

A model proposal for sustainable Nevşehir local cuisine

Gamze Coban Yildiz, Onur Sevket Yildiz*

ABSTRACT

Keywords:

Local cuisine,
Nevşehir,
Climate change,
Agriculture,
Sustainability.

Local cuisine is a valuable cultural-gastronomical asset for any tourism destination as well as local people. In order not to lose this asset, it is vital to manage the changes triggered by climate change and transmitted through agriculture. Climate change is likely to impact different regions at different levels; thus, some regions have to be ready to challenge a harsher situation. Nevşehir is a Central Anatolian province which is likely to suffer from quite harsh impacts of climate change and its local cuisine is prone to many risks unless an effective plan which considers the relevant issues is executed. With this end in view, representatives of 5 key institutions were interviewed. Beside climate issues, the interviewees note other relevant matters such as economy, ethics, and consumer and producer awareness issues. After a conceptual model draft, this study proposes a conceptual and a practical model for a more sustainable Nevşehir local cuisine. Focusing on sustainability, the final practical model developed is based on climate change issues, agriculture, local cuisine, and their close relationships as well as the factors reminded by interviewed representatives. Main risks associated with climate change include drought, decrease in agricultural efficiency, related quality issues in products and agricultural assets such as soil, and – at the extreme end – a global food crisis. Despite this negative outlook, the province has also some advantages such as resistant native plant and animal species, potential for renewable energy, and slow city possibilities. Proposed recommendations for a more sustainable local cuisine focus on managing change, preserving authenticity, taking the advantage of strengths, increasing efficiency, and climate change mitigation efforts. Final part of the study includes a discussion and some possible future research themes.

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1. Introduction

The impacts and consequences of climate change have recently been affecting even people's daily lives. Climate change-induced threats such as epidemic diseases, drought, erosion, desertification, shift of climate zones, increase in extreme meteorological events, and rise in sea levels are worrisome for many living creatures. Among these, drought and other water crisis-related issues are the most prominent ones (the Ministry of Agriculture and Forestry (MAF), 2021).


Climate change and related catastrophic scenarios have also triggered much debate on food production and consumption since food security relies on agriculture. In general, most agricultural products need soil, water, sunshine, and heat all of which are majorly affected by climatic conditions (MAF, 2021). While climate crisis causes decreases in the efficiency of production of grain and legumes which are among major foods, it also threatens crops through extreme meteorological events


(Porter et al., 2014). Thus, climate change is very likely to affect growing speed, efficiency, harvest season, and quality of many agricultural products.

Animal husbandry, which is categorized as another agricultural activity, is also quite related to climate. Problems in pasture ecosystems are likely to increase due to many issues such as higher temperatures and water scarcity which together mean severer drought. Temperature increases and water scarcity will also negatively impact animal health through many issues such as heat stress issues which have the potential to decrease animal life expectancy and fertility (Porter et al., 2014). Considering both plant and animal production issues, it is not difficult to estimate the related economic problems such as food inflation.

The impacts of climate change and their severeness may vary depending on the region. In Türkiye, the Central Anatolia is among the most vulnerable regions to the negative impacts of climate change (the Turkish State

*Corresponding Author

Gamze Coban Yildiz: Assist. Prof., Nevşehir Hacı Bektaş Veli University, Nevşehir, Türkiye, Email: gamzecoban_85@hotmail.com, Orcid Id: 0000-0001-8628-7222 

Onur Sevket Yildiz: Res. Assist. Dr., Nevşehir Hacı Bektaş Veli University, Nevşehir, Türkiye, Email: osyildiz@gmail.com, Orcid Id: 0000-0001-7091-9782 

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Meteorological Service, 2015). The region is the harshest continental climate region in Türkiye (Sensoy et al., 2008). It is one of the least pluvial regions in Türkiye and the driest season is summer (MAF, 2021; Yüncü, 2016). It is estimated that the region is going to face serious drought; thus, related problems such as water scarcity, inefficiency in agricultural activity, decrease in animal health and welfare are quite likely (Devereux & Edwards, 2004). Dry summers and the early start of this dry season have a negative impact on vegetable production; specifically, insufficiency and retardation of spring precipitation cause fluctuations in grain production (MAF, 2021). The issue of irrigation-dependent crops – both due to the farmers' preferences and deterioration of soil –, then-dry-farming plants, and the overall replacement of dry farming with irrigated agriculture could be considered as threats to local cuisine through its link with local agriculture (Coban Yildiz et al., 2023). Since the Central Anatolia is a continental climate region and naturally not very pluvial, the local cuisine has also been established by dry farming products (Yüncü, 2016). Moreover, the native animal breeds, such as Akkaraman sheep, are well adapted to these harsh conditions (Kizilaslan et al., 2024) although they are often cited as less efficient than industrially-bred or non-native animals (see e.g. Kandemir & Taşkın, 2022).

Nevşehir is a typical Central Anatolian province in terms of climate. Thus, drought and other water-related problems are foreseen for the territory. Beside agriculture, the tourism industry is a major part of the province's economy. The interrelatedness between climate, agriculture, and the tourism industry implies many challenges due to climate change. Being an essential element of tourism activities, gastronomy of the region is to be more directly affected by all those risks because of the close connection of food, and specifically local cuisine, with the climate. The approach adopted while developing the model in this study focuses on local cuisine, climate, agriculture, and sustainability matters both directly and indirectly associated with these in a changing climate.

2. Literature

Climate change

As the results of climate change are experienced in increasing levels, both practitioners and researchers have focused on the subject from various viewpoints. Aside from the accumulated knowledge on the impacts of various factors (such as heat and CO₂ concentrations), researchers are interested in the recent impact of climate change and the future projections on the studied subject. The rise in temperatures, changes in precipitation characteristics, and extreme meteorological events all threaten agricultural production. These factors, together with CO₂ concentrations, have major impacts on agricultural yield and these impacts vary depending on the region (MAF, 2021). Despite some possible increase in yield in some agricultural production in the short-term, higher

temperatures and higher levels of CO₂ concentrations due to the climate change are likely to result in quality and quantity issues in the long-term (Schmidhuber & Tubiello, 2007; Akalın, 2014). The researchers' reports seem worrisome even for the hardier plants (see e.g. Küpe, 2012; Sayılğan, 2016; Soltekin et al., 2021; Akbaş et al., 2021).

A study on vineyards reports that it is estimated that CO₂ concentration levels are going to increase up to 700 ppm which is quite higher than the recent measurements (350-400 ppm) and the long-term impacts are unknown (Küpe, 2012). Increase in temperatures is considered as a serious threat to wheat production since a 1°C increase during the growing period of wheat is expected to decrease the yield by 5.7 kg/decare (Sayılğan, 2016). Fluctuations in relative humidity and temperatures have a major impact on potato production; moreover, it is expected that potato production will also be negatively impacted by the climate change through related diseases and pests (Thornton, 2012).

Drought is one of the major problems triggered by climate change which is even more challenging for the arid regions such as the Central Anatolia, and Nevşehir as part of it. Other than issues related to the required humidity, drought is also likely to create many other problems, such as an increase in weeds and pests, which altogether signal various quality and quantity threats in agricultural production (MAF, 2021). As the precipitation patterns are altered by climate change, water resources are impacted (Kanber et al., 2009). Immediate emergence of new pest and disease problems due to precipitation changes and temperature increases result in quality and quantity decreases (MAF, 2021). Moreover, the climate change-induced soil quality problems get even bigger with tillage and these together accelerate erosion, then the deteriorated organic structure of soil results in more use of chemical fertilizers; and this situation even creates more air pollution (Semenderoğlu et al., 2006; MAF, 2021). Thus, the chain of undesired events is likely to create many problems in food production.

