

Integrating Academia and the Community to Strengthen Food Heritage in Rural Coastal Environments