done things”. However, it also inspiring consumers to participate in this movement, helping the restaurant industry now and in the future, since it might create, or it is creating a domino effect:

I think it's good that the Michelin has the green star now... I think the guide is helping to reach a sustainable future in the world because when someone starts getting a green star, then other restaurants are going to be eager to get the green star.

Some chefs stated that other colleagues are working on being more sustainable in order to get the GS, such as informant 12, who said that:

...Well, they seem to work, a lot of chefs are looking at that. It's a motivation to take the next step for so many chefs who are really working for Michelin... these awards and guides are the big motivators for chefs... it's nice that there are awards for doing things right.

In addition, the head chef and restaurant owner from a green-starred restaurant in the Netherlands (informant 1), commented that:

A lot of people, like, if I mention that I work in a restaurant with a Michelin star, everyone said: “oh, wow”. It’s going to be on and on like that for a long time, I think. And I think it’s a good thing that they are now willing to have a green star, and I hope a lot of people would like to earn it.

Take, for instance head chef of Michelin starred restaurant in Stavanger, informant 28:

We don’t have it now, but of course, it’s something that we really like to get, and it’s also something that we are pushing for to get... we are working on, for example, keeping the staff happier.

In general, informants from the Netherlands are positive towards the GS, saying that it creates awareness (informant 2) which restaurants with a GS are using for advertisement and marketing. This is seen as a positive thing, considering younger generations, who according to informant 19 are very “sensitive with these issues”:

There is motivation to come to us because of the green star, especially young people, who are very sensitive to the argument of sustainability... they appreciate the fact that we have a green star.

However, other informants such as informant 11, the Dutch farmer who sells his produce to restaurants, was sceptical regarding this kind of awards:

I think this award will help the people that is more interested, but... I see this as a commercial marketing tool, I’m not trusting that they can really make a difference.

In addition, Informant 22 (the bar owner who performs vegan pop-ups in different restaurants) believes the Michelin stars cannot transform:

How sustainable the Michelin concept is in general? To be honest, how many people actually have access to that kind of food?... if it is a niche market, it's not really sustainable because there's only so many people who are actually using that. For it to be sustainable, it has to be available to everybody... it doesn't balance it up.

On the contrary, the head chef from a restaurant in Norway, informant 25, said that the GS is more than a niche:

... being mentioned in the guide is important for guests and for other restaurants. So, I think (the GS) it's something bigger than a niche and I hope it's getting better later on.

Several informants say that awards and certifications in the restaurant industry could help food systems become more sustainable, as the head chef from a Michelin-starred restaurant in Stavanger (informant 28) stated:

I think that can help for sure, because more and more restaurants are kind of demanding more sustainable products then the producers at the end, they kind of have to follow... more and more chefs are starting to talk about this and then the consumer, the normal person that is cooking for themselves... they are also demanding and asking for more sustainable products now.

#### 5.1.4 Unclear criteria

Some chefs stated that the Michelin guide should be clearer about the criteria, in order to help other restaurants to take more sustainable pathways: "they never give their criteria (the MG), but for the Green Star they should say something, so they can help the restaurant industry to go in the right direction" says the head chef and restaurant manager, informant 25. Similarly, informant 19, the owner of a green-starred restaurant in the Netherlands, argued that "Michelin should be clearer about what is the criteria for judging".

Critiques about the way some restaurants got the green star are contentious. When I asked informant 29, the creative leader and owner of a Michelin-starred restaurant in Oslo, about the process of getting the GS, he told me it was "like an interview". This interview for many informants is not thoroughly made, however. Informant 24, owner and head chef of a Michelin-starred restaurant in Oslo, sympathized with the Michelin judges, saying that is not always easy to judge sustainability:

It is difficult to assess how sustainable it is a restaurant just with tasting the food and living the fine dining experience as it is with the regular stars... it's hard to taste that it's organic beef as a guest.

Moreover, the head chef at a restaurant in Oslo, informant 21, said that:



The Michelin Guide should be very careful on how they select or what grounds has the selection process, which I know that they didn't do so well on the start (talking about the GS) ... it was basically just a call asking like “-are you sustainable? -Yes. -Okay” ... I think it's a good thing but needs to be done in the proper way.

Several informants criticized the robustness of the Michelin star system to award the GS, such as the sommelier and restaurant manager from UK based in Oslo (informant 3), who stated the following: “speaking on a personal level, I am not necessarily agreeing with how they (the MG) find out who should have the green star” He pointed out that the questions that the MG asked his previous restaurant were quite vague:

...when they first brought it in (the GS), it was just a phone call asking questions like: how do you source your ingredients? Do you think about sustainability in the operation of your restaurant? then it was one about how you treat the staff... and at the end they mentioned if is there anything that you think is relevant to this discussion...

For the sommelier and co-owner of a wine bar, informant 5, the GS can “highlight which restaurant does the real work”. On the other hand, he questioned:

But what is the criteria for getting the GS? That is the most important question... well I guess it can provide a framework for restaurants to work on, because it is a very famous thing to have, and it can draw a lot of traffic to your restaurant.

There are other guides and prizes awarding sustainability in the restaurant industry at the moment. Informant 24 says that “the green star is one of them”, and stated that:

If the guides and awards, all of them want to have more credibility, they have to do some more investigations... I think it's a good initiative, but I think they should do more follow up and actually double check and not just trust what people tell them.

Despite scepticism and/or ambivalence to the award, the Michelin guide has weight. It is stated by informants 1 and 19 (green-starred head chefs and restaurant owners from the Netherlands) that more customers visit after a restaurant gets this award, especially young customers, as informant 19 added. This award also inspires staff and attracts people to work at an establishment with a green star, since many people that work in the restaurant industry are inspired by Michelin stars. The restaurant owner based in Barcelona (informant 14) stated that:

Michelin star has something that in which you can trust is that they have money enough for paying like real judges or critics going restaurant. Michelin is based on an elite and that elite is important to communicate with people and people hear them.

### 5.1.5 Certifications and awards in restaurants as part of food systems' transformations

I noticed a certain tension around the word 'certification'. Take, for instance, when I mentioned this word to informant 17, he argued about biodynamics in Spain. However, he had very positive experiences regarding organic certifications. Despite "internal conflicts", he still said that "I think both organic and biodynamic certifications are important", "as long as we know the policy behind it". The head chef and owner of a Michelin-starred restaurant in Oslo (informant 24) says that he prefers to go to the farm and see how they work:

This is how we look into it: how the animals are treated, not just like if it is 'organic certified'.

Transparency, as several informants stated, is needed.

- Transparency:

The need for transparency and clear rules regarding certifications and awards was mentioned several times by the informants in order to avoid green washing, which was also mentioned as part of these schemes. Further, restaurateur and chef based in Barcelona (informant 14) argued that there should be "more real sustainability and less marketing behind it, there is a lot of brainwashing restaurants". For him in order to make certifications work, they must have a trustable criterion... "helping rather than competing; it should always have a consultant network in order to follow the process up".

Manager at plant-based restaurant in Stavanger (informant 32) stated that:

In the case of the GS, they need to see what the restaurants are doing... revisions are needed... Sustainability needs to be visible in everything you do, have a clear concept that engages the guests to take responsibility.

Certifications also cost money, for informant 9 (Norwegian farmer) is not fair that the ones doing the right things are paying: "instead of the good guys having to pay for certifying their product, the bad guys should pay for these certifications saying how much pesticides they use". Following up on this idea, informant 13 (chef and restaurateur from the Netherlands), came up with a situation that he lived, saying that the changes have to come from the government. He was asked to talk in a Congress/Summit in Italy last November about sustainability and he went by train, which is more expensive than flying and he says that:

It is the same thing with food; living sustainable is the expensive choice... governments should push restaurants to work sustainable. Raise the taxes of the non-sustainable products and lower taxes for sustainable ones...

For informant 8, awards and certifications help to transform mindsets, but he says that “it helps if you see it again and again... I think they do something with you, but if you see certifications and awards occasionally, it does not change anything”. Moreover, farmer and vigneron from Spain (informant 17) says that:

It should be like a way to promote a level of consciousness and must be linked with training, as well as honest philosophy (talking about certifications and awards) in the restaurant industry, because if it is too marketing orientated and short-term consumption driven, they can mislead taking away a lot the fun and consciousness...

For owner and creative leader of three Michelin starred restaurant in Oslo, certifications and awards in the restaurant industry can help to transform the food system, he said the following:

I think it's good for motivating (awards and certifications, more specifically the GS), mostly to younger professionals, and it's good for recruitment, so you get more awareness from people.

**Table 7** The GS According to the stories narrated by relevant informants in the discussion.

In this table is shown that in order to transform the food system, the GS should be making more efforts, according to the stories narrated by relevant informants in the discussion. The niche is still weak to transform, however, is a new award and it has potential, but there is room for further improvement.

The GS According to the stories narrated by relevant informants in the discussion			
Pros	Cons	Statement explained further	A niche that can transform (?)
	Too late	Too late for the ones that have been working sustainably for long time	✗ not innovative enough
	Just a trend, not serious enough	Linked to green washing and just a marketing tool	✗ Skepticism around the dept of this award
	Misleading	The MG does not go to every restaurant and might others that are very sustainable without having to have the GS	✗ should be giving the criteria so more places join the sustainability pathway
	What about the red stars? Are they going to include sustainability or the old idea of luxury	Is it right to award sustainability on one side and on the other support restaurants that has threatened species on the menu?	✗ Not enough effort from the MG, they should re-assess the awardees of the regular stars. So sustainability seems to not be a priority yet for them
Rewarding		For chefs, consumers, staff and farmers	✔ inspiration for the ones that have the MG and for the ones that are seeking it
Awareness		Awareness that some things have to change	✔ restaurants are forced to change
Efforts towards keeping the staff happy		All the Michelin starred chefs stated that they are working on it	✔ They did not talk about these issues in fine dining ten years ago, but now they do.

	Just a few have access to it	Generally speaking, fine dining is not affordable	<p>✗ Just a few have access to it</p> <p>✔ Michelin is based on an elite and that elite is important to communicate with people, people hear them.</p>
	Unknown criteria		✗ if the award is something subjective that just some get, the niche will not evolve
	Lack of thoroughness in the criteria	Nobody knows the criterion and the people that was asked the questions says that were vague	✗ The GS needs to be more robustness
	Transparency	The MG never reveal the criterion, informants argued about the GS and its lack of transparency	✗ necessary for getting the trust of the actors

## 5.2 Sustainability

When I used the word sustainability, I notice that some informants react quite strongly to the concept, as informant 3 stated, it is “quickly becoming a buzzword...”. Some informants tried to avoid the word sustainability in their explanations, relating the concept with greenwashing. Bar owner and vegan pop-up performer in Oslo (informant 22) stated that:

Sadly, the term sustainability has been overused, over exploited by everybody. So, I think a lot of people have a lot of negative connotations, especially when a big company uses the word sustainability in the logo or in the new ad campaign. It’s like a greenwashing start...

In Spain informant 20 says that restaurants are still not eager or willing to push enough “because the consumer is not conscious enough about sustainability”, he says that when he goes to sell organic wines from small producers, there are so many restaurants that are afraid to add organic wines on the menu “they say no, and they ask me: is it too natural?”. So, for him “restaurants are still not pushing hard enough; they don’t dare to prepare a different meal or serve a different wine” and restaurants are not conscious about the repercussions and differences between an organic wine to a conventional one he says: “I don’t want to say that one is better than the other, but each wine is different and at the end of the day it’s much better for the body (the organic ones)”.

In contrast, for the Nordics, the situation is a bit different; according to informant 15 “it’s very interesting to see that Noma in Denmark has just got three stars this year and it’s like really

pushing the idea of natural wine as part of the menu, like opening a whole new philosophy”. This restaurant has been pushing extremely to Nordic countries (and beyond) to work more sustainably. Noma is an abbreviation from Nordisk Mad, which means Nordic food in Danish (Byrkjeflot et al., 2013) and the opening of this restaurant has been a critical event in the creation of New Nordic cuisine (Byrkjeflot et al., 2013).

### 5.2.1 The social pillar of sustainability

The topic “staff” was brought up by chefs themselves. Take, for instance, assistant head chef from Michelin starred restaurant in Trondheim (informant 27), when I asked him about what sustainability is, he intertwined the concept of sustainability with staff well-being which is very interesting, and he thinks that the focus when we talk about sustainability in the restaurant industry should be put there, he says that:

Everybody thinks about using local and organic produce...but another thing that’s very important regarding sustainability is the staff... making sure that everyone is happy, not exploiting people and that’s maybe where the restaurant industry, especially Michelin restaurants, are not the best.

After hearing the topic of the staff, mainly in Norway, I started to ask a bit more about why this topic was brought up by the chefs so often. The head chef from Michelin starred in Trondheim (informant 27) noticed a general shift regarding staff well-being since the day that he stated to work: “it wasn’t a lot of focus on it back then (in the last ten years)”; and he states that: “social media help a lot, there’s been quite a few articles regarding restaurants that hasn’t been treating their staff nicely”.