A food crisis by 2050 is among the expected results of climate change (Okur et al., 2023). There is also a search for alternative ways of food production due to the related threats to agriculture. Besides, it is argued that alternative food resources, such as some nutritious and easy-to-produce edible insects, are needed to secure food for the growing population (Mankan, 2017). From a similar point of view, artificial meat is among the alternatives both for mitigating climate change and securing food production (Çakmak et al., 2023). It is also a safe way to produce protein-rich food as the risk of zoonotic infection is avoided thanks to laboratory-production (Okur et al., 2023). Moreover, plant-based meat products, biotechnological agricultural products, soilless agriculture practices, and vertical farming methods seem promising for the future of food (Yiğit Özüdoğru & Eren, 2022). All these efforts triggered by human beings' challenges for survival will inevitably affect the local cultures of cuisine.

Climate and geographical differences, and relatedly the flora and fauna, are the defining factors of nutritional habits, thus, the culture of cuisine (Wahlqvist, 2007; Saruşık & Özbay, 2021). From a wider perspective, culture – including its varieties –, geography, religious beliefs, the level of economic welfare, agricultural products and the overall structure of agriculture, and climate shape those nutritional habits (Dündar Arıkan, 2022; Karakuş, et al., 2020; Şeker, 2022; Uzel, 2018; Yıldız, 2022) which are to form a culture of cuisine in the longer-term. Many authentic food products have been ‘developed’ by the limitations and opportunities constituted by flora and fauna, climate, and geographical features of the related region. In other words, local cuisine is also a matter resourcefulness but it is also related to other conditions like climate. For example, when the climate is not very ideal for growing plants then animal husbandry activities could be the priority (Dündar Arıkan, 2022; Şeker, 2022; Yıldız, 2022) which is also quite dependent on climate and geographical features.

Local cuisine

In general, every cuisine has its own characteristics which are defined as those features which distinguish it from other cuisines. Religion or, in general, beliefs, and the flora and fauna altogether confine these characteristics (Şavkay, 2000). Especially the climate and available agricultural products form the basis for the richness and diversity of a cuisine (Güler, 2010; Cömert, 2014; Kızıldemir et al., 2014). Thus, climate and agricultural products are the definitive factors of a cuisine and its diversity (Pulluk et al., 2023). Culinary culture of a region or a country includes authentic food products, dishes, and cooking methods; and history and geographical position of the related region are other definitive factors (Yarış & Özkaya, 2015; Zencir, 2016; Dündar Arıkan, 2018).

Local cuisine, as the major part of the culinary culture, is a valuable asset for any tourism destination since it is an authentic value established in a long period of time under various conditions. Thus, it is usually quite distinctive, which, in the end, makes it a natural tool for differentiation. Sustainability of local cuisine is threatened by various factors. For example, Babat et al. (2017) report that various issues related to agriculture, legislation, generation changes, climate change, and misuse of pesticides are some of those factors. Possessing a rich local cuisine is not sufficient for sustainability and the efforts on sustainability are arguably even more important (Yönet Eren & Ceyhun Sezgin, 2017). Local cuisine is also an identity-definer for destinations (Onat, 2023; Sormaz et al., 2020). Thus, sustainability efforts on local cuisine are likely to provide many advantages to a destination.

Local cuisine is a valuable asset for gastronomy tourism. Even a single local cuisine item could provide many opportunities. For example, Başar et al. (2019) indicate tarhana’s significance for Erzincan. Sezgin & Sezgin (2019) suggest that a safer future for bolama aşı could

provide many gastronomy tourism opportunities for Aydın province. Ceyhun Sezgin & Yönet Eren (2017) note the significance of pestil and köme for a sustainable and well-developed gastronomy tourism. Örgün et al. (2020) trace the authentic receipt for stuffed dried cucumber with a similar approach. Yurt’s (2024) study on Göynük’s local cuisine reveals the significance of local cuisine for sustainability and local cuisine’s contribution to a slow city. Mostly from a gastronomy tourism perspective, Şahin Perçin et al. (2019) report an applied gastronomy study which focuses on Nevşehir local cuisine items which are about to vanish. Erol & Çontu (2019) focus on a single product, i.e. grape, and research recipes that include grape. Alkan’s (2019) thesis concludes that Nevşehir is not that mature in terms of gastronomy tourism but overall tourism activity in the region is an advantage to improve gastronomy tourism. İlhan et al. (2016) note that promotional activities are needed to improve Nevşehir’s gastronomy tourism through local cuisine items. Aslan et al. (2014) discover that local cuisine items cannot take enough place in the menus of restaurants in Nevşehir due to some financial concerns and preservation duration. Thus, Nevşehir local cuisine has the potential to provide more benefits to the region’s gastronomy tourism in a better setup.

Local cuisine’s link with agriculture is noted by various studies. Bessière (1998) gives various examples from France in the context of rural tourism and also discusses the role of culinary heritage. An important note on the agriculture side is that agricultural production is something to focus on for sustainability since the production methods are among the definitive factors (Coelho et al., 2018). A sustainable agricultural system means a sustainable cuisine (Berno, 2006). Stronger linkages between local agriculture and tourism in general, including food, constitute some economic advantages (Berno, 2011), which in turn enhances sustainability. The strength and potential of these linkages may depend on the region (see e.g. Torres’s (2002) study on Yucatan). Phukan & Maheswari’s (2021) study illustrates, once again, that even a single product could constitute great potential for sustainable tourism activities. It is suggested that the agricultural and tourism industries can provide benefits to each other through culinary tourism which is likely to include local cuisine items (Di-Clemente et al., 2020). Efforts on a more sustainable agriculture will contribute to the sustainability of local cuisine. From a similar point of view, Casanova Perez (2024) emphasizes the links between traditional cuisine and agriculture reminding that sustainability efforts should be beyond just preserving the species and also consider the role of consumption. Thus, local cuisine and agriculture linkages are quite significant for sustainability efforts and local agriculture is the base of local cuisine.

Climate change and local cuisine in Nevşehir

Turkish cuisine is generally based on agriculture including animal husbandry activities. The Central Anatolia’s local

cuisine is based on grain products and legumes (Ertaş & Gezmen-Karadağ, 2013; Gökçe, 2016). Animal products, due to their relation to agricultural activity, also take place in the region's cuisine (Gökçe, 2016). Since the region possesses quite ideal features for wheat production, wheat product dishes, such as flour- and bulgur-based ones, are widespread (Şeren Karakuş et al., 2007, Közleme, 2012). Lamb/sheep meat products, dairy products, pilav varieties, dishes made of flour –sometimes in accompany with other ingredients such as meat (e.g. mantı, yağlama, and etc.) –, and some desserts are cited as some other local culinary products (Közleme, 2012; Gökçe, 2016). Dried fruits/vegetables and various pickles are also traditionally produced especially in those territories which experience harsh winter conditions (Ertaş & Gezmen-Karadağ, 2013; Gökçe, 2016).

Nevşehir is a major tourist destination in the Central Anatolia, widely known because of being the core part Cappadocia, and the cultural wealth of the province is associated with the fact that it has hosted many civilizations throughout history. Nevşehir's local cuisine is mostly based on wheat, potato, legumes – such as lentil, chickpea, and bean –, pumpkin, grape, sour cherry, quince, and lamb/sheep meat (Aslan et al., 2014; Özkoç et al., 2019; Nevşehir Provincial Directorate of Environment, Urbanization, and Climate Change, 2023). The local dishes include düğü soup, tarhana soup, ağpakla (beans with bone-in meat), soğanlama, divıl (potato and bulgur), milk soup, chickpea ragout, stuffed apricots, stuffed quince, gendirme, testi kebab, Nevşehir tava, dolaz, köftür, and aside (Güldemir & Işık, 2011; Aslan et al., 2014; Gökçe, 2016; İlhan et al., 2016; Nevşehir Provincial Directorate of Environment, Urbanization, and Climate Change, 2023). Food prepared using traditional preservation methods is quite important in the local culture. The most notables of these are pekmez, köftür, pickle, mantı, erişte, yufka, pickled vine leaves (to be stuffed), salça, tarhana, and dried fruits and vegetables (Nevşehir Provincial Directorate of Environment, Urbanization, and Climate Change, 2023).

The climate change is already changing the agriculture in Nevşehir. For example, alternative products such as safflower, triticale (*Triticum X Secale*), and chokeberry are started to be produced due to their resistance to more unpleasant conditions (Coban Yildiz et al., 2023). These developments have the potential to change the local cuisine. For instance, triticale is already being used instead of wheat by some local people (Coban Yildiz et al., 2023). These developments have the potential to even totally alter the local cuisine. On the other hand, the debate on artificial food is another factor to be considered. If the climate of Nevşehir becomes too unpleasant, then the artificial or non-authentic alternatives such as artificial meat, plant-based meat, edible insects, and new hybrid species of plants may take more place in the local cuisine both as the main ingredient or add-ins. Thus, all these possibilities should be taken into consideration in the efforts to secure a more sustainable local cuisine.

3. Methodology

As the main purpose of this study is to propose a model which deals with the relation of Nevşehir's local cuisine with climate change and agriculture, many secondary data resources were used. Due to their reliability and higher quality (Devine, 2003; Clark, 2005), the secondary data have contributed to the trustworthiness of the study. The authors' experience in the region as researchers and their knowledge on the related subjects are also among the factors that contribute to the trustworthiness. The overall process, through which the model was developed, was devised upon three focal points, namely, local cuisine, climate change, and agriculture. Sustainability approach was the key for all these focus areas in every step of the study. Selection of key respondents from key institutions is another strength of the trustworthiness of the research.

It is useful to present the study procedure for the sake of more clarity and to enable the audience, including future researchers, critically evaluate the model. First, the climate characteristics of the region and the climate projections were considered. The region's local cuisine assets and related agricultural products, both the major products and potentially promising ones, were also taken into consideration in line with their significance for the region and their potential for local cuisine applications. Sustainability was the focus of the model in all phases of the study since it is the ultimate goal of such models. Factors indirectly associated with local cuisine, climate change, and agriculture were inevitably included in the theoretical base of the study and these were confirmed by the interviewees. For example, the overall economic composition of Nevşehir was considered in terms of its major impact on the implementation of any plan – the model in this study for instance – in the province. Similarly, the big debates on the long-needed transformation of the agriculture industry, based on the facts such as irrational water usage or pesticide issues, are innate in the base of the model. In the further analyses, the region's renewable energy potential, waste management opportunities, water management issues, and smart infrastructure possibilities were embedded in the conceptual model due to their importance in climate change mitigation.

Due to this conceptual complexity of the issue, relevant concepts were listed (Table 1.) throughout the study phase. Those items should be considered as the raw start of the conceptualization period and first step of the refinement. The purer conceptual model was constructed by further extraction from this draft (Figure 1.). The final model (Figure 2.) was created through the content analysis of the interviews conducted with the relevant representatives and by considering the conceptual matters. All these analyses were conducted with a qualitative content analysis approach. The analysis of the interviews was inductive and interpretive as expected from a qualitative approach (Williamson et al., 2018). While analyzing interviews and refining the conceptual and practical models, the

researchers always focused on the meaning and emphasis of the interviewees' responses and priority of the concepts/issues. This procedure is aimed at building a practical final model without any prejudgment (or a psychological limitation about the 'applicability' of something). Deductive approach was not rejected in the entire analysis process either and the conceptual matters which were not derived from interviews were embedded through the maturation of the model with this perspective (Zhang & Wildemuth, 2017a).

The interpretive approach adopted by the researchers was also a better fit for the unstructured interviews (Zhang & Wildemuth, 2017b). Unstructured interviews were conducted with the representatives of Nevşehir Provincial Directorate of Agriculture and Forestry, Nevşehir Chamber of Commerce and Industry, Nevşehir Commodity Exchange, Nevşehir Chamber of Agriculture, and Nevşehir Chamber of Vegetable-suppliers, Fruit-suppliers, and Stallholders. These organizations are the key institutions in Nevşehir agriculture and trade of the related agricultural products. Thus, the representatives' views on the issues are very significant since they are aware of the whole system's positive and negative outcomes. In total, 6 key people from these organizations were interviewed. All interviewees have in-depth knowledge on the territory and agriculture. Moreover, 4 interviewees are also technical experts. Interviewees' ages range from 35 to 60 and they have years of experience. They are also very familiar with the local culture and even the cultural nuances between villages. These all make them quite ideal information and interpretation resources. Unstructured interviews gave the required freedom to the interviewees to comment on the issues based on their knowledge, experience, and observations in the province. This way, they also had the freedom to state the relevant factors other than climate, such as economy, so that the researchers could avoid any potential bias in the theoretical construction of the study. The in-depth and technical knowledge the interviewees possess could provide more insights in an unstructured interview since they have total freedom to interpret and are not limited with the researchers' vision (or their interview setup). After an explanation on the purposes and content of the research, the following question was asked to the interviewees: "What can be done to enhance the sustainability of agricultural products used in Nevşehir local cuisine". Average duration per interview was about 30 minutes. The interviews were conducted in June 2024.

4. The Model

The model focuses on the sustainability of Nevşehir's local cuisine. All risks and opportunities have been considered with this end in view. Local cuisine is an authentic value but that should not necessarily mean it should be kept in the same way it has always been. On the other hand, changes in the local cuisine should not corrupt its authenticity. There is no doubt that any local cuisine has gone through many changes throughout time. However,

risks such as the recent climate change put so much pressure on local cuisine in a relatively short time. Thus, it gets more crucial to avoid corruption in such circumstances. Issues determined through this study, on which the model was developed, are as follows:

- Quality local agricultural products are essential for a sustainable local cuisine. However, as well as quantity, quality is quite at risk due to climate change. For this reason, the region should first determine climate-resistant species so that they can be used for re-interpreting the local recipes.
- Climate-friendly ways should be considered at all levels of food production in order to mitigate the harsher impact. Organic agriculture possibilities, for the sake of a better ecology, should be used to their full potential for local cuisine.
- Preventing food waste is also an essential part of climate efforts, which could also help to save local cuisine. As resources get scarcer due to climate change, local food which relies on these resources becomes more vulnerable. Moreover, any economic problem triggered by the scarcity of resources, such as an inflation in food prices, could also make local cuisine less accessible; thus, more difficult to preserve in the long term due to low demand or any other related factor.
- Since any local cuisine belongs to the people of the related region, Nevşehir people's significance should be recognized in that regard. Local cuisine, as a part of local culture, is unlikely to survive without local people.
- If slow city opportunities are evaluated, then this could support local cuisine in essence. In other words, in a setting like a slow city, it will be easier to protect local cuisine from being corrupted.
- Energy production and usage is related to almost everything. Major producers of local food should focus on renewable energy since their production activities dialectically risk their future as local cuisine stakeholders. In general, the goal should be to minimize carbon footprint.
- The province's solar energy potential is an opportunity (Yildiz & Coban Yildiz, 2023) but land use for this activity should not undermine the agricultural use of those lands. Although there are already legal regulations in order to prevent this (Official Gazette, 2009), the definition of fertile land could be reconsidered due to both climate change and advancements in agricultural technology. Today's infertile lands might be transformed even into agricultural production hubs depending on some key advancements in some sciences such as agrology. Thus, land use issues should be approached considering the longer term and agricultural or potentially agricultural lands should not be undervalued.
- Irrigation issues in the agricultural industry are quite related to local cuisine. Traditionally developed on dry-farming products, Nevşehir's local cuisine seems somehow promising but the risks should still be

considered. Thus, drought-tolerant or drought-resistant products should always be the primary choice while developing new local food products.