Moreover, green starred chef from the Netherlands, informant 19, says that sustainability is about “how you treat your workers, your coworkers”

So we always give attention to the team and what is needed for them to fulfill their professional ambition... there's always a fair deal, we try to maintain a good relationship... and that’s not common in top gastronomy.

Following up on this point, Michelin starred chef based in Oslo (informant 24), says that for him sustainability is “having a sustainable workplace for the people who work there”, although he says that “we all know that the restaurant industry has been about very long days and very bad terms”.

Staff training was also a topic brought up by informants and working less days a week in order to promote social sustainability, such as informants 21 and 28, who decided to close one more

day their restaurants (three days closed per week) in order to contribute to social sustainability and the well-being of their staff as they stated, informant 28 stated that sustainability is:

... creating systems and hiring more staff to be able to help people and to be able to still deliver the product that we want to deliver. And then also we decided to close one day a week, not focusing on money...

### 5.2.2 The fourth pillar of sustainability: traditions as part of the cultural aspect of sustainability

Tradition can be considered as the fourth pillar of sustainability: the cultural aspect. Mrusek et al. (2021) study, revealed that the primary focus of Michelin-starred chefs is on the environmental pillar of sustainability. In this thesis chefs also agreed that the cultural aspect has relevance in haute cuisine, stating that bringing back old traditions is an important part of sustainability. Chef and owner from a green starred restaurant in Trondheim works in partnership with a farm, who make linen from scratch, an old tradition that Norway used to have in small scale:

We did linen (in Norway) ... we have the tradition... we have collaboration with two farms... making our own linen I think is unique, so that's been a four-year project.

### 5.2.3 Sustainability in the restaurant industry?

Informants see the restaurant industry as being much more conscious than before and moving in the sustainability direction. According to informant 29, creative leader and owner of three Michelin starred restaurant in Oslo “from twelve years ago to where we are now, it's a whole different program”, however, it might not be as radical as some might expect (informant 21) and it might be some greenwashing around it (informant 24).

Head chef and owner from green starred restaurant from the Netherlands (informant 19) sees the restaurant industry as more sustainable and conscious, bringing the example of vegan restaurants awarded with Michelin stars, he said that you could not imagine that in the past, and now: “there is a three-star Michelin restaurant, fully vegan”. However, he states that the restaurant industry, as chef and food designer from the Netherlands (informant 13) “still not sustainable at all”, especially when he looks “at fine dining top gastronomy”; regarding that, informant 19 claims that “threatened species are still used on the menu of the luxury restaurants”.

The restaurant industry seems to be much better than before, and in continuous improvement, although there is greenwashing around it. Owner and head chef from Michelin starred restaurant at Oslo (informant 24), stated that the restaurant industry “is not very sustainable” and waste is not taken seriously, it has to be “beyond recycling” he says:

...a lot of people is green washing their names, but it's a lot better than when I started... There's still a lot of potential to improve regarding the ingredients used and what do you do with them, a restaurant produce a lot of waste, but it's not so common to talk about it. Everybody's talking about that they're using organic produce but if they throw away half of it, it's still not very sustainable....

The restaurant industry seems better than before, however, the experienced actors of this thesis argue that these efforts are still not enough.

Chef and restaurateur from Barcelona (informant 14) says that we should not forget the people and the community when we talk about sustainability, he says that “opportunities and equity are an important part of sustainability”; he tries to create a community around his bar in Barcelona: “we tried to show that our bar is a place that belongs to the neighborhood, that we want to be close to the community...we also want to be in contact with ingredients, with producers, and with the resources that we have around”. For him, every bar or restaurant has a strong responsibility, “opening daily has an impact and sustainability is the way that you make a balance between the activity that you develop and the impact that you create” he states.

From a Norwegian farmer (informant 9) and restaurateur (informant 12) from the Netherlands’ point of view, restaurants in general (not only fine dining) should be more loyal to the farmer and work together “restaurants should be aware and be willing to change the menu if the farmer doesn’t have the requested products” (informant 9) and the restaurant industry should help the farmer (informant 12).

#### 5.2.4 Moneywise challenges to reach sustainability in the restaurant industry

When we talk about sustainability in the restaurant industry, there are many aspects that are necessary to draw attention to: “there are two kinds of restaurants”, owner of three-Michelin starred restaurant in Oslo (informant 29) states, one is restaurants that are just about serving cheap food, because “not all the people is willing to pay that extra for good produce” as chef and owner from Michelin starred restaurant in Oslo (informant 24) states. Informant 29 also adds that the “large food production chains are, of course, not sustainable... what people eat at

home and also larger chain restaurants for instance”. The other kind of restaurant, informant 29 states that “they are working on sustainability because they are on the loop, regarding staff and waste for instance”. However, informant 29 argues that “right now, the restaurant industry in terms of staff is not sustainable, that’s the biggest challenge”.

However, it was stated by farmer (informant 9) who used to work in the restaurant industry says that “the restaurant industry does not pay well enough” this might be one of the reasons why there is so much turnover of staff and workers are always chasing better pay and better conditions, this might be one of the challenges in the restaurant industry to work on sustainability goal.

Some informants stated that it takes more effort to be sustainable moneywise such as owner and head chef from Michelin starred restaurant in Oslo (informant 24):

It is tough economy wise to be very sustainable. Especially in Norway, salary takes up a lot of the cost, both for the farmers, and for the restaurant. Using organic produce means that you’re paying more for the same ingredient and then you have to get the guests to pay for that difference as well.

In contrast, head chef from restaurant in Oslo (informant 21), said that it is expensive to eat sustainable as a consumer, but it is cheaper to be sustainable as a chef:

We source the produce... we care a huge amount about animal welfare, so we only buy from farmers that we know, and we have been to the farm. We only buy whole animals, and we do the whole process here. Right now, I think we have some sausages hanging downstairs, some salami. It’s very nice because the highlight of everything is that being sustainable is also very economical.

In addition, the high rate of staff turnover, it might create other problems such as difficulties to creating a farmer-chef long term relationships, where both can help each other. For instance, the farmer from Norway (informant 10) said that he had some requests from chefs to plant certain crops (he mentioned an example with rhubarb) but then the chef does not work there anymore, and that is a problem, he says.

#### 5.2.4.1 Future restaurant industry

In general terms, the future of the restaurant industry is that is getting better but maybe not quick enough, chef and owner from Michelin starred restaurant in Oslo (informant 24) claims:

The world is not changing enough, so I don’t think the restaurant industry is changing enough... We should all do better, but it’s hard and it’s not enough. My restaurant is small, so it’s easier to work with a small farm and do like “farm-to-table”, manage



waste and so on, but if you're a big restaurant, that's not enough good organic produce to fill your menu.

Moreover, sustainability is still not a pillar of the curriculum in chefs' education. For instance, informant 13 ("food designer" from Ede- Wageningen), talking about his experience, stated that:

I had a meeting yesterday with a cooking school for chefs, and sustainability is not a part of the four years schooling for chefs... it's a problem.

With this said, I argue that systems have to be in place and sustainability should be a priority as these two informants argue: "Restaurants should have a big compromise with the environment" (informant 3, sommelier and restaurant manager based in Oslo), "the whole industry needs to have sustainability in the front" (informant 32, manager at vegan restaurant in Stavanger).

#### 5.2.5 Nordics

A significant number of informants mentioned a shift towards more sustainable restaurants using the example of Restaurant Rest, I was not able to interview this restaurant since they did not have time, as they replied to my emails. However, I went to the restaurant for dinner since they answered in the email that they provide a lot of information during the whole experience.

Examples of this experience are a petit four made of brown banana that could be part of the bananas thrown away in Norway for being too brown, they made a chocolate from it. They contact stores and ask them if they have something that they can sell cheaper and might expire soon; as a result they told that they got 20 kilos of almond flour... or anchovies that were expired already but the chefs explain on the tables that due to the amount of oil that the anchovies in the can has to preserve them, it is not likely to be off, giving information to the consumer about this issues and making you think, that not all expired food should be thrown away, and it is necessary as a consumers to think about that too.

Another example was using different parts of the animal such as the comb of the chicken or using instead of egg for a pasta dish the bones of the fish and using lot of bycatches, when people fish with the nets the get fishes that are not wanted, this restaurant gets lot of these

fishes. Another dish was based with the “unwanted beetroot”, the chefs explained that in certain months there is too much beetroot and if you do not use it that will be thrown away so they do something with that before.

According to informant 30, Spanish sommelier who worked for 8 years in restaurants in Oslo, “the Nordics” or Nordic restaurants are more sustainable than other southern European countries: “most of the North European restaurant fine dining that I had been has been more sustainable than in the south or in France”. This vision about the Nordics is shared by various informants, such as informant 31, project manager of sustainable guide for restaurants based in Sweden. She says that the Nordic countries “were forced to work more sustainably to take care of everything that we have because it’s such a short amount of time that we have vegetables...”. Following this up, the consumer of fine dining restaurants based in Oslo (informant 7) says that “the restaurants in Norway that are of the Michelin guide are always focusing on, like, short-travelled food”. Moreover, consumer of fine dining (informant 6) says that:

In Norway, for instance, usually we do use local products in fine dining, Nordic style... so, I don’t think there is a lot of imported meats, vegetables, and seafood. I think they (chefs and restaurants) try to do local.

Following this point up, wine maker, sommelier and co-owner of restaurant bar in Oslo (informant 5) stated that:

The most luxurious meals in new Nordic cuisine are prepared with fresh vegetables from the local environment, so if more people do it, then prices will go down, and suddenly it is not so luxurious anymore and a consciousness about seasonality and local produce is established.

**Table 8** *The different dimensions that were recognized about sustainability according to actors’ perceptions of it, and the entangle with their jobs and roles.*

In this table is shown the different actors’ perceptions about sustainability, and how this is intertwined with their roles and jobs. Moreover, the different dimensions that the actors consider when they talk about sustainability. Although, it was not always possible to extract clearly from the interviews these themes.

Informants	Sustainability meaning	Sustainability applied	Sustainability dimension
1	Is to make the right choices... everyone knows that we’re using the Earth quite harsh and wrong... sustainability is back to balance regarding your footprint	Use more vegetables, plants, herbs and fruits and go with the season and go local	Environmental and economical
2			Environmental

	To give a good example, since we are a restaurant. ... We have some sort of name, we built it through the years. So, I feel we should set the example		
3	Quickly becoming a buzzword... In the confines of having a restaurant, sustainability is having less negative impacts		Economical
4	Thoughtful consumption and production		Economical
5	Efficient and thoughtful use of resources		Environmental
6	Reusage of materials		Environmental and Economical
7	Long lasting, fix instead of buying new items		Environmental
8			Environmental and economical
9	Everything should be done in the best way for the humans and for the nature, also you must earn money	As a farmer I try to give to nature instead of just take	Environmental , social, and economical
10			Environmental and economical
11	To make sure that your actions don't have a negative impact on the future generations	I try to show people the beauty of vegetables and how they grow. That's the most important thing for me	Environmental
12	To be able sustain what you are doing		Environmental
13	Living with nature: using seasonal products from your own region		Environmental
14	It's about the Earth and the environment but also communities, people... opportunities, equity for me are like important parts of sustainability		Environmental and social

15		Trying to do Kilometro zero and working with local providers	Environmental and social
16	Recycling to make the world a better place	Having more staff to work in a sustainable way	Economical
17	Respect	Recuperate and regenerate the land, making wines that are honest to the place	Environmental and economical
18	Makes me think about the future, to give something to our sons, better than what we have	Our farming philosophy is ecological and biodynamic...really respecting the living soil, living Earth and looking for the best quality... not taking more that we give	Environmental
19	Sustainability in a restaurant should be about making choices that work a bit better than the ones that we are used to.	The creative challenge is finding a way to make a menu based on plants rather than it's based on animals.	Environmental and social
20			Environmental and health
21	Trends I would say... I think the main thing that comes in is probably organic and local sourced food or produce.	Sustainability for us is to be economically stable... Second... keep the staff interested in what we're doing... in why we're doing things in a different way: working sustainable, with local and small producers requires more effort	Environmental , economical and social
22	Greenwashing... Sadly, the term sustainability has been overused, over exploited by everybody		Environmental
23	Local organic food production... taking care of the ecosystem and be as self-sufficient as possible	To treat your garden, your balcony, your farm as an ecosystem, and having a small footprint	Environmental and economical
24			Environmental , economical and social
25	Beginning to become overused... it's like losing it meaning I think, but I'm		Environmental and cultural

	using it myself, since there is nothing better yet		
26	Sustainability is something everyone likes to say these days... but for me it's the only way to run a restaurant... and we talk, we prepare food... the whole circle is important to me	I like to use the food as a tool to communicate something else... My philosophy is to try to highlight all the producers in our area... Always have a story about who is behind the food to get our guests curious and to inspire them to make and buy better food I like to use my restaurant as a place to show that it's possible to run a sustainable restaurant	Environmental , social, and cultural
27	Not only using local produce but also have sustainability for your staff, make sure that everybody is happy		Social
28			Social
29			Social
30	Minimizing the impact of what you're doing regarding the environment		Environmental
31	Taking care of the Earth for a long time		Environmental and social
32	It is not about the costumer trying to change their mindsets... it's the food system, old school service, wine and food that needs to change and change mindsets	We serve plant-based food through quality service and quality produce with the intention of the “food hitting the belly”, giving the costumer flavour and experiences that slowly makes you have a more sustainable, empathic and animal friendly mindset	Environmental