- Preserving the water and not polluting it in any stage is crucial. For example, oil waste could cause many water pollution problems. Thus, disposal of food-production-related waste is another key area of focus. Some industrial standards of disposal, in addition to the existing ones, should be developed and these may well become a prerequisite for producing local food.
- Smart technology or advancements in artificial intelligence could constitute great opportunities for a more sustainable local cuisine. For example, local dishes might be traced by consumers through each phase of their production and delicate stages in the production could be emphasized for marketing purposes. This might even enhance the image of local cuisine.
- Climate-friendly cuisine opportunities could be evaluated but product choice should not be in contradiction with the ‘soul’ of Nevşehir’s authentic local cuisine. For example, meat-based products could be diversified with their vegetarian alternatives or less

meat could be used in the same dish. In the long term, artificial meat could be considered. However, all these should go through some test process in which the new product is evaluated by local people, professional chefs, and related professional organizations. Production methods of local food could be replaced with climate-friendlier ones from a similar point of view.

Before finalizing the conceptual model, a conceptual draft, which is presented in Table 1, was prepared considering all these issues. Then, these conceptual items were refined through an extraction phase which, in the end, formed the conceptual model presented in Figure 1. The interview data, created through content analysis, has resulted in the practical model presented in Figure 2. Although the practical model was created based on the interviews and may look somehow different at first glance, the issues are all interrelated and conceptual matters are inevitably embedded in that model, too. Moreover, the statements of the interviewees further confirm the theoretical base, or the relevant conceptual matters, determined by the researchers. Thus, the build-up of the practical model is quite related to the conceptual one.

Table 1. Conceptual Draft for the Model

Nevşehir Local Cuisine	Climate and Agricultural Factors	Other Factors	Opportunities
Embracing change without losing authenticity	Shift of harvest seasons	Energy production and usage	Drought-tolerant/resistant native species
High quality local products	Quality issues	Social link of local cuisine (Significance of local people)	Organic agriculture
Reinterpretation of local cuisine with climate-resistant species	Increase in temperatures		Slow cities
Retuning/redesign of the whole food product cycle for a more climate-friendly production	Irrigated vs. dry agriculture		
Preventing food waste	Native species		
Keeping local cuisine accessible	CO ₂ concentrations		
Recognizing the significance of local people	Agricultural Efficiency Issues		
Creating slow cities with a focus on local cuisine	Pesticide issues		
Renewable energy for local food production	Soil quality issues		
Energy efficiency in local food production	Drought and water-related issues		
Minimizing overall carbon footprint	Technology		
Seeking climate-friendlier alternatives of material in the development of local food products	Changing agricultural product portfolio		
Long-term vision of scientific and technological advancements	Smart infrastructure		
Critical approach to the use of irrigated agriculture products	Waste management		
Developing stricter standards of waste disposal in the food-related industries	Renewable energy		
Use of smart technologies for local food	Potential global food crisis as well as a local food crisis if not managed properly Cautious approach to land use for non-agriculture purposes including renewable energy		

Source: created by the authors

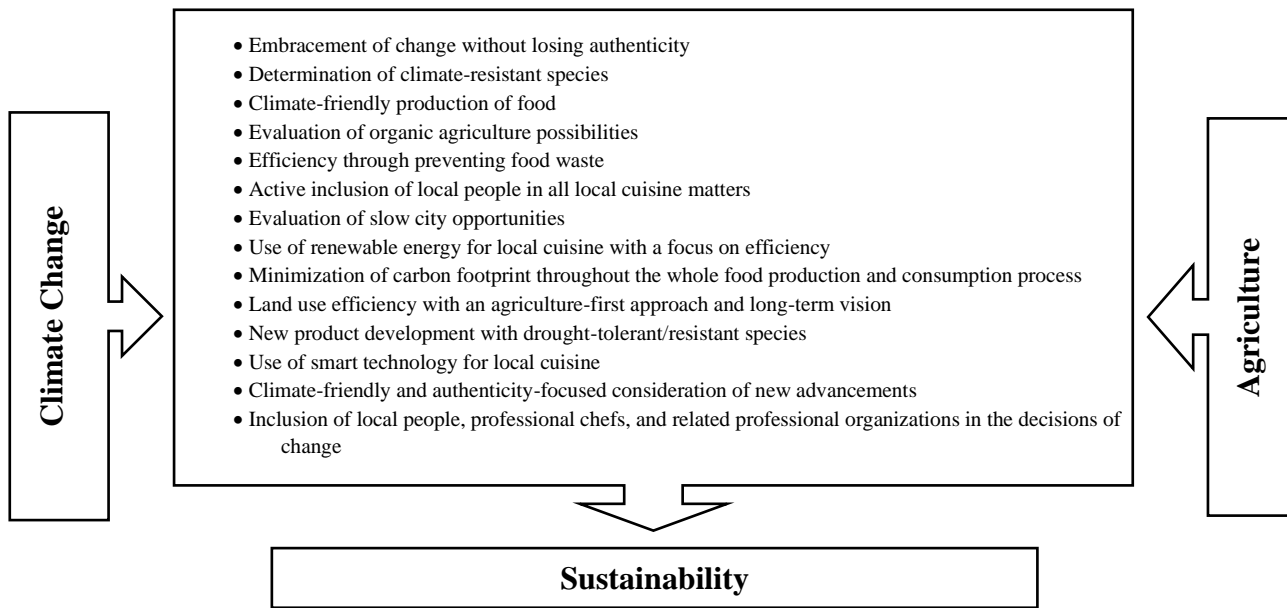


Figure 1. Conceptual Model for Nevşehir Local Cuisine

Source: created by the authors

The interviewees state that beans, Ayhan eggplants, dried cream, tomatoes, Topac garlic, potatoes, pumpkin (two derivatives one of which is grown for its seeds), and grape as the most authentic local agricultural products. Among the problems, they emphasize that irrigated-farming has been more popular despite the province’s dry climate. Dry-farming products are still produced but mostly for the farmer family’s own consumption. Preference of modern seeds – which are usually imported – rather than ancient seeds has resulted in many plant diseases which are difficult to manage. Then, the farmers had to use many other chemicals to overcome these problems. Moreover, ancient seeds are reported to have gone through some undesired changes and lost some of their authentic value. However, there are already efforts to preserve the genetic heritage of these ancient seeds. Monoculture in the territory is also criticized. For example, a disease in potato has spread all around the territory through large potato farms. Another emphasis was on the inappropriate use of chemical fertilizers which is considered a threat both to product quality and soil health. This is sometimes a matter of low awareness. In addition, some farmers rent the farmlands and they do not focus on long-term health of the soil. There are farmers who still use organic fertilizers but the content and quality of them are unknown. Thus, interviewees state that this constitutes a similar risk, in comparison to inappropriate use of chemicals, for the future. Excessive irrigation and underground water issues are mentioned as other threats to soil quality especially in the long-term.

Interviewee 1: “We have already sent the ancient seeds to the relevant institutions for the preservation of their genetic characteristics.”

Interviewee 4: “They plant potatoes and potatoes ... Then they have to use more fertilizers to feed the same plant on

the same farmland every year. Moreover, the (recent) disease (in potato) has spread everywhere.”

Interviewee 1: “Since the producers focused too much on income and continuously planted potatoes, after some time, they faced health issues in that plant and the issue has spread quickly. Moreover, excessive production resulted in lower prices, thus lower income.”

Interviewee 3: “Even though scientific analyses clearly tell them that they cannot use that water for irrigation, they use it. Soil analyses indicate, for example, no problem with phosphorus but they still use phosphorus fertilizers. They think it will still be beneficial for the plant but this approach creates more problems...When they rent a farmland for a short period then they do not care about the future of the soil. They are interested only in that season’s yield.”

Interviewee 1: “There are already soil health issues due to fertilizer use and excessive irrigation. They use underground water. They go deeper and deeper to get that water. However, there are salinization problems.”

Among the economic factors, the focus on profit maximization is threatening some local products, such as grape, since their market value is quite low. The interviewees are worried that many farmers are unwilling to grow these in such circumstances, which threatens their sustainability. The consumer’s preference of modern agriculture products based on mostly their physical appearance (such as bigger apples) and lower efficiency of organic agriculture prevent farmers from focusing on a more sustainable, preferably organic, agriculture. The short-term financial interests are usually the main and only focus of farmers. Moreover, even those who make quite high profits are unwilling to increase their costs for the sake

of sustainability. Another associated problem is the lower purchasing power of the majority. Not surprisingly, these consumers demand low-price products and do not have the chance to seek for higher quality since they are in a financially handicapped position.

Interviewee 5: “They know that it is not a high-quality product but they have to buy some food for their family. They can afford only these.”

Interviewee 4: “Vineyards were abundant here. When they cannot make money out of grapes then they unplanted those vineyards. This threatens authentic grape production.”

Climate-wise changes, such as increase in temperatures and changes in precipitation, have resulted in many quality and quantity issues in agricultural production. Moreover, water problems have been cited a lot. Not only the availability of those underground water resources but also their quality is at risk. The current problems in the available water are disregarded by many farmers since they have to irrigate their land somehow. This situation is likely to create more problems in the future since the inappropriate water deteriorates soil quality. Warmer winters accompanied with precipitation problems in that season create many issues in agriculture. Fruit trees which need cold weather in winter face serious problems which affect their efficiency and overall health. New agricultural product trials, such as persimmon, Orchis species (for sale), chestnut, and lavender, have started considering the novel climate conditions. This might be an indication of long-term change which has implications for local cuisine. The interviewees mention the efforts such as geographical indication products, various innovative projects, and incentives. The interviewee’s suggestions on the sustainability include pilot regions for authentic agriculture products, incentives for traditional farmer families, governmentally sales-promised production of related agricultural products, and providing opportunities to the farmers to become also merchants and vice-versa so that they do not overemphasize only one side’s interests. Since Nevşehir is a tourism destination, the city center especially

the local food markets should benefit from this. The interviewees suggest that tours should include local food markets, especially farmers’ markets, in the city center so that tourists witness the authenticity and local agriculture could benefit from tourism financially and have more motivation to produce authentic products.

Interviewee 2: “...For example, pumpkin seeds are geographical indication products now and this gives an advantage. There is work going on for more geographical indication products.”

Interviewee 4: “The farmer families used to seed their farmlands with ancient seeds. They used to have a couple of cows and 7-8 heads of sheep. These were all for their own consumption. They did not have much worry to sell.”

An interesting note made by interviewees is that the farmers in the region became professionals but they were not successfully integrated into the financial economy. In other words, traditional farmer families have almost become extinct and the practical obligation to ‘sell’ what they produce made the farmers more vulnerable since they do not have much power of bargain. In traditional farming times, they used to produce what they needed (including their food, seeds for the next season, organic fertilizers, and meat) and there was little sales pressure on them for the surplus product. ‘Professional times’ have also brought some ethical challenges. One of the interviewees states that some producers have a higher ethical approach but some other focus only on more income either because of their poor financial condition or arguably greedy approach.

Interviewee 1: “There are not many farmer-families anymore. This deteriorates the authenticity. They have to produce what sells.”

Interviewee 5: “There is honey which has never met a bee (laughter). Can you imagine? This is all for the sake of lower costs and lower final prices. We have similar problems in cheese. I think the milk has never met that cheese (laughter).”

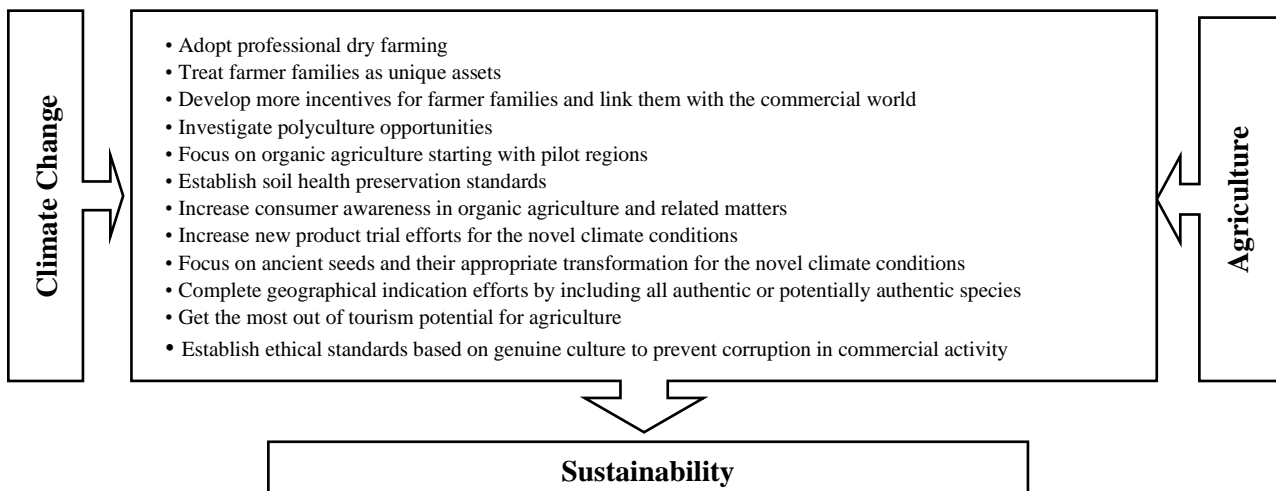


Figure 2. Practical Model for Nevşehir Local Cuisine

5. Conclusion

This study has dealt with the threat of climate change to Nevşehir local cuisine through the link of agriculture. Threats are various and the issue is complicated since climate affects many things. Moreover, other details, such as the social and economic factors related to local cuisine, further contribute to this complexity. Those factors are as important as the others for a sustainable local cuisine as also reminded by Laeis et al. (2019). The conceptual and practical models proposed in this study could be a starting point for future research which could examine the issues in separate studies for more in-depth knowledge of these factors.

Climate-friendly solutions or developments related to food production and consumption are of greater importance than ever since climate change is starting to visibly impact everything. The closer link of food, agriculture, and climate makes it more urgent to develop a better system in food-related phenomena such as local cuisine. Moreover, it is essential to overcome the dilemma of economic truth, such as profit maximization, in order to establish the new systems on a sustainable base.

Preserving the authenticity of local cuisine as a very valuable asset has many implications such as a more competitive gastronomy tourism. In addition, food is essential for human beings to survive. Many debates on food production and its contribution to emissions get more complicated for these reasons. For example, animal husbandry activities are criticized for contributing to emissions but the solution should not be reducing the total production. Producing meat in alternative ways or producing meat alternatives including artificial meat should be the primary preference. Otherwise, sustainability of local cuisine would only be a matter of discussion in luxury tourism and it will lose its authenticity due to the destruction of its link with the local culture. Finding climate-friendlier alternatives of any activity is not easy but the efforts focused on this end is very important for a better future.