**Table 9** Networks and debates around sustainability and food (this was brought by the informants).

<b>Different approaches mentioned by the informants that might contribute to sustainability and food system transformations</b>
<p><u>The expression “Km0” and the Slow Food movement</u></p> <p>The Slow Food movement was created by Carlo Petrini in Italy in 1986 as a response to fast food but also in order to create opportunities to eat a healthy and balanced diet and to protect the nature and the local cuisine (Aşkin Uzel, 2020). In the last decades the ‘Slow Food Movement’ has become an inspiring and important actor. Moreover, in southern Europe the slow food community is awarding restaurants with different “snails” with different colors. The snails show an extra commitment in terms of sustainability (+ NET, green snail), food (+ BO, red snail) and with society and people (+ JUST, violet snail).</p> <p>In 2002, the owner and chef of Chez Panisse, the restaurant based in California which inspired many chefs, farmers and people to eat local (among others) became the vice president of Slow Food International (Pesci &amp; Brinkley, 2021). Pesci and Brinkley (2021) state that this organization works to “preserve local food traditions and counteract the rise of fast food”. The Slow Food movement is an example of a food trend that “stand the test of time” involving “chefs, youth, activists, farmers, fishers, experts, and academics” (Moreau &amp; Speight, 2019). It was born “after a demonstration at the intended site of a McDonalds at the Spanish Steps” (Slow Food, 2019 cited in Moreau &amp; Speight, 2019) and it promotes three principles (Moreau &amp; Speight, 2019):</p> <ol style="list-style-type: none"> <li>1) quality, flavour, and healthy food</li> <li>2) food production cannot harm the environment</li> <li>3) the practices around food production has to be fair, such as affordability for consumers and fair pay and conditions for producers (Moreau &amp; Speight, 2019).</li> </ol> <p><u>The “local debate” and contradictions in the haute cuisine</u></p> <p>The word <i>local</i> is under debate according to Leer (2016), he refers to this debate as “Locavorism and seasonal eating”. Moreover, green starred-restaurant owner and chef from the Netherlands (informant 1) says that when he has to get products for his restaurant local is not always the answer, nutrition is priority for him. For instance, when he try to get poultry or chickens from the Netherlands or nearby he says that:</p> <p style="padding-left: 40px;">We go and look, and we see how it is produced, and then if we do not think that is the right thing to use, we are willing to take it from France, that some of the farmers are excellent...</p>

### 5.2.6 Differences between the countries according to the informants

There is no common definition in the culinary industry of sustainability as Purvis et al. (2019) states, the following are the main differences in this thesis according to the different countries:

#### Spain

The term sustainability was related to eating fresh, seasonal, and local. Concepts such as *Km0* were brought up and movements such as the slow food movement were mentioned.

#### Norway

Informants based in Norway were mainly chefs from fine dining and Michelin starred restaurants. The concepts and topics that informants brought up were related to using the whole

animal and avoiding waste. This might be because as informant 31 stated, there are less resources in Nordic countries, so it is important to use them efficiently.

### The Netherlands

Waste was brought up and it was related with creativity as in Norway. But sustainability here was more related to being vegetarian and vegan or keeping the consumption of meat to a minimum, this was stated by all the informants from the Netherlands.

The ones that have “XX” it is because they mentioned the topic more in compared to the other chefs and restaurateurs from the other country/s.

**Table 10** Main differences in sustainability perceptions regarding chefs and restaurateurs in the different countries.

Country	Local, freshness	As much vegetables as possible	Whole animal	Waste, some ideas of what you do	Ideas about the staff
Spain	X	X		X	X
The Netherlands		X		XX	X
Norway			X	XX	XX

### 5.2.7 Luxury compatible with sustainability?

All the informants stated that luxury is compatible with sustainability, at least to the perception that we have about these concepts nowadays in Norway, the Netherlands and Spain according to the sample selected. Informants said that “it is easier for fine dining restaurants to be sustainable, high-quality produce is sustainable because you do it in smaller amounts focusing on quality and not in mass production” Norwegian consumer (informant 6).

Informants also link sustainability, luxury and food and flavour:

I think the nice thing about sustainable products is that most of the times are better. Sustainable meat is much better in terms of structure and flavour because it's an animal who's walking freely outside and as a happy life (informant 13)

The concept of luxury certainly is not the same as ten years ago, luxury is seen as something positive and compatible with sustainability. Some chefs were remembering when they or the fine dining restaurants where they used to work, were very unsustainable, not even trying to be conscious, such as the following case:

...the fancy restaurants back when I was young, it was like you took one vegetable and you peeled it down to one little disk, a perfectly round one, and the rest was going in the bin, but now you would never do that... the concept of luxury have already changed. (Informant 21, chef based in Oslo)

Following this point up, chef and restaurateur from Barcelona (informant 14) says that:

I remember ten years ago... luxury restaurants all over the world and Buenos Aires or in Bogota were just about French food... Italy... Japan” ... like making a collage of different luxury products from around the world and now it's like totally the opposite: now luxury restaurants are thinking in kilometers, what is around.

It has been mentioned by the informants the link between sustainability and luxury, not only regarding food but also related to the restaurant's physical space. Some examples of this are: building furniture from scratch and repurposing old furniture (informant 1, 22 and 31). As an example, Informant 31 uses the example of Geranium (Copenhagen), this restaurant recycles old furniture. Following up on this point, informant 32, mentioned that this practice is one of the three main sustainable practices of his restaurant (plant-based restaurant in Stavanger) “all our furniture is recycled or reused, we try to repair as much as possible” he says.

However, chef and owner from green starred restaurant in the Netherlands (informant 19) states that not always go hand in hand, and in top fine dining gastronomy, sustainability still not prioritised because they still “have species in extinction, such as the European eel, on the menu”. With these two concepts: luxury and sustainability, greenwashing is also possible, like bar owner based in Oslo who worked for fine dining restaurants (informant 22) states:

In the higher end of the restaurant spectrum, there is a lot more focus on apologizing why the prices is as high as they are, so they use “the best products”: from only like tiny producers, ecological or super exclusive... I don't think that means that it's sustainable... Sustainability is a big term, you must look at what their whole operation is doing, not just what they're showing on the menu to call it sustainable.

Following up the point about greenwashing mentioned above by informant 22, chef based in Oslo (informant 21) said that:

The way that things are priced, and the way things are in an exclusive way, such as “gold wrap for carrots to sell them” ... you can always rebrand things to be like, oh, ‘single farm’, there's a big market for it.

The experience of dining out, it can be very powerful, helping to change mindsets. Further, Informant 27 stated that:

If you're a good chef, you can always make everything luxurious, not necessarily just with the food you serve, but also with the whole experience for the consumer when they visit you... when you go out to a Michelin starred restaurant, you experience the whole evening, you know?



### 5.3 The roles

#### 5.3.1 The role of restaurants

Restaurants have a very important role and that was stated by all the informants. “Restaurants are playing a more important role every year in people's fun time. They could become critical message translator” (Spanish vigneron). “In a really good restaurant, you have a lot of work there and you also do lots for the producers, you actually highlight the whole community” as green star owner and chef from Trondheim stated, “one restaurant has so much impact”.

*Table 11 Main chefs' responsibilities and roles assigned by the different actors.*

Informant 11	-They can communicate a lot that they are doing sustainable practices -They're buying locally, that helps to make people see the importance of it -They can inspire
Informant 32	-Chefs and restaurants are able to talk directly to the whole body, not just the mind... to empower people to take responsibility -Restaurants are the ones that shows people how to make the right choices
Informant 2	-Restaurants have to give a good example of how to make food choices
Informant 3	- If the restaurant manages to become that thing that every restaurant starts to implement piece by piece by piece... there is a great chance of impacting people... - It's quite an interesting that it feels almost that, there's been a step back from the modernization in a way If restaurants in the confines of fine dining start to follow sustainability processes in a very visible way...
Informants 26	-Restaurants are “a really good spot for the producers to be seen, they get lifted -Restaurants have the opportunity to spread the good ideas
Informant 31	-Restaurants can educate the guests about sustainability and they should do that... and demand local vegetables and local meats and fish...
Informant 6	A restaurant is a place to learn: -about the different usages of different types of food and parts of animals -about wine... about producers, about where it's from and how the climate affects it (wine wise)

#### 5.3.2 The role of chefs as part of transformations

Expressions like: “Chefs are now more rock stars than ever” (informant 8) or “the magicians of the kitchen, the new rock stars in the world” (informant 22), show that chefs have a responsibility: “the whole responsibility is on the people working in the restaurant behind it, especially the chefs (informant 22). However, according to informant 12, chefs are not acknowledged as part of food systems transformations towards sustainability, and he says that “it's the most underestimated role that people talk about”.

For sommelier and restaurateur based in Oslo (informant 4) chefs are the ones “on top...they are the ones that really are setting the trends and are really pushing it”. In addition, informant 3 says that “the first push for sourcing and knowing where things are from, probably did come

from chefs, and now you start to see that in supermarkets". Informant 31, project manager for sustainable guide in Sweden says that some "fine dining chefs" are a big role model for the younger chefs:

Rasmus Kofoed food from Geranium (DK), it's like a big role model for a lot of young chefs, and he is talking so much about sustainability and also Rene Ledzepi from Noma, I think they're really good role models for younger chefs that want to get into the industry, and they should really use that power.

For informant 5, chefs are, and they should be "professionals and pioneers, to make something taste delicious that is sourced freshly and locally", such as the case of Nordic cuisine, he says:

Chefs work with ingredients, and they work with flavours... It is a very short growing season, and you would rely a lot on preservation of vegetables... their role is to be top professionals in that sense, that you have a boring ingredient that everybody overlooks, and your job is to make it delicious to see it with other eyes.

Restaurateur based in Oslo, informant 22, says that chefs have "the biggest role to play", because there are two perspectives: "you could say that people go out to get what they want, or people go out to get what you (as a chef) want to give them" and he believes that the latter is the most common case.

#### 5.3.2.1 Change agents

For informant 12, chefs are agents of change: "I really think chefs are change agents in what needs to be done". Further, informant 25, head chef and manager of restaurant in Norway adds that:

Most important thing for us, of course is to be sustainable, but to teach or 'brainwash' our guests to take their experience with them home and to make good choices afterwards...

Informant 30, says that those that are change agents, naturally needs to spend more time, he uses the example of "Aponiente, its chef, Angel Leon is investing a lot of time, money and energy into exactly what we are talking about" he maintains. This restaurant is another example of pushing boundaries regarding less known food as it is stated by informant 30:

He feeds the guest coming to a three Michelin starred restaurant with less known fishes, and he's doing a genuine effort because it's basically almost his lifestyle... if the chef of a Michelin star restaurant puts it on the plate, then that creates confidence... We realize that we've been just lazy by eating the same thing.

### 5.3.2.2 Social media

There is no doubt that social media has changed the restaurant scene, now we see what chefs do behind the scenes. Assistant head chef from Michelin starred restaurant in Trondheim (informant 27) says that “nowadays, there is a lot of media focusing on how sustainable kitchens are. So, everyone in the industry follows that stuff”. Moreover, Informant 3 mentioned the movement of ‘no plastic’ pushed by Matthew Orlando - first former Noma Head Chef (Buhl-Madsen, 2017) – from restaurant Amass, in Copenhagen. This high-end restaurant was opened in 2013 and their focus is on serving simple dishes (Buhl-Madsen, 2017). Informant 3 illustrated his point about social media and the role of chefs by saying the following:

Matthew Orlando has a good sustainable program, and he did a big social media push with “say not to plastic” stating that “it will be the last film that ever comes into his kitchen” ...

### 5.3.3 How chefs see their roles

**Table 12** *A summary of how chefs see their roles.* This table shows how the majority of Michelin starred chefs from this thesis see their roles.

- I think we should play a major role, like setting an example for the industry and for setting an example for the rest of the consumers. “Chefs should be role models and should be the ones who stand on the front line saying this has to change” (head chef and owner from Michelin-starred restaurant in Oslo, informant 24).
- “Chefs have to be aware of the power and trend patterns, that's very important... to use it in the right way” (head chef and general manager of Norwegian restaurant, informant 25).
- “If you think how many restaurants are around the world... using, produce and thinking how you can get less waste... definitely chefs have a role” (Assistant head chef at Michelin starred restaurant in Trondheim, informant 27).
- “We meet so many people and if we (chefs) have the right mindset, we can spread the good ideas and create an impact in the world...” (Chef and owner from green starred restaurant in Trondheim, informant 26)
- “I'm trying to change the industry, educate new chefs to do things in the right way. I think that's the most important thing we do in top restaurants” (informant 25).
- “What chefs do have an impact on everyday life; you see all the cooking shows on TV, and you see people who do their recipes of famous chefs or buying cookbooks. So of course, chefs have a role to play” (informant 24).