As also highlighted throughout this study, the links of agriculture and food should be well understood so that a securer, preferably flawless, system could be developed. Since the current agri-food system seems vulnerable due to some factors such as climate change, sustainability of not only local cuisine but also food production should be the focus. In addition to the suggestions developed in this study, future research which is to deal with these issues will contribute to the efforts significantly. As they are also included in the results of this study, ethical issues are vital. Future research on ethical links of local cuisine and sustainability (and even survivability) could help to solve these issues. Practical studies or projects on this issue will also provide many opportunities.

Another implication of this study is that Nevşehir should focus on a more realistic agriculture considering the current

climate and ongoing and potential changes in the climate. Since issues are various and the problem is global in essence, it is safe to argue that not only Nevşehir or the Central Anatolia but the whole world needs a new agrarian revolution to secure food production so that local cuisines could also survive. A last emphasis on sustainability to remind is that local production should also contribute to local wealth not only financially but also quality-wise. In other words, securing locally-produced high-quality agricultural products is not sufficient to save local cuisine unless these products are also offered to the local market at accessible prices. From a similar point of view, efficiency-related arguments in this study are also directly related to accessibility since they can potentially reduce costs. Thus, economic and social links of the issues are important and these can be other subjects of future research.

As well as implications, limitations of a study are important. Thus, it is useful to note some limitations of this study. First, no single study could explore every detail on such a complicated issue; thus, this is the major limitation. In other words, those concepts discussed throughout this paper or the analyses should be considered as not factual judgments despite their links with the facts. Similarly, interpretive nature of the study makes the conclusions limited with some perspective (mainly the interviewees' and the interviewers' perspectives). Although this limitation is due to the qualitative nature of the study, possible alternative approaches are not rejected at all and future research will fill this gap. Despite all limitations, this study may contribute to the efforts of sustaining and/or improving Nevşehir local cuisine and highlighting some of the key factors associated with the region's agricultural and food/gastronomical issues.

References

- Akalın, M. (2014). İklim değişikliğinin tarım üzerindeki etkileri: Bu etkileri gidermeye yönelik uyum ve azaltım stratejileri. *Hitit Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 7(2), 351-377.
- Akbaş, B., Morca, A. F., & Coşkan, S. (2021). İklim değişikliğinin tahıl virüs hastalıkları üzerine etkisi. *Ziraat Mühendisliği*, 374, 4-14. <https://doi.org/10.33724/zm.972677>
- Alkan, S. (2019). *Nevşehir gastronomi turizminin gelişmişlik düzeyinin belirlenmesi* (YÖK thesis no: 557363) [Master Dissertation, Nevşehir Hacı Bektaş Veli University, Institute of Social Sciences].
- Aslan, Z., Güneren, E., & Çoban, G. (2014). Destinasyon markalaşma sürecinde yöresel mutfağın rolü: Nevşehir örneği. *Journal of Tourism & Gastronomy Studies*, 2(4), 3-13.
- Babat, D., Gökçe, F., & Varışlı, A. (2017, 23-25 November). Hatay mutfak kültürünün sürdürülebilirliğinde, yöresel yiyecek üreticilerinin rolü. *1st International Sustainable Tourism Congress* (pp. 816-830). Kastamonu University, Faculty of Tourism, Kastamonu, Türkiye.

- Başar, F., Şen, N., Silahşör, Y., & Başar, B. (2019). Erzincan yöresel mutfak kültürü unsuru olan tarhananın gastronomi turizmi açısından değerlendirilmesi. *Journal of Tourism & Gastronomy Studies*, 7(1), 328-339. <https://doi.org/10.21325/jotags.2019.365>
- Berno, T. (2006). Bridging sustainable agriculture and sustainable tourism to enhance sustainability. In G.M. Madacumura, D. Mebratu, & M.S. Haque (Eds.), *Sustainable Development Policy and Administration* (pp. 118-207). Public Administration and Public Policy-New York, Taylor and Francis.
- Berno, T. (2011). Sustainability on a plate: Linking agriculture and food in the Fiji Islands tourism industry. In R.M. Torres & J.H. Momsen (Eds.), *Tourism and agriculture* (pp. 87-103). Routledge.
- Bessière, J. (1998). Local development and heritage: Traditional food and cuisine as tourist attractions in rural areas. *Sociologia Ruralis*, 38(1), 21-34. <https://doi.org/10.1111/1467-9523.00061>
- Casanova Pérez, L. (2024). Recovery of agrobiodiversity and traditional cuisine. *Journal of the Selva Andina Biosphere*, 12(1), 1-3. <https://doi.org/10.36610/j.jsab.2024.120100001>
- Ceyhun Sezgin, A., & Yönet Eren, F. (2017, 23-25 November). Yöresel ürünlerin gastronomi turizminin sürdürülebilirliği bakımından değerlendirilmesi: Pestil ve köme örneği. *1st International Sustainable Tourism Congress* (pp. 198-206). Kastamonu University, Faculty of Tourism, Kastamonu, Türkiye.
- Clark, G. (2005). Secondary data. In R. Flowerdew & D. Martin (Eds.), *Methods in Human Geography: A Guide for Students Doing a Research Project* (2nd ed., pp. 57-74). Pearson.
- Coban Yildiz, G., Yildiz, O. S., & Akyuz, M. (2023, 8-10 June). Possible effects of climate change on harvest tourism: Case of Cappadocia. *7th International West Asia Congress of Tourism Research* (pp. 32-48), Van Yüzüncü Yıl University, Skopje, North Macedonia.
- Coelho, F. C., Coelho, E. M., & Egerer, M. (2018). Local food: Benefits and failings due to modern agriculture. *Scientia Agricola*, 75, 84-94. <https://doi.org/10.1590/1678-992X-2015-0439>
- Cömert, M. (2014). Turizm pazarlamasında yöresel mutfakların önemi ve Hatay mutfağı örneği. *Journal of Tourism & Gastronomy Studies*, 2(1), 64-70.
- Çakmak, Ö., Ergene, E., Acaröz, U., & Aldemir, T. (2023). Yapay et üretiminde teknolojik gelişmeler ve endüstrisinin geleceği. *Veteriner Farmakoloji ve Toksikoloji Derneği Bülteni*, 14(1), 1-15. <https://doi.org/10.38137/vftd.1231634>
- Devereux, S., & Edwards, J. (2004). Climate change and food security. *IDS Bulletin*, 35(3), 22-30.
- Devine, P. (2003). Secondary data analysis. In R. L. Miller & J. D. Brewer (Eds.), *The A-Z of Social Research: A Dictionary of Key Social Science Research Concepts* (pp. 285-288), SAGE Publications.
- Di-Clemente, E., Hernández-Mogollón, J. M., & López-Guzmán, T. (2020). Culinary tourism as an effective strategy for a profitable cooperation between agriculture and tourism. *Social Sciences*, 9(3), 25. <https://doi.org/10.3390/socsci9030025>
- Dündar Arıkan, A. (Ed.). (2018). *Preface in Türk mutfak kültürü*. Eskişehir Anadolu Üniversitesi Yayınları.
- Dündar Arıkan, A. (2022). Sanat ve yemek kültürü. In N. Serçoğlu (Ed.), *Yemek, Kültür ve Toplum* (ss. 215-242). Nobel Yayıncılık.
- Erol, G., & Çontu, M. (2019, 19-21 September). Gastronomik bir ürün olarak üzüm: Ürgüp örneği. *4th International Gastronomy Tourism Studies Congress* (pp. 116-121). Nevşehir Hacı Bektaş Veli University, Faculty of Tourism, Nevşehir, Türkiye.
- Ertaş, Y., & Gezmen-Karadağ, M. (2013). Sağlıklı beslenmede Türk mutfak kültürünün yeri. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*, 2(1), 117-136.
- Gökçe, N. (2016). Türkiye’de yöresel mutfaklar. In E. Zencir (Ed.), *Yöresel Mutfaklar* (ss. 2-30). Eskişehir: Anadolu Üniversitesi Yayınları No:3375.
- Güldemir, O., & Işık, N. (2011). Nevşehir mutfak kültürü ve yemekleri. 1. *Uluslararası Nevşehir Tarih ve Kültür Sempozyumu*, 6. Cilt. 16-19 Kasım. Nevşehir: Nevşehir Üniversitesi, s. 151-176.
- Güler, S. (2010). Türk mutfak kültürü ve yeme içme alışkanlıkları. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, 26, 24-30.
- İlhan, İ., Kamış, M. D., & Türk, O. (2016, May 2-4). Nevşehir yerel mutfak kültürünün gastronomi turizmi açısından incelenmesi. 2. *Uluslararası Nevşehir Tarih ve Kültür Sempozyumu* (pp. 752-765), Nevşehir Hacı Bektaş Veli University, Nevşehir, Türkiye.
- Kanber, R., Baştuğ, R., Büyüktaş, D., Ünlü, M., & Kapur, B. (2009, 2-10 January). Küresel iklim değişikliğinin su kaynakları ve tarımsal sulamaya etkileri. *Türkiye Ziraat Mühendisliği VII. Teknik Kongresi*, Ankara, Türkiye.
- Kandemir, Ç., & Taşkın, T. (2022). Türkiye’de koyun ırklarının bölgelere göre durumu: İç Anadolu Bölgesi. *Uluslararası Anadolu Ziraat Mühendisliği Bilimleri Dergisi*, 4(4), 97-105.
- Karakuş, Y., Onat, G., & Güneren Özdemir, E. (2020). Yerel halkın gastronomi turizmi çağrışımları ve beklentileri: Göreme kasabası örneği (connotations and expectations of local people's gastronomic tourism: case of göreme town). *Journal of Tourism & Gastronomy Studies*, 8(3), 2179-2201.
- Kızıldemir, Ö., Öztürk, E., & Sarıışık, M. (2014). Türk mutfak kültürünün tarihsel gelişiminde yaşanan değişimler. *AİBÜ Sosyal Bilimler Enstitüsü Dergisi*, 14(3), 191-210.
- Kizilaslan, M., Arzik, Y., Behrem, S., White, S. N., & Cinar, M. U. (2024). Comparative genomic characterization of indigenous fat-tailed Akkaraman sheep with local and transboundary sheep breeds. *Food and Energy Security*, 13, e508. <https://doi.org/10.1002/fes3.508>