Chefs also can work in partnership with farmers and make them feel proud of their own produce. According to informant 28 (Michelin starred chef), “chefs have a big role...”

When we request farmers to grow more sustainably, then the farmers will see that there is a demand for it... if chefs pay that extra money for good products because it is done sustainably or in a good way, then, I think many farmers would be aware that there are other options.

Mindsets have been changing within chefs, due to pressure from outside (or the landscape as the Multi-Level Perspective framework conceptualises it), “people are more and more aware, more conscious about what they're eating or what they should be eating...” (informant 22)

“People, customers, they demand that kind of food; they are all educated, and they know what is happening in the world. So, you must fit in” (Dutch chef from green starred restaurant, informant 1).

#### 5.3.4 Role of consumers

According to the informants, the role of consumers is debatable, they are not always the responsible ones, mainly in the confines of a restaurant. Consumers eat what the chef serves them as informant 22 stated above, they follow the food trends that are established in the restaurant scene “like the boom of tuna and sushi” and it is a problem if the food trend is not sustainable because “people want to eat it every week” (informant 14). The restaurant industry are the ones that supposed to teach what to eat as informant 32 stated.

According to the informants, consumers should keep educating themselves, but it is not easy due to the amount of different information that is around, as Norwegian farmer (informant 10) and chef (informant 21) stated. However, according to the informant consumers still have to “educate themselves in order to start making demands” (informant 25) and support the small businesses by “appreciating restaurants that make the right choices, by eating local and avoiding the big global machines” (informant 32)

For fine dining consumers (informant 6 and 7) one of the reasons why they enjoy eating out, is that they get knowledge apart from leisure and enjoyment, informant 7 says:

... I think that's another good thing about going to fine dining, because you get a good explanation about what you're eating, where it's from... and you get more knowledge in fine dining than other places, I would say...

**Table 13** Debates and perceptions about the role that consumers have (or should have) according to the experienced informants. This table briefly summarizes debates and perceptions about consumers' roles.

From farmers' point of view (informants 9 and 10)	From chefs' point of view
-They should be aware of where the food comes from. -Everything shows that people want to eat sustainably, but they go to the store... and they still buy the cheapest	-Consumers should be moving away from industrial mass-products -Have a vegetarian meal once a week -Follow the seasons a bit more (Informant 24)
	-They (consumers) should be more conscious about trendy food -They need to know the seasons, people want to eat the same things the whole year... (Informant 14)
	-Consumers must be critical and ask questions, in order to push chefs to be even better (Informant 25)
	-It's not the responsibility of the consumer. If you dine out, especially in the confines of a Michelin restaurant, you cannot choose what you want to eat (Informant 27)

#### 5.3.4.1 A fine dining consumer creating a guide that awards sustainability in the hospitality industry and beyond

Informants 3, 21 and 28, compared the GS with 360°Eat Guide, which is another award for sustainable restaurants. The 360° Eat Guide was launched in 2019, the project manager of this guide (informant 31) mentioned that the guide started in order to “have a guide where you can go and eat, where the restaurants are thinking about all these issues”. The main goal of this guide according to the project manager (informant 31) is that:

Guests choose restaurants from our guide, so other restaurants want to be in the guide and then we can start changing the industry...

Moreover, this guide was launched just before the Michelin guide launched its GS, regarding that, informant 31 says:

...we were happy that we launched before them (the MG), our guide is so different from theirs, but of course we use their restaurants or how do you say it?...  
 To taste the restaurants we use different names, but we're not that like the Michelin Guide, we're not that hardcore (laughs).

Sommelier who worked previously as general manager in a fine dining restaurant in Oslo (informant 3) mentioned that the 360°Eat Guide “are a little bit ahead of Michelin because they ask a lot more questions”. Head chef from Michelin starred restaurant in Stavanger, informant 28, says that

Of course, the Green Star is a big thing in the world, but there's also others, there is a Scandinavian new guide, for instance, which's working in more in depth with sustainability and I think it's important to focus on it...

This guide focuses on sustainability in the restaurant industry in the Nordics, but it will be expanding to other countries. Moreover, they are also expanding to other food service establishments such as grocery stores, cafes, wine bars, hotels, among others. Although, it will be under another category.

### 5.3.5 Farmers delivering their produce to restaurants

I noticed that farmers were feeling a sense of pride about selling their produce to restaurants that are part of the Michelin starred system or are named by the newspaper as best restaurant as informant 10:

It's funny because now often Aftenposten (Norwegian newspaper) have this list, they have these people going and tasting the restaurants, and then once a year they have the ten highlights, the ten best ones, and last year we were serving five of them.

(Norwegian farmer commented while smiling)

#### *Table 14 A Norwegian farmer's story.*

This story was narrated by informant 23, and it is about matching her philosophy with chefs' mindsets, and what meant for her to be a provider for fine dining restaurants.

We started farming in 2007, we were city people back then... and we started to use old breeds such as carrots that are not hybrids... we had a totally different philosophy... and when we started to work with Michelin and other chefs, it was so nice to have the same interests and have these conversations about the different vegetables... and suddenly in 2011 the names of the farmers were everywhere... We collaborated with the press because farmers became stars, we were like chefs in a way, which was fun. And thanks to these chefs, seasonal food, organic food, small scale farming food, became suddenly something really precious... and inspired a lot of other people to think in the same way... and the first Michelin starred restaurant that we delivered our produce was Bagatelle in 2008... which was the first gourmet Fine dining in Norway....

According to Byrkjeflot et al. (2013), the period of 2007–2010 corresponds to *the contested expansion* of the New Nordic Cuisine.

#### 5.3.5.1 Chef-farmer relationships

There are some interactions but there are also stronger relationships which are based on generosity and the need to help each other. Informant 10, Norwegian farmer expressed the need that they have for creating finished products and the knowledge that they get from chefs to achieve this. They can see how to ferment, cook, and preserve their own produce. Finished products can be also byproducts as informant 12 (gastronomic inspirer) stated and creative leader and owner from three-Michelin starred restaurant (informant 29) states when he claims

that “the hierarchy of food, doesn’t make sense” to him, referring to the staple crops that we all eat are not static and there are other things that we can if consumer would get more knowledge about it.

Moreover, informant 10 and head chef from a Restaurant in Oslo, informant 21 have a close relationship where they help each other, “a very nice narrative” as the latter states. Take, for instance, the restaurant collaborating with creating compost for the former. Informant 21 just got a compost machine so he can create less waste and at the same time informant 10 can use it on his farm, since informant 21 works mainly with this farm, which is biodynamic and organic. Head chef and farmer, informant 21 and 10 respectively, talked about each other without me asking about it. They have a good communication and instead of the chef requesting for certain vegetables, the farmer says what he has, and what is available now and the chef takes it and cooks it, ferments it or preserves it in different ways, using his creativity to play with the ingredients. Informant 21 says:

I think we (chefs) must have a personal connection with farmers. I love when I can speak to them and communicate openly; we talk about what's growing, what's coming, how we're going to do things... Do you have something that you need, something that's coming now, or do you need help, so we can match each other in that direction?

**Table 15** *The parallelism between the garment and the food industry; and the latter and the wine industry*

The food, the wine, and the garment industry
<p><u>The food and the garment industry</u>            Surlemont and Johnson (2005) stated that haute couture operates as in the fashion industry as a model, setting the trends of what is the clothes that people should wear.            Haute cuisine plays similar role, as “trend setting, image building and in setting quality standards for the industry as a whole”.</p> <p>According to Klosse (2012), the food that is made by “the best chefs in luxury restaurants” is like art and he compares it with haute couture and clothing.</p> <p>Informant 23            -These two big industries (food and garment) are very hard on the environment they need to change, such as the cotton industry and its overuse of chemicals            -We throw so much food away, but we produce enough of it            -it's the whole way of consuming that is a problem, the overconsumption            -we need less quantity and better quality: producing clothes that last            -But we need to keep the creativity and hope: we need art, we need beautiful flavours, and we need creativity.</p>
<p><u>Wine and food production.</u>            I decided to interview wine growers since I agree with informant 12, who says that:            Grape growing and wine making is the only sector in agriculture where regionality and the combination between fruit and soil is still respected. I don't know of any other area within agriculture where it's so strong as in wine. So wine is indeed a very nice example of how it could be.</p> <p>Restaurateur from Barcelona (informant 15) stated that, its restaurant philosophy is about being honest and fun. In order to achieve that they work with natural wines and honest food:            The natural wine world is about going back to the roots of winemaking, not only working on respecting the soil, but also there is all sorts of practices that are aligned with a more sustainable idea of a planet, and food is the same...</p>

### 5.3.6 Restaurants and chefs handling waste

In the confines of fine dining, usually customers cannot choose what they want; they get served a set menu, which might lead to different approaches and different ways of cooking since something that usually would be thrown away is (or should be) rather used.

We're quite good at trying to use the whole produce in some cases. Right now, we're using the whole langoustine... we have three servings on the menu with same langoustine. Including the head and the tail. we always try to explain to the guests and convey how important for us is to use the whole product (Michelin starred chef)

Moreover, planning and trying to use everything to avoid as much waste as possible should be a priority for restaurants. According to restaurateur based in Barcelona, “the first thing that should be addressed by a restaurant before opening is food waste”. Some informants stated very strongly that it has been a change on mindset regarding waste, such as informant 16, who says that:

It has been a change on mindsets, for example, taking the leftovers home: the doggy bag. Before, that was seeing as something that you shouldn't do and now, examples such as ‘*Rest*’ (the restaurant) in Norway has been part of this change... or ‘*too good to go*’ (platform to avoid food waste in restaurants and stores).

The *Doggy bag* (Billore et al., 2021) is a concept that has been relaunched as “gourmet bags through persuasion and awareness” (Gourmetbag.fr, 2020 cited in Billore et al., 2021). The doggy bag was considered as “the main Food Loss and Waste (FLW) reduction methods” in Japan in October, 2009 (The Mainichi, 2019 cited in Billore et al., 2021).



*Table 16 Useful tools and sustainability approaches trending right now in the restaurant industry in Oslo.*

-A chef approach to avoid waste: B culture

B culture is a fermentation company that focuses on creating by-products mainly from restaurants. This approach started during Covid-19 and informant 3 said the following about this project:

In B Culture they do a lot of fermentation... this is all built around restaurant's waste or off cuts, they created the "bread vinegar" ... from the sourdough bread that they don't send out in the restaurant that day; during the first lockdown, when everyone had beer on the tap, they took it and made ingredients out of that.

One of the company creators, a head chef from a Michelin starred restaurant in Oslo, says that "we started B culture because we became in my restaurant to be very good at using our by-products, but we couldn't use on the menu. So instead of stop producing, we now sell our waste products to B culture, and we make vinegars and miso and..."

-REKO

Norwegian farmers mentioned REKO as a platform that "connect farmers with costumers... It has been a really good contribution" (informant 9).

-Dagens

This platform was created in 2017, to put in contact farmers with chefs, to give the former back their power as the website states (Dagens, 2022). In order to co-create a "transparent and resilient food system" (Dagens, 2022). Several informants in this thesis mentioned this tool, such as informant 3, who says that "it is quite a good implementation system of sourcing produce from Norway and single farms and growers... and you can also have that direct relationship with the farmer... I think that is a really nice tool to work on both sides"

### 5.3.7 Bringing flavour to the debate

Several informants brought up the topic of flavour, some of them associated flavour with human health (informant 12), soil health (informant 11) and animal well-being (informant 13 and 24). According to chefs it is possible to taste when an animal is treated nicely or when the animal had a "happy life" (informant 24). Informant 13 also stated that "sustainable meat is much better in terms of structure and flavour because it's an animal who's walking freely..." Following this point, a Michelin starred chef told me about an example of pigs that are petted daily as part of the farm's routine: "the pigs are very happy pigs, very good pigs and very tasty, and they have a great life".

In regard to Human health, it is possible to perceive that "there is an extreme link between bitterness in produce and human health" (informant 12). This and other aspects are transferable to taste, according to some informants. In addition, the health of the soil can be also reflected in the produce. Informant 11 says that "it is possible to taste vegetables that grow in healthy soil because they have so much flavour".

Informant 12 talks about *deliciousness* and suggest a stronger "partnership between farmers and chefs in order to create more delicious dishes that makes guests happy". He believes that

“tasty and deliciousness are the motor of food choices... and it should be taken seriously in food system transformation”

## 6 Discussion

This chapter attempts to answer each research question in the order they are posed. Then, it offers a framework for visualizing transformations in food systems. Finally, I summarize key points of the study in relation to the framework.

### 6.1 What is the role of chefs and fine dining restaurants in food systems transformations according to the different actors?

All the informants agree that in the last decades, chefs have become part of the everyday life of people; the food culture that we live in nowadays has given power and luxury to chefs, allowing them to innovate and influence (Barber, 2015). Chefs and fine dining restaurants can be a source of inspiration and they can influence consumption and production by creating sustainable food trends and food values (Richardson & Fernqvist, 2022). They can connect with consumers in unique ways by showing them new sustainable paths of consumption (Moreau & Speight, 2019).