- Közleme, O. (2012). Türk mutfak kültürü ve din (YÖK thesis no: 317382). [Doctoral Dissertation, Marmara University, Institute of Social Sciences].
- Küpe, M. (2012). Küresel iklim değişikliğinin bağcılık üzerindeki etkileri. *Atatürk Üniversitesi Ziraat Fakültesi Dergisi*, 43(2), 191-196.
- Laeis, G. C. M., Scheyvens, R. A., & Morris, C. (2019). Cuisine: A new concept for analysing tourism-agriculture linkages? *Journal of Tourism and Cultural Change*, 18(6), 643-658. <https://doi.org/10.1080/14766825.2019.1624763>
- Mankan, E. (2017). Gastronomide yeni trendler-yenilebilir böcekler. *Electronic Turkish Studies*, 12(3), 425-440. <https://doi.org/10.7827/TurkishStudies.11431>
- Ministry of Agriculture and Forestry, the Republic of Türkiye, General Directorate of Agricultural Reform (2021) İklim Değişikliği ve Tarım Değerlendirme Raporu, Ankara. <https://www.tarimorman.gov.tr/TRGM/Belgeler/IKLIM%20DEGISIKLIGI%20VE%20TARIM%20DEGERLENDIRME%20RAPORU.pdf>
- Nevşehir Provincial Directorate of Environment, Urbanization and Climate Change (2023). Nevşehir-Sosyo Kültürel Yapı: Kapadokya'da Sosyo-Kültürel Yapı. <https://nevsehir.csb.gov.tr/nev-sharp351-ehir---sosyo-kulturel-yap-sharp305-i-1913>
- Official Gazette, the Republic of Türkiye (2009, July 24). Tarım Arazilerinin Korunması, Kullanılması ve Arazi Topulaştırmasına İlişkin Tüzük. <https://www.resmigazete.gov.tr/eskiler/2009/07/20090724-3.htm>
- Okur, H. C., Onay, T., & Uçar, A. (2023). Alternatif protein kaynağı: Yapay et. *Bandırma Onyediyüzyıl Üniversitesi Sağlık Bilimleri ve Araştırmaları Dergisi*, 5(3), 272-281. <https://doi.org/10.46413/boneyusbad.1285248>
- Onat, G. (2023). Motivated tourists: Gastronomy image and its implications for destination managers. *Tourist Destination*, 1(1), 33-39. <https://doi.org/10.5281/zenodo.10454540>
- Örgün, E., Solunoğlu, S., & Solunoğlu, A. (2020). Yerel mutfak kültürünün sürdürülebilir turizm açısından değerlendirilmesi: Nevşehir örneği (Evaluation of local cuisine culture in terms of sustainable tourism: Case of Nevşehir). *Journal of Tourism & Gastronomy Studies*, 8(Special Issue 4), 622-632. <https://doi.org/10.21325/jotags.2020.709>
- Özkoç, A.G., Ardıç Yetiş, Ş., Kamyş, M.D., & İnak, A. (2019, October 16-19). Nevşehir ilinde yaşatılan geleneksel alevi-bektaşî mutfağına yönelik sözlü kültür araştırması. 20. Ulusal Turizm Kongresi (pp. 959-964), Anadolu University, Eskişehir, Türkiye
- Phukan, A. & Maheshwari, A. (2021, 27-28 August). Eco tourism in Assam with special emphasis on tea tourism. The 5th International Conference i-Host "New Normal in Hospitality & Tourism: Skills, Innovation and Technology" (269-281). Le Cordon Bleu School of Hospitality & Tourism
- Porter, J.R., Xie, L., Challinor, A.J., Cochrane, K., Howden, S.M., Iqbal, M.M., Lobell D.B., & Travasso, M. (2014). Food security and food production systems. In C.B. Field & V.R. Barros (Eds.). *Climate change 2014-Impacts, adaptation and vulnerability: Regional aspects* (485-533). Cambridge University Press
- Pulluk, E., Örnek, A., & Yazar, S. (2023). Geçmişten günümüze Burdur mutfak kültürüne yönelik bir saha araştırması. *Turizm ve İşletme Bilimleri Dergisi*, 3(1), 21-35
- Sarıışık, M. & Özbay, G. (2021). Preface in Uluslararası gastronomi temel özellikler - örnek menüler ve reçeteler. Detay Yayıncılık
- Sayılgan, Ç. (2016). Küresel sıcaklık artışının buğdayda beklenen etkileri ve yüksek sıcaklığa toleranslılığın fizyolojik göstergeleri. *Yüzüncü Yıl Üniversitesi Tarım Bilimleri Dergisi*, 26(3), 439-447
- Schmidhuber, J. & Tubiello, F.N. (2007). Global food security under climate change. *Proceedings of The National Academy of Sciences*, 104(50), 19703-19708. <https://doi.org/10.1073/pnas.0701976104>
- Semenderoğlu, A., İlhan, A., Gülersoy, A.E. (2006). Kimyasal ve biyolojik arazi degradasyonu. *Türk Coğrafya Dergisi*, 45, 15-40
- Sensoy, S., Demircan, M., Ulupınar, U., & Balta, I. (2008). Türkiye iklimi. Turkish State Meteorological Service (DMİ), Ankara
- Sezgin, A. & Sezgin, E. K. (2019, 19-21 September) Gastronomi turizminde yöresel yemeklerin rolü: Aydın ili bolama aşısı örneği. 4th International Gastronomy Tourism Studies Congress (pp. 185-189). Nevşehir Hacı Bektaş Veli University, Faculty of Tourism, Nevşehir, Türkiye
- Soltekin, O., Altındışli, A., & İşçi, B. (2021). İklim değişikliğinin Türkiye'de bağcılık üzerine etkileri. *Ege Üniversitesi Ziraat Fakültesi Dergisi*, 58(3), 457-467. <https://doi.org/10.20289/zfdergi.882893>
- Sormaz, Ü., Özata, E., & Madenci, A. B. (2020). Tüketicilerin yöresel ürün, yemek ve restoranları tercih etme nedenleri: Trakya yöresi mutfağı örneği (Reasons of consumers' preferences of the local products, food and restaurants: Case of the Thrace region cuisine). *Journal of Tourism & Gastronomy Studies*, 8(1), 538-551. <https://doi.org/10.21325/jotags.2020.563>
- Şahin Perçin, N., Örgün, E., Erol, G., & Keskin, E. (2019, 19-21 September). Gastronomik bir değer olarak Nevşehir mutfağı. 4th International Gastronomy Tourism Studies Congress (pp. 469-478). Nevşehir Hacı Bektaş Veli University, Faculty of Tourism, Nevşehir, Türkiye
- Şavkay, T. (2000). Osmanlı mutfağı. Şekerbank Yayınları, İstanbul
- Şeker, İ.T. (2022). Filozoflar ve yemek kültürü. In N. Serçeoğlu (Ed.). *Yemek, Kültür ve Toplum* (ss. 293-311). Nobel Yayıncılık
- Şeren Karakuş, Ş., Küçükömürler, S., Ekmen, Z. (2007, 10-15 September). Türk kültüründe bulgur. Uluslararası Asya