Chefs and restaurants can be important allies in the transformation of the food system to a more sustainable one. They can teach consumers how to eat certain things and how to use the whole vegetable and/or the whole animal, “they are able to talk directly to the whole body... to empower people to take responsibility” (informant 32). Further, chefs and restaurants can make consumers more interested in certain food (Pesci & Brinkley, 2021), they can add certain products to the menu which are not so known to the public as Moreau and Speight (2019) maintain. Take, for instance, informant 19 who works in three different projects to grow alternative perennial crops and after harvesting, he serve it at his restaurant.

Moreover, chefs and restaurants can develop partnerships with farmers and encourage them to grow certain crops (Pesci & Brinkley, 2021), help with conservation of genetic diversity and be more involved in plant breeding (Moreau & Speight, 2019). Chefs connect consumers with production and are important allies in encouraging biodiversity in food systems to save plant species (Moreau & Speight, 2019) by using different kinds of seeds with local varieties of vegetables in order to preserve genetic diversity (Azurmendi, 2022). Take, for instance, informant 1, who has a seed bank in situ in his restaurant.

The restaurant industry can no longer be ignored in food systems transformations as stated by Namkung and Jang (2013) as they can engage the public in food and agriculture (Moreau & Speight, 2019). The influence that chefs and restaurants have on the rapprochement between producers and consumers and farming practices (Pesci & Brinkley, 2021) can no longer be unexplored.

In the face of achieving the SDGs by 2030, and to achieve food for all, education is extremely necessary, and chefs can be active players in food system transformation. A whole change in mindsets regarding what and how we consume is needed, as green starred chef from stated (informant 19). In order to assess the impacts of chefs, more research is needed to understand which initiatives and projects are the most effective and to assess how chefs and culinary programs directly and indirectly affect agriculture, health and diets, and plant diversity (Moreau & Speight, 2019). The restaurant industry can be extremely helpful in relation to transforming the food system, and acknowledging the power that chefs have in food systems transformation is a necessary step.

## 6.2 How can the food system be transformed with the help of the restaurant industry?

### From the restaurant industry to other areas of the food system:

- From restaurant to changes in agriculture

Michelin-starred restaurants can set an example of what is right to do, for chefs, restaurants, and farmers that can “trickle down to the entire culinary industry”, working as trendsetters (Mrusek et al., 2021). However, little research regarding haute cuisine and its sustainable practices has been done (Mrusek et al., 2021).

In the confines of fine dining, restaurants can showcase farmers’ produce and focus on farmers that are working with certain principles such as organics, biodynamics or regenerative agriculture. As informant 3 stated, fine dining “has a big chance to impact the food chain, by working with farmers on a smaller scale”. By working with a farm-to-table approach, it is possible to foster ties that are socially embedded and eventually change agriculture and the food system (Pesci & Brinkley, 2021).

Moreover, by working with high-quality produce, it is possible to inspire and motivate farmers to “experiment with specialty crops and/or sustainable growing practices” (Pesci & Brinkley,

2021). Farmers follow and look up other farmers that deliver their produce for fine dining restaurants. As informant 9, a Norwegian farmer stated by bringing the example up of a farmer that makes his own distillates and sell them to fine dining restaurants, “that’s kind of the dream”, she said.

According to Richardson and Fernqvist (2022), chef-farmer collaborations are part of the need and search to work towards sustainability; new markets are created due to this relationship where the chef cooks with what the farmer has available, creating a (non-existent) demand for sustainable products. Founding this kind of partnership is a good way of making restaurants more sustainable. Further research is needed in order to make this kind of partnership more common.

At some point, we lost the connection with who is behind the food in cities, so restaurants can be a useful resource that allow us to see who is behind the food and be more active actors rather than passive consumers. Themes such as seasons and waste, apart from telling the farmers’ stories at a restaurant, it can make consumers more aware of the farming situation and eventually change consumers’ mindsets; “fine dining can create impact on people, influencing how they run their daily lives” as informant 3 states. Not everybody can afford this kind of restaurant, however; some consumers that are “taste-and quality-orientated” (Schösler & de Boer, 2018) can promote certain values to other consumers through social media and so on.

By showcasing the farmers’ produce, fine dining restaurants can also empower farmers, as stated by farmers and chefs in this study. It is very important for farmers to be helped and be “recognized for their work” as informant 18, the Spanish vigneron, stated. However, this relationship is sometimes difficult due to the high rotation of staff in hospitality, as the Norwegian farmer argued (informant 10). This informant states that it is difficult to work directly with chefs sometimes because they request to plant something and when the produce is ready to harvest, the chef that requested certain produce might not be working in the same place anymore. However, sometimes this also brings opportunities, such as a chef requesting some products that might be easy for the farmer to grow and equally easy for the farmer to sell in the future.

For some farmers, the fact that they should be delivering a finished product is key, meaning delivering a product that is the result of cooking or preserving their produce, such as tomato

sauce instead of just the tomatoes. In this way, they can generate more profit for themselves and can work more efficiently, without wasting their produce. Farmers get ideas from chefs when they go to the restaurant to deliver their produce, or when they meet each other in other settings. Farmers get information about how the chef cooks and preserves their produce, exchanging ideas, creating an interesting synergy.

Chef-farmers partnerships should not just be for the ones that have the time; they should also be highly encouraged from above. They should be something that governments should help with, apart from helping “farmers to change to organic and sustainable production” (Michelin starred chef based in Oslo) so chefs can trust in local farmers, and they do not “have to order from France” for instance, where farmers are rated as “very good” if chefs want sustainable produce (green-starred chef from Amsterdam stated).

- Flavour

According to Schösler and de Boer (2018), in order to promote change towards sustainability in food systems, there needs to be a shift from quantity to quality, and that includes talking about flavour. According to experienced informants in this study, flavour and quality are extremely linked: “food that is grown sustainably tastes better” (Michelin starred chef, informant 24). More studies and research addressing flavour and “deliciousness” should be done; the latter concept was brought up by informant 12, the gastronomic inspirer from the Netherlands. I argue that this should be brought into the debate in order to promote the transformation to sustainable food systems.

According to Richardson and Fernqvist (2022), *flavour* opens the door to opportunities to speak more freely about ingredients apart from calling customers’ attention, although the topic is still unexplored (Richardson & Fernqvist, 2022) and neglected (informants 5, 12 and 23).

- Menu redesign

Chefs also need to always follow the season and work creatively with what the farmer has available. A shift in the willingness to acknowledge and accept limitations in produce and food choices needs to occur, such as seasonal availability (Schösler & de Boer, 2018). As Barber (2015) claims in his book, the idea that sustainable diets can be executed by “cherry-picking

great ingredients is wrong”, hence, a system redesign is needed. We need to diversify and try new things and chefs have the power to show people the way, not only in their restaurants but also through social media.

Barber (2015) book is called *The Third Plate*, his title is given to a different approach of cooking, creating a dish and designing a menu, focusing on how the ingredients are sourced in order to support the environment (Barber, 2015). According to green-starred chef, a general change in how chefs design the menu is needed, in order to “eat mainly vegetables and almost no meat at all, avoiding specially beef and pork”, he argued that chefs should be designing menus according to this principle; more open-minded meals without meat or with less and better quality of it, giving vegetables a new look and treating them with respect (Schösler & de Boer, 2018). But apart from eating more vegetables, questions such as the written below should be always present:

Is it a monoculture with pesticides and fertilizer or is it more agriculture based on natural principles such as food forestry or agroforestry? ... Nature tends to make a forest, so why not base agriculture more on natural principles and use this ecological based idea to produce foods?... So that also means a shift in menu...

Informant 19 serves bamboo and Korean mountain asparagus from agroforestry systems at his green starred restaurant. He is involved in three different projects, one of them involving a Dutch university. We need to “think and rethink how we grow ingredients” (informant 19), and understand that it is not only the ingredients that matter, but also the web of relationships (Barber, 2015), within the food system.

- Waste

Chefs stated that having fewer options and avoiding waste is a creative process. However, proper planning needs to happen which is not always possible with the staff rotation in the hospitality industry unless systems are in place, so it depends on the organization of the place and if sustainability is priority. Proper planning for the efficient use of leftovers (Schösler & de Boer, 2018) needs to happen on paper from the beginning when opening a restaurant as restaurateur based in Barcelona, stated.

A shift regarding waste is starting to happen, according to the informants. Restaurant Rest in Oslo is an example of that; this restaurant was mentioned by several informants when talking

about a shift in mindsets regarding waste. As stated above in the results, the dining experience made me wonder about the logistics and the communication between wholesalers, farmers, stores, and chefs around this restaurant. There is no doubt that it is very time consuming having to contact stores, supermarkets, and fishermen in order to get products that are expiring, expired but preserved in some way, and bycatch that the fisherman might have, as chefs explained during the dining experience. Further research in making this process easier is needed.

**Table 17** Key findings about fine dining restaurants/Michelin starred restaurants and its relationships with the different actors.

Main findings about fine dining restaurants/Michelin starred restaurants and the interrelations between other actors such as farmers and consumers

-As informant 3 argued (sommelier and previous restaurant manager based in Oslo), fine dining “have a big chance to impact the food chain”

-Fine dining restaurants, by using high-quality produce, inspire and motivate farmers to attempt to work on sustainable growing practices and/or experiment with specialty crops, as Pesci and Brinkley (2021) stated.

-Partnerships between farmers and chefs are a good way of making restaurants more sustainable, such as the one that informant 10 (Norwegian farmer) and informant 21 (head chef of restaurant in Oslo) have, where the chef got a compost machine and the farmer picked the compost up, which are mainly the “leftovers” from the vegetables that the latter produces. These kinds of collaborations are part of the need and search to work towards sustainability (Richardson & Fernqvist, 2022).

-Fine dining restaurants can empower farmers.

-As informant 9 stated (Norwegian farmer), “the farmer looks up another farmer who sells to Michelin starred-restaurants”

-Restaurants can help to see who is behind the food, making consumers more aware about the land and seasonality. Connecting cities with the countryside in order to allow people to make the choices.

-Farmers and chefs who participated in this study agreed consumers lack awareness about seasonality, the real price of food (e.g., what is the real cost of buying local food in the case of Norway).

-Informants believed that luxury and sustainability can be complementary; they used different cases in the restaurant industry as an example of that, such as Geranium Copenhagen (restaurant number one in “theworlds50best” and three-Michelin-starred restaurant) restaurant Rest in Oslo (green-starred restaurant).

-Informants stated that the restaurant industry was much better than ten years ago in terms of sustainability, including regarding staff and their awareness of the product. However, this is still a difficult “ship to flip” as informant 21 stated. For instance, mindsets must change regarding seasonality and waste. Regarding the latter, the main chef of Rest states in the *Michelin Guide (2022)* that “no usable ingredient should be left behind”

-Well-being of the staff has been considered more and more lately among Michelin starred restaurants. According to the informants, this is due to social media and articles written on the topic, as several Michelin-starred chefs stated, such as informant 27 and 28. Although, the GS might have influenced this change of perception, since according to informants 3, the MG asked him “how do you treat your staff?”.

-According to experienced informants in this study, flavour and quality are extremely linked. The Michelin starred chef based in Oslo (informant 24) stated that “food that grow sustainably tastes better”. However, flavour is still neglected in food systems transformation debates and beyond.

-If the GS is planning to help the restaurant industry to be more sustainable, it should be more transparent regarding the criteria that they use, according to the informants.

### 6.3 Is luxury compatible with sustainability?

Informants believed that luxury and sustainability can be complementary. Nowadays, according to the experienced informants in this study, luxury can be sustainable and sustainable can be luxurious, and if luxury is not sustainable “that’s not ok anymore” in these times, as informant 31 stated. The luxury food experience is attempting and aiming to work with



sustainable practices “from the plate to the environment while enhancing the hedonic and emotional aspects” (Batat, 2020).

Not so long ago, this was not the case; restaurants were getting products from very far away in order to serve something exotic that was linked to luxury, informants argued. Chefs were trying to bring the most difficult things to diners’ tables, such as “raspberries in the middle of January” as Barber (2015) stated, but now if a restaurant just does that, it is seen as lacking creativity and the chef is just “being lazy” (Michelin starred chef).

Ideas around throwing away less food are also linked with sustainability. Many fine dining restaurants are following this approach and showing people how to cook, which is really changing the fine dining arena, while before it was about serving a small piece of a vegetable or an animal, or foie gras and gold leaf as many chefs stated (such as informant 1, 14, 21, 25 and 27).

#### 6.4 Main research question: What characterises actors’ perceptions of sustainability and transformative potential of the Michelin Green Star?

In the face of awards and guides awarding sustainability in different domains, it is important to be critical. In many cases, certifications and awards such as the GS are seen as the solution to resolving sustainability issues. According to the informants, the MG did not have another choice than to join the sustainability agenda with this award.

The Michelin guide is known for not revealing its criteria about how restaurants get the regular stars, but it could contribute in a more transparent way for the GS. According to Mrusek et al. (2021) Michelin-starred restaurants should elaborate, uncover and divulge their sustainability strategy in detail, so they can build trust with their stakeholders in order to assure that there is no greenwashing on their premises.

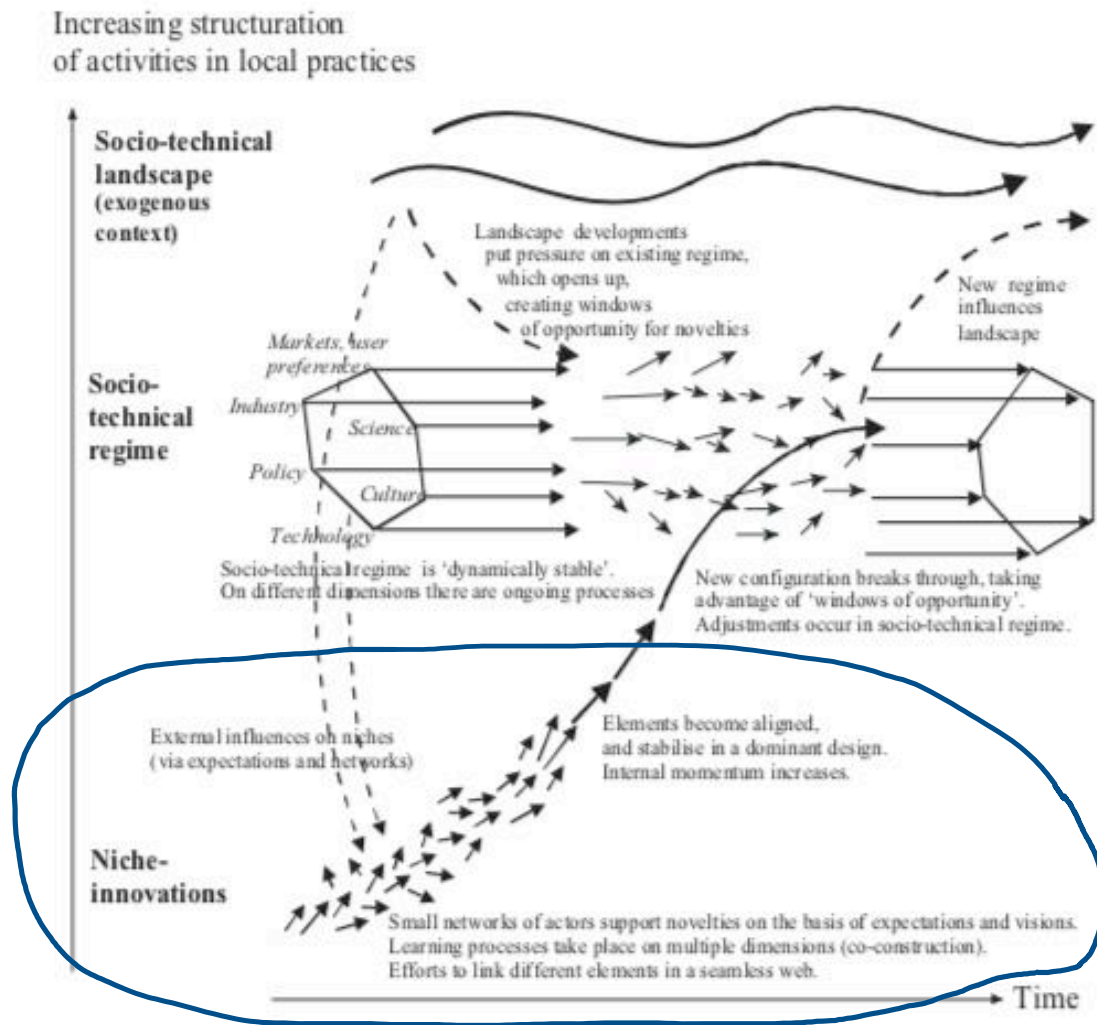
If this award is planning to help the restaurant industry to be more sustainable, it should be more transparent by revealing the criteria apart from a thorough follow-up. Revealing and sharing the framework used could help the restaurant industry and eventually transform food systems. The GS can be an important game-changer; however, a more transparent criteria is required as Informant 5 stated:

It can provide a framework for restaurants to work on, because it is a very famous thing to have... They should be more transparent.

Furthermore, despite the feelings and dichotomies expressed by the informants towards the Michelin Guide, they all respect the guide, and a sustainability award is extremely welcomed in the hospitality arena. This niche can be used as a carrot-and-stick, encouraging chefs to work more sustainably and to support the ones that are already on a sustainable pathway, since according to informants it takes more effort for a chef to work in that way. Some informants are glad that these chefs are finally getting recognition.

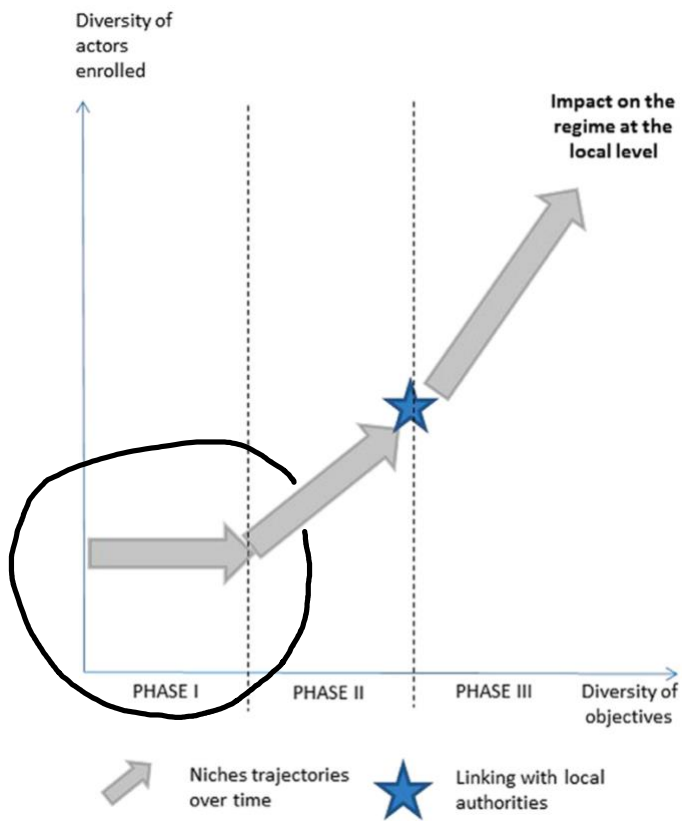
Moreover, more chefs want the GS, so they make a big effort to get it, although some informants think that this is wrong: a chef should work sustainably because “they feel it in their hearts” (informant 13). Sustainability combined with the eagerness that chefs might have for quality can lead to a mindset change in consumers, such as with the luxury concept. Unlike before, according to the informants, luxury is no longer about getting unsustainable products from very far away.

## 6.5 The Multi-Level Perspective (MLP) framework:



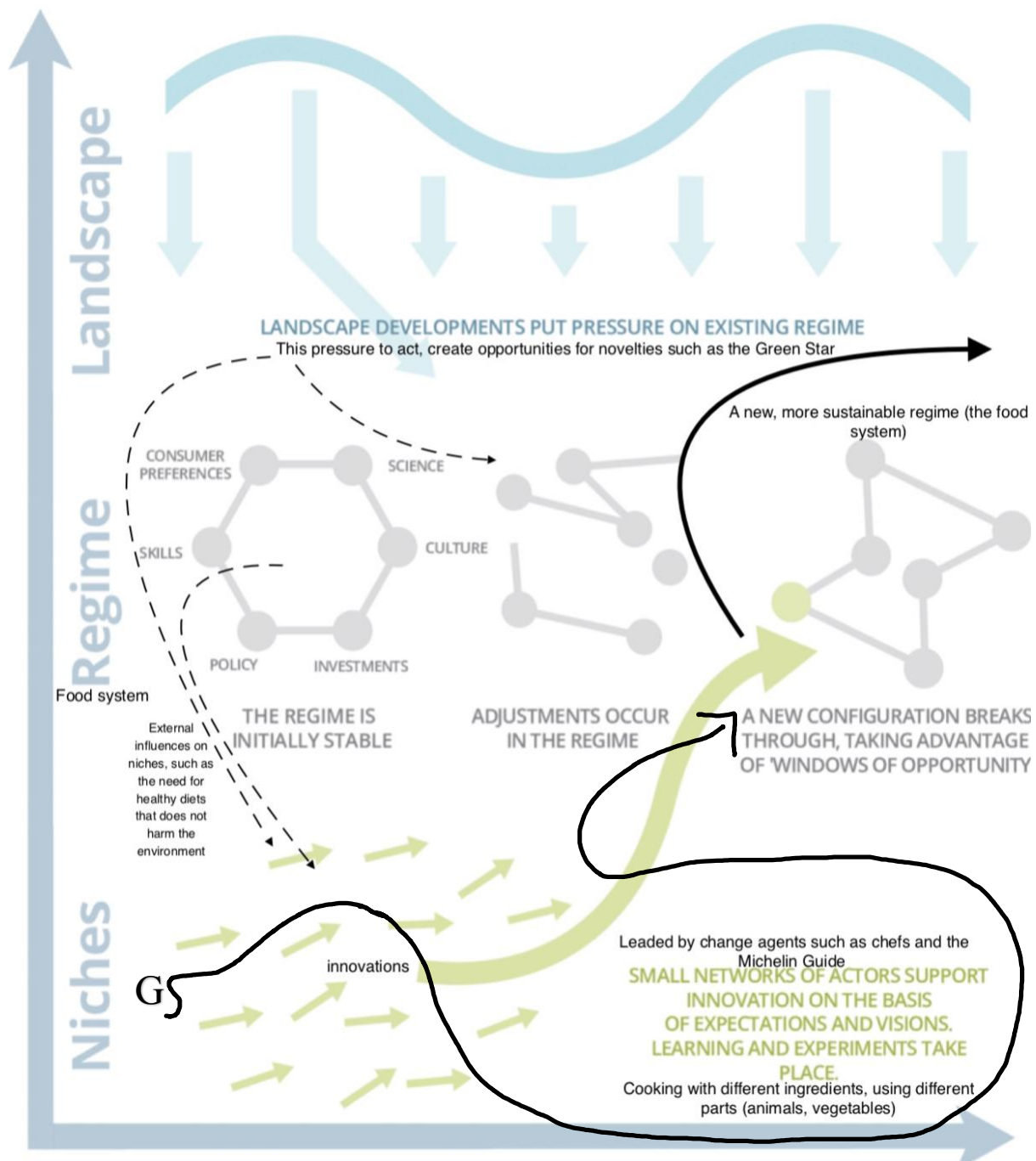
**Figure 3** The Multi-level Perspective Framework

Figure taken and adapted from Geels (2011). The part that is marked on blue is what I am focusing on this thesis. The first stage of setting things right in order to really transform, so the niche can eventually transform areas in the food system. If this first stage is set up right, the possible transformation is shown in figure 4.



**Figure 4** The evolution of a niche throughout the different phases.

This thesis focuses on phase I, which is the construction of the niche and the involvement of new actors. For the purpose of this paper, the focus is on the beginning (phase I) of the niche's trajectory. This figure was taken from Bui et al. (2016).



**Figure 5** The transforming capacity of the green star and chefs.

Below are explained some of these aspects of the representation of the MLP framework. Adapted from Asquith et al. (2018)

### The Multi-Level Perspective (MLP) framework

In the face of transitions towards sustainability, different possibilities might seem “the answer”; niches (the axis of radical innovation) are created and appear all the time, but not all of them are robust and last in time (Geels, 2011). Niches are protected spaces and they need to be

anchored in order to create change in the socio-technical regime (the core of established practices and embedded rules that stabilize the existing system) (Geels, 2011).

The multi-level perspective is an analytical framework that conceptualises dynamics in socio-technical transitions (Geels, 2011). A socio-technical transition consists of slow accumulation interspersed with rapid phases of reorganization, in those moments novelty and niches can thrive, leading to its renewal of the socio-technical regime (the food system) (Gunderson & Holling, 2002).

The partial perspectives of the fields of economics, ecology (neglecting human behavior), and organizational or institutional analysis, generate actions that are unsustainable and are not always able to coexist with new “knowledge”, so it is important to understand which processes create novelty and smooth/foster innovation (Gunderson & Holling, 2002).

Studying the dynamics in socio-technical transitions is important in order to address adaptive change and learning, and to create more robust foundations for sustainable decision making, apart from theories that combine disciplines in order to fill the gaps (Gunderson & Holling, 2002).

Sustainability transitions are supposed to tackle environmental problems, differ from other transitions, are goal orientated or purposive (Smith et al., 2005 cited in Geels, 2011) while other transitions just emerge. Innovations in terms of sustainability and development are radical, and emergent alternatives are happening, challenging the established structure with social innovations (Scoones, 2016).

In addition, private actors lack incentives to join or start sustainable transitions, since they are seen as aiming for the ‘common good’ (Geels, 2011). Sustainability transitions have to be multi-dimensional and challenge the structural change, it is a mix between politics, technology, economics and markets, and last but not least: culture, including discourse and public opinion (Geels, 2011). The structural change in many cases is very difficult to challenge. In addition, political lobbying, discourses and power relations and consumers’ lifestyles might be embedded on it (Geels, 2011).