- ve Kuzey Afrika Çalışmaları Kongresi, 38. ICANAS, (pp.1179-1190). Ankara
- Thornton, P. K. (2012). Impacts of climate change on the agricultural and aquatic systems and natural resources within the CGIAR's mandate. CCAFS Working Paper
- Torres, R. (2002). Toward a better understanding of tourism and agriculture linkages in the Yucatan: Tourist food consumption and preferences. *Tourism Geographies*, 4(3), 282-306. <https://doi.org/10.1080/14616680210147436>
- Turkish State Meteorological Service (2015). Yeni Senaryolarla Türkiye İçin İklim Değişikliği Projeksiyonları. <https://www.mgm.gov.tr/FILES/Iklim/Iklim-DeGISIKligi-Projeksiyon2015.Pdf>
- Uzel, R. A. (2018). Geleneksel mutfak kültürü ve tarımsal ürün çeşitliliğinin, üniversite öğrencileri beslenme durumu üzerine etkisi. *Ege Üniversitesi Ziraat Fakültesi Dergisi*, 55(1), 37-44. <https://doi.org/10.20289/zfdergi.358701>
- Wahlqvist, M. L. (2007). Regional food culture and development. *Asia Pacific Journal of Clinical Nutrition*, 16(1), 2-7.
- Williamson, K., Given, L. M., & Scifleet, P. (2018). Qualitative data analysis. In K. Williamson & G. Johanson (Eds.), *Research Methods* (2nd Edition) (pp. 453-476). Chandos Publishing. <https://doi.org/10.1016/B978-0-08-102220-7.00019-4>
- Yarış, A., & Özkaya, F. D. (2015). Amerikan mutfak kültürünün gelişim süreci. *Journal of Tourism and Gastronomy Studies*, 3(3), 90-101.
- Yıldız, O. Ş., & Çoban Yıldız, G. (2023, 26-28 October). Climate adaptability for tourism in Rocky Cappadocia: A model proposal. 3rd International Congress of New Generations and New Trends in Tourism (pp. 151-166). Sakarya University of Applied Sciences, Sakarya, Türkiye.
- Yıldız, S. (2022). Etnik toplumlara ait yemek kültürleri. In N. Serçeoğlu (Ed.), *Yemek, Kültür ve Toplum* (pp. 333-359). Nobel Yayıncılık.
- Yiğit Özudoğru, H., & Eren, E. (2022). Yemek ve coğrafya. In M. Aksoy, İ. Çekiç, & G. S. Tahmaz (Eds.), *Yemeğin Kültürel Temelleri* (pp. 61-90). Detay Yayıncılık.
- Yönet Eren, F., & Ceyhan Sezgin, A. (2017, 23-25 November). Gastronomi turizmi açısından Mersin yöresi mutfak.
- Yurt, İ. (2024). Yöresel yemek kültürünün sürdürülebilirliği üzerine bir araştırma: Sakin şehir Göynük örneği. *Kent Akademisi*, 17(4), 1531-1544. <https://doi.org/10.35674/kent.1428712>
- Yüncü, H. R. (2016). İç Anadolu Bölgesi'nin yöresel mutfağı. In E. Zencir (Ed.), *Yöresel Mutfaklar*. Eskişehir: Anadolu Üniversitesi Yayınları No:3375.
- Zencir, E. (Ed.) (2016). Preface in *Yöresel Mutfaklar*. Eskişehir: Anadolu Üniversitesi Yayınları No:3375.
- Zhang, Y., & Wildemuth, B. M. (2017a). Qualitative analysis of content. In B. M. Wildemuth (Ed.), *Applications of Social Research Methods to Questions in Information and Library Science* (2nd Edition) (pp. 318-329). Libraries Unlimited.
- Zhang, Y., & Wildemuth, B. M. (2017b). Unstructured interviews. In B. M. Wildemuth (Ed.), *Applications of Social Research Methods to Questions in Information and Library Science* (2nd Edition) (239-247). Libraries Unlimited.

INFO PAGE

A model proposal for sustainable Nevşehir local cuisine

Abstract

Local cuisine is a valuable cultural-gastronomical asset for any tourism destination as well as local people. In order not to lose this asset, it is vital to manage the changes triggered by climate change and transmitted through agriculture. Climate change is likely to impact different regions at different levels; thus, some regions have to be ready to challenge a harsher situation. Nevşehir is a Central Anatolian province which is likely to suffer from quite harsh impacts of climate change and its local cuisine is prone to many risks unless an effective plan which considers the relevant issues is executed. With this end in view, representatives of 5 key institutions were interviewed. Beside climate issues, the interviewees note other relevant matters such as economy, ethics, and consumer and producer awareness issues. After a conceptual model draft, this study proposes a conceptual and a practical model for a more sustainable Nevşehir local cuisine. Focusing on sustainability, the final practical model developed is based on climate change issues, agriculture, local cuisine, and their close relationships as well as the factors reminded by interviewed representatives. Main risks associated with climate change include drought, decrease in agricultural efficiency, related quality issues in products and agricultural assets such as soil, and – at the extreme end – a global food crisis. Despite this negative outlook, the province has also some advantages such as resistant native plant and animal species, potential for renewable energy, and slow city possibilities. Proposed recommendations for a more sustainable local cuisine focus on managing change, preserving authenticity, taking the advantage of strengths, increasing efficiency, and climate change mitigation efforts. Final part of the study includes a discussion and some possible future research themes.

Keywords: Local cuisine, Nevşehir, Climate change, Agriculture, Sustainability.

Authors

Full Name	Author contribution roles	Contribution rate
Gamze Coban Yildiz:	Conceptualism, Methodology, Formal Analysis, Investigation, Resources, Writing - Original Draft	50%
Onur Sevket Yildiz:	Conceptualism, Methodology, Formal Analysis, Resources, Writing - Original Draft	50%

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