Change agents push forward the regime transformation reconfiguring the system by breaking certain lock-ins, creating different options (and creating solutions) which could

lead to create new relations in local food chains. One niche created can develop other niches, without predicting it, and slowly (or rapidly) change the regime, creating new rules.

A niche could expand promoting anchoring in the regime: technologic anchoring through innovation and network anchoring through the involvement of the different actors, leading to institutional anchoring. With the involvement of actors, new roles emerge, and they relate and expand. Then, cognitive anchoring can occur, that is when generalized mindsets are changed and people embrace the niche-innovations and understand it. Niche-innovations such as the GS experimentation (phase 1), actors such as chefs help the niche to evolve (phase 2 and 3: stabilization and diffusion) and eventually transform the food system and reach the phase 4, where the niche is anchored and become institutionalized, examples of this hypothesis are: the government asking restaurants for certain requirements, regarding waste, the use of plastic, the use of local and seasonal food, among others.

According to the MLP, innovation occur when are tensions internal to regime or system, there is a pressure from a landscape level. Within the niches, there is experiential learning with novelties and development of new rules and relations. Hence if all these processes align, a window of opportunity for system innovation occurs.

According to Geels (2019), in order to address persistent and worsening environmental problems (such as climate change, biodiversity loss, resource depletion) fundamental changes has to be made in these systems, which are conceptualized as ‘socio-technical’: the fulfilment of societal functions involves not only technologies, but also situated consumer practices, cultural meanings, public policies, business models, markets, and infra- structures (Elzen et al., 2004 cited in Geels, 2019).

Niches are protected spaces, in this case the GS is considered a niche “a small market where users have special demands and are willing to support emerging innovations” (Geels, 2011). For niches to success, and be anchored, has to be leaded by change agents such as business actors, e.g., chefs. Niches are protected spaces for people to work in new roads, developing new practices with innovation (Geels, 2011).

Chefs in some cases (and they can be) are change agents. Take for instance, by preserving traditions in the community.

The vast majority of research on sustainability in the hospitality literature is about one dimension, the environmental one (Mrusek et al., 2021). However, sustainability is multi-dimensional with many facets, hence, addressing this to work on a “holistically sustainable manner” as Mrusek et al. (2021) argues, is necessary.

Restaurants can be an important centre of preserving old traditions such as head chef and owner of green starred restaurant in Trondheim. Take, for instance, by making their own linen in collaboration with a farm. In this case, the restaurant play an important role of preserving old traditions, not only this but also giving the farmer sense of purpose and belonging, for this chef, one of the most important things is to highlight the farmer in her restaurant.

This contribute to the Cultural dimension of sustainability. Mrusek et al. (2021) argues that in Michelin-starred settings, the chefs are more and more aware of sustainability’s cultural and social dimensions. Further, the cultural heritage of haute cuisine and how this stories are told in the dining experience are also crucial (Mrusek et al., 2021).

#### Platforms and underlying networks

In the last years, some platforms started to thrive and making the producer more next to the consumer/restaurant. So far in Norway, we have Dagens and REKO to some extent. The former consists in having all the producers on the webpage with the produce offered, the latter is for the producer to access not only to consumers by posting on the page or Facebook, but also restaurants. However, more exploration regarding platforms that help with the logistics is needed.

#### Consumers and an experience that shift mindsets

Consumers admitted that they get knowledge and “learn about different usages of different types of food and parts of animals that I would not have thought could be used in the standard way, which is interesting. Like restaurants who tried to use the whole animal and try to use nonconventional recipes.

#### Set menu



Fine dining restaurants and more specifically Michelin starred restaurants are known for its set menu. Set menus are useful for avoiding waste and teaching the customer about seasons and local food. Informant 32 stated that this is one of his main sustainable practices: “we serve one set menu, so we create less waste, and of course, we only serve plant-based food, to not mistreat any animals.”

In summary, if more restaurants push boundaries, it might repercuss not only in the fine dining arena, but also other restaurants and eventually could change mindsets. Since the food that is requested by the chef to wholesalers and farmers will be changing and it could happen the same with consumers tasting the farmers’ produce in a restaurant “and maybe they want to visit the farm after” (informant 3) because they want this food for their everyday life and slowly this can become more visible and transform the food system. Consumers get the story of the farmer, and people in the cities might get inspired and supportive. Then, maybe more people want to be a farmer and work the land, if farmers get more recognition for what they do. Not only a farmer following traditional methods but also a farmer who regenerates the land and is mindful about future generations, or like informant 19, trying with different crops for a more sustainable future, using perennial instead of annual crops and working with universities. Chefs also make us aware that it is possible to eat more things, not the ones that we all know, chefs and restaurants can be this bridge between consumer and farmers... “Maybe the restaurant is the best gate for making the farmer feeling prouder of their work, because nowadays all people respect the cooker, the chef. The next point is that all people respect the growers” (farmer and vigneron from Spain, informant 18).

## 7 Thesis Conclusion

This chapter highlights the conceptual and theoretical development contributed by this thesis. Then, it gives some of the key insights of this thesis and it gives some recommendations for the future development of the GS and beyond. It connects this thesis to the literature’s call for transformative change.

All the informants in this study believed that chefs have power to change the restaurant industry and Michelin starred restaurants’ practices can really “trickle down to the entire culinary industry” since there are the trendsetters (Mrusek et al., 2021). Hence, further research is

needed, as Mrusek et al. (2021) stated: “little research on sustainable practices in the haute cuisine” has been done, more specifically in Michelin-starred levels of the culinary industry.

In this thesis, the new award from the Michelin Guide: the Green Star and its transforming capacity around chefs, consumers and farmers was studied. According to the stories narrated by relevant informants in the discussion, this award can help to transform the food systems and push towards more sustainability, as long as the criteria become more clear and valid.

Informants stated that Michelin starred restaurants should not be underestimated, since they can help farmers, and also help to make the consumers more aware and knowledgeable about the impacts of food production and consumption by using ingredients and cooking techniques “such as zero waste cooking” that are not familiar to the consumer (Richardson & Fernqvist, 2022). Biodiversity of ingredients, either through addition or substitution of ingredients is seen as the key to make the food system sustainable as informant 19 stated (Green starred chef from the Netherlands): perennial and different food that we weren’t used to before and are more sustainable with the environment and nutritious.

## 7.1 Recommendations for strategies to transform the food system

### Recommendations about chefs

Chefs are and if not, they should be active players in food systems transformation, more research needed; more chefs working with universities to develop certain crops is needed, universities should be pushing for this to get subsidies and regenerate lands, working with agroforestry system among others. This could help to reach *a food system that can sustain humanity and where biodiversity can thrive according to chefs (see appendix 6).*

The role that chefs have in society cannot longer be neglected, more involvement from chefs in policy making as they are a link between farmer and consumers highly knowledgeable about food and in some cases alternative crops as informant 19, green starred chef.

Education is key to reach the SDGs by 2030, and to achieve food for all. Education regarding the avoid of waste and seasonality of produce. Accept the limitations in produce (Schösler & de Boer, 2018) that we face in order to be more creative and see the “fun of it” is needed as informant 17 stated has to be priority in food systems transformations, so chefs can help us in

this transition. Education is extremely needed, and chefs can be active players in food system transformation.

#### Regarding restaurants as an establishment

According to the stories narrated by relevant informants in the discussion, a proper planning for the efficient use of leftovers (Schösler & de Boer, 2018) should be done when opening a restaurant as informant 14 (restaurateur based in Barcelona) stated, this needs to happen from the beginning. Governments could help to make compost machine more affordable and arrange platforms that helps with this logistic. More workshops regarding waste should be held by chefs supported by the government. Efforts (including money) were and are massive regarding sustainability (Scoones, 2016), but are we using them efficiently?

With this said, I argue that more efforts towards sustainability in the restaurant industry is necessary, in order to transform food-systems-actors' mindset and eventually transform the food system.

#### Regarding farmers, and farmers-chefs' partnerships

Chef-farmer collaboration is the way forward to reach sustainability in the hospitality industry (Richardson & Fernqvist, 2022). New markets are created due to this relationship where the chef cooks what the farmers has available, creating a (inexistent) demand for sustainable products (Richardson & Fernqvist, 2022). Further research in order to make these kinds of partnerships, where chefs and farmers help each other, is needed.

Moreover, farmers get more value for selling finished products, that means more empowerment since they can become more independent, and hence more recognition for their work. More help from governments to make this process easier for farmers is needed. Facilitating production facilities, which some informants expressed that is expensive and difficult for them to add more things apart from the common overloads. Maybe have students to commit to help a farmer as an internship and then finish high school, and we can cover what informant 13 argue about having this education in schools, high schools, and universities "so we don't get so detached where the food comes from, and we learn how to cook and to work the land as part of the curricula".

In summary, governments should push restaurants to be sustainable, they have a big negative impact if their operation is not highly controlled in this domain. We cannot leave it to free will as informant 13 stated “if chefs do not feel it in their hearts that they have to change, then, they will not change”. Sustainability is the expensive choice for everybody: farmers should get penalties for using pesticides and be encouraged to not to use them, by providing many kinds of help (natural substitutes such as biodynamic preparations, workshops facilitated by the government, among others) as informant 9 argued: “the bad guys should pay for these certifications saying how much pesticides they use”. Agriculture is not my domain of expertise; however, the literature argues that one third of GHG are due to food production and planetary boundaries has been crossed. Further, regarding the latter, there is still uncertainty around the other planetary boundaries and our “safe operational space” (Steffen et al., 2015).

## 7.2 Recommendations for further research

### Recommendations regarding Michelin starred restaurants and the hospitality industry:

- More research regarding sustainability, innovations and leadership and its interdependence and relationship between these aspects and the hospitality industry and Michelin-starred chefs is needed, as Mrusek et al. (2021) argues. Moreover, more research about sustainability in restaurants is needed (Batat, 2020).
- Rotation of staff make things difficult such as farmer-chef relationships and planning for use of leftovers. I do not have an answer to this, but informants in this study stated that the hospitality industry is underpaid, and they are overworked. So, efforts towards making hospitality jobs more important (considering also the sustainability agenda) are needed.
- The literature argue for more research on sustainable practices; further research is needed, as Mrusek et al. (2021) stated: “little research on sustainable practices in the haute cuisine” has been done, more specifically in Michelin-starred levels of the culinary industry.
- Menus should be designed according to these principles: “eat mainly vegetables” as green starred chef states (informant 19), or more open-minded meals without meat or with less and better quality of it, giving vegetables a new look and treating

them with respect (Schösler & de Boer, 2018). As Barber (2015) claimed in his book, the idea that sustainable diets can be executed by “cherry-picking great ingredients is wrong”. Keep developing this idea is key: *what a restaurant menu should offer*.

- More restaurants that help with getting produce that is supposed to be thrown away such as Restaurant Rest in Oslo is highly appreciated. However, processes that facilitate the logistics for this kind of restaurants is extremely needed, since it is very time consuming to having to contact stores, etc. Further research about making these processes easier is key.
- According to the stories narrated by relevant informants in the discussion, luxury in the restaurant industry is treating yourself and enjoying a dining experience and should be done in a sustainable way, respecting other beings. More control to restaurants in order to avoid threaten species to be served and bad treatment of staff should be done. More help from governments and more carrot-and-stick processes should be established. Should be certain control about the food that is served, opening a restaurant supposed to help, to empower neighborhoods, to give work to people, to give back to the farmers such as helping with the compost, and “the restaurant industry needs to be better at being organic and sustainable, but it needs to come something from above, like governmental” (chef and owner of Michelin starred restaurant in Oslo, informant 24).
- In regards the GS from Michelin guide, transparency is needed, with a clear criterion and correct follow up in order to achieve changes and not just a mere green washing.

#### Other recommendations:

- I argue that flavour should be brought up to the debate, in order to promote the transformation to sustainable food systems. Flavour open opportunities to speak more freely about ingredients apart from calling customers’ attention, albeit the topic still unexplored (Richardson & Fernqvist, 2022) and neglected (informants 5, 12 and 23). Flavour should be part of the debate, acknowledging and talking about (e.g.,) a delicious carrot as informant 23, Norwegian farmer stated, is

important. Moreover, more studies about how flavour impact in some cases in health is needed, (e.g., bitterness and health)

- We need to diversify and try new crops, and chefs has the power to show people the way, not only in their restaurants but also through social media and other platforms and projects. In addition, further research in order to make partnerships, where chefs and farmers help each other, is needed.

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## 9 Appendices

### Appendix 1

**Table 18** Three broad food system outcomes (values, practice and behavior) of sustainable gastronomy on the food system according to the study of Richardson and Fernqvist (2022).

In this study, Richardson and Fernqvist (2022) investigated the outcomes of chefs practicing sustainable gastronomy and they conclude that chefs have a role to play and they can influence other actors from production to consumption. Table from Richardson and Fernqvist (2022).

Outcomes	Changes within the Food System
Values	<ul style="list-style-type: none"> <li>● Shifted food culture back to its local/national roots and given it new value</li> <li>● More consciousness about the importance of sustainable food</li> <li>● Perception of the chef has changed from someone in the kitchen to someone knowledgeable about health and sustainability</li> </ul>
Practice	<ul style="list-style-type: none"> <li>● Respect for women; created an awareness of gender equality</li> <li>● Increased consumption, demand and production of local/biodiverse/sustainable foods and preserving indigenous produce</li> <li>● Change in other chefs and kitchen staff attitudes and practices including sourcing sustainably, reducing waste and plastic use and using a solutions-oriented approach</li> <li>● Culinary schools are incorporating sustainability into their programs</li> <li>● Growth of small-scale producers engaging in sustainable practices</li> <li>● Increased employment for the local population</li> </ul>
Behavior	<ul style="list-style-type: none"> <li>● Reduction in household food waste through changed behaviors</li> <li>● Stimulating curiosity and creativity in customers and staff</li> <li>● People are more empowered and feel that can make a difference</li> </ul>

## Appendix 2

*Table 19 Key findings about chefs' relation with sustainability and their possible contribution to food system transformation*

### Main possible positive chefs' impacts in the food system and their relation with sustainability

-Chefs and fine dining restaurants can be a source of inspiration and “empower people to take responsibility” as informant 32 states (restaurant manager at vegan restaurant in Stavanger).

-Chefs stated that trying to avoid waste and being more sustainable was a creative process, as informant 29 (creative leader of three Michelin starred restaurant, claimed: “Sustainability is creativity and can be inspiring”. However, it takes more effort.

-In addition, some chefs stated that being sustainable in the restaurant industry in many cases is also cheaper, as long as the staff stay for longer and proper long-term planning is done.

-There are different perceptions of what it means to be sustainable for chefs according to the country. In the Netherlands it is about diversifying crops, almost no meat, and an extreme focus on making vegetables taste great. In Norway, chefs perceive sustainability as using a whole animal, without being picky about trendy cuts and trying to witness the whole process (e. g., how the animal is grown and how it is slaughtered).

## Appendix 3

### **Interview guide for Michelin starred chefs**

#### Introduction

Welcome to this interview! Thank you so much for participating, I really appreciate you taking the time to talk to me. I am a student on the Master's in International Environmental Studies at Norwegian University of Life Sciences, and I am doing a study for my final thesis. I will first explain what it is that I am studying, then I will ask you some questions regarding consent for the interview, and after that we will start with the topics to discuss.

#### Information on study

I am studying how the sustainable green star (GS), implemented in 2020 by the Michelin Guide, can have an impact on the restaurant industry and food systems in general. I am interested to hear your experiences about being a chef/restaurateur.

I am therefore doing several qualitative interviews. Feel free during the interview to come up with things you would like to discuss or deem to be important. Do you have any questions about my study purpose? Or any comments?

#### Consent

Before we start, I want to make sure that you know what your rights are with this interview. Could you please answer yes or no to the following questions?

1. Do you agree to participate in the interview?
2. Do you acknowledge that you have received information about what the study is about and what it will be used for?
3. Do you give permission for this interview to be audio-recorded?
4. Do you give permission for the interview to be quoted in the final report, which will be open for public consultation?
5. Do you agree that your information will be processed anonymously, and that quotes from this interview will be stated without your name?
6. Do you know that you can withdraw at any time or refuse to answer any question without any consequences of any kind?

You also have the right to withdraw your contributions to the research up to two weeks after this interview and you can also contact me to seek further clarification and information at any time.

Background questions:

1. What is your name?
2. How old are you?
3. What is your country of origin?
4. What is your occupation?
5. Where do you work?
6. For how long have you been working there?
7. How would you define your role in the company?
8. How would you define your restaurant's philosophy?

### **General questions about sustainability**

1. What comes to your mind when I use the word sustainability?
2. How is the restaurant industry at the moment, do you think it is sustainable? what needs to be done in your opinion?
3. How do you imagine the restaurant industry in the future regarding sustainability?
4. What is the role that chefs and restaurants should play regarding sustainability?
5. And consumers?
6. Do you think that luxury and a focus on details can be compatible with sustainability?
7. If yes, in which ways could they complement each other?
8. Are there any sustainability practices that you are planning to implement in the future?
9. if you had to highlight 3 things that your restaurant does to be sustainable, what would they be?
10. Are/were you part of any network for change regarding these matters?
11. If money wouldn't be an issue, how would you imagine a sustainable food system?  
(See appendix 6)
12. What are your main critiques to farmers and farming practices?
13. What do you think is needed in order to make certifications work?
14. What are your criteria for selecting a producer?
15. Which farms produce for your restaurant and why did you choose them if you could  
  
mention an example?

16. Is there any produce that you would consider unique, and you serve it at the

restaurant?

17. How do you manage your waste from produce? can you highlight any creative examples?
18. How do you manage plastic? can you highlight any creative examples?
19. what is more challenging, being a sustainable restaurant in the city or in the countryside in your country?

### **Questions about the GS**

1. Do you think that certifications can help to transform food systems?
2. Did you know about the green star from Michelin guide that award sustainability?
3. What do you think about this award?
4. What do you think about certifications and awards in the restaurant industry?
  
5. Do you know how many judges came last time?
6. Did you or your staff have suspicions that you were being visited by judges?
7. Did you know about the green star before the judges arrived?
8. Is the restaurant working on being more sustainable in order to preserve the GS?
9. Do you think that the GS inspires you and your team to be more sustainable? If yes, in what way?
10. Do you keep track of other restaurants in Europe and your country, that got the GS?
11. I know that it might be difficult to say since we went through a difficult period with Covid-19, but do you think that there has been more curiosity from customers to visit the restaurant since you got the green star?
12. if so, could you highlight a particular comment or episode?
13. Is the restaurant using the GS for promotion of its business?
14. How is the restaurant using the GS for promotion of its business?

## Appendix 4

### **Interview guide for farmers**

#### Introduction

Welcome to this interview! Thank you so much for participating, I really appreciate you taking the time to talk to me. I am a student on the master's in international environmental studies at the Norwegian University of life sciences, and I am doing a study for my final thesis. I will first explain what it is that I am studying, then I will ask you some questions regarding consent for the interview, and after that we will start with the topics to discuss.

#### Information on study

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I am studying how to transform food systems and make the restaurant industry sustainable. I am curious also about the Green Star from Michelin, if it can be seen/used as a game changer and have an impact on the restaurant industry, and food systems in general.

I am interested to hear your experiences about being a farmer and your thoughts about how to transform the food system to a more sustainable one. I am therefore doing several qualitative interviews. Feel free during the interview to come up with things you would like to discuss or deem to be important. Do you have any questions about my study purpose? Or any comments?

## Consent

Before we start, I want to make sure that you know what your rights are with this interview. Could you please answer yes or no to the following questions?

1. Do you agree to participate in the interview?
2. Do you acknowledge that you have received information about what the study is about, and what it will be used for?
3. Do you give permission for this interview to be audio-recorded?
4. Do you give permission for the interview to be quoted in the final report, which will be open for public consultation?
5. Do you agree that your information will be processed anonymously, and that quotes from this interview will be stated without your name?
6. Do you know that you can withdraw at any time or refuse to answer any question without any consequences of any kind?
7. You also have the right to withdraw your contributions to the research up to two weeks after this interview.

You can also contact me to seek further clarification and information at any time. Background questions:

1. What is your name?
2. How old are you?
3. What is your country of origin?
4. What is your occupation?
5. Where do you work?
6. For how long have you been working there/here?
7. How would you define your role in the company/farm?
8. How many hectares the farm has?
9. What do you produce?

## General questions about sustainability

1. What comes to your mind when I use the word sustainability?
2. How would you define your farming philosophy?
3. Do you believe that your farming practices are the best to reach sustainability?
4. If yes, why? If not, what else is needed and what are the challenges?
5. If money wouldn't be an issue, how would you imagine a sustainable food system? (see appendix 6)
6. Do you think that certifications can help to transform food systems?
7. What do you think is needed in order to make certifications work?
8. What is the role that restaurants should play regarding sustainability?
9. And consumers?
10. What are your main critiques to farmers and farming practices in your country?
11. What are the opportunities and challenges of being farmer in Norway?

12. Is there any farm that you look up?
  13. Which sustainable practices have you implemented in the last 2-5 years?
  14. Have you seen any improvement since you apply these practices?
  15. Are there any sustainability practices that you are planning to implement in the future?
  16. If you had to highlight 3 things that your farm does to be sustainable, what would they be?
  17. Do you produce food for restaurants?
- 

18. How do you communicate with restaurants? Can you highlight any platform that you believe works well?

19. How do restaurants order your produce? By request from them or do you provide what is available?

20. Do you deliver food to fine dining restaurants? If yes, which ones?

21. Do you think that the certifications could be used to improve sustainability in the restaurant industry in general? If yes, in which way?

22. What are the challenges that you experienced or still experiencing during covid-19 regarding the supply to restaurants?

23. Could you recommend 3 farms to visit because you think are sustainable or are eager to improve in this matter?

## Appendix 5

### **Interview guide for consumers who work in the restaurant industry**

#### Introduction

Welcome to this interview! Thank you so much for participating, I really appreciate you taking the time to talk to me. I am a student on the master's in international environmental studies at Norwegian University of Life Sciences, and I am doing a study for my final thesis. I will first explain what it is that I am studying, then I will ask you some questions regarding consent for the interview, and after that we will start with the topics to discuss.

#### Information on study

I am studying how the sustainable green star (GS), implemented in 2020 by the Michelin Guide, can have an impact on the restaurant industry and food systems in general.

I am interested to hear your experiences about working in restaurants and being a consumer of Michelin Awarded restaurants. I am therefore doing several qualitative interviews. Feel free

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during the interview to come up with things you would like to discuss or deem to be important. Do you have any questions about my study purpose? Or any comments?

## Consent

Before we start, I want to make sure that you know what your rights are with this interview. Could you please answer yes or no to the following questions?

1. Do you agree to participate in the interview?
2. Do you acknowledge that you have received information about what the study is about and what it will be used for?
3. Do you give permission for this interview to be audio-recorded?
4. Do you give permission for the interview to be quoted in the final report, which will be open for public consultation?
5. Do you agree that your information will be processed anonymously, and that quotes from this interview will be stated without your name?
6. Do you know that you can withdraw at any time or refuse to answer any question without any consequences of any kind?
7. You also have the right to withdraw your contributions to the research up to two weeks after this interview.

You can also contact me to seek further clarification and information at any time. Background questions:

1. What is your name?
2. How old are you?
3. What is your country of origin? And where are you based?
4. What is your occupation?
5. Where do you work?
6. For how long have you been working in the restaurant industry?
7. Did you work in any Michelin starred restaurant or fine dining?
8. If yes, which ones, for how long?

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## General questions about sustainability

1. What comes to your mind when I use the word sustainability?
2. How would you define sustainability in the restaurant industry?
3. And how can this be improved? -What are the main challenges?
4. Do you think that Luxury and a focus on details can be compatible with sustainability in the restaurant industry?
5. If yes, in which ways could they complement each other?
6. What is the role of chefs and restaurants in the transformation of food systems?
7. Since you work in the restaurant industry, do you think it is becoming more sustainable?
8. If you have to highlight three restaurants where you have an unforgettable experience, which ones are those and why were they so special?
9. Do you have any examples of fine dining experiences that you think were sustainable?

10. Do you feel that you get knowledge when you go to a fine dining restaurant?
11. Do you go to Michelin starred-restaurants or fine dining restaurants?
12. How often do you go? (Think before covid times)
13. Do you think the GS can become more important than the classic stars?
14. How relevant is it for you the GS as a consumer?
15. Do you think that the GS could be used to improve sustainability in the restaurant industry in general? If yes, in which way?
16. What is the meaning for you of an unforgettable fine dining experience?
17. Do you bring that knowledge home? do you try to find any of the farms/vignerons/  
wineries mentioned during the experience?
  
18. What do you think about the fact that the green star is a separate from the other stars?

## Appendix 6

(and Figure 6)


I asked the following question to all the chefs: *If money wouldn't be an issue, how would you imagine a sustainable food system?* With the answers that chefs gave me, my friend Sofia Rodriguez created an “utopia” figure (page 92).

In order to break certain lock-ins and apply back casting. Back casting is about imagining a sustainable future, like an utopia to be able to look backwards and foresee the steps that are needed (Vergragt & Quist, 2011) for solutions. According to Vergragt and Quist (2011), this technique is useful to envisioning sustainable futures and design sustainable pathways.

*A food system that can sustain humanity and where biodiversity can thrive according to chefs*



# Utopia food system



Recuperate and regenerate.  
At the same time produce more.




Seasonal products from your own region



All restaurants and supermarkets should follow the seasons




Engage the local community




We need art, we need beautiful flavors we need creativity.



Less quantity and better quality



More old school farms



Work towards making the farming more self sustained.



**Norges miljø- og biovitenskapelige universitet**  
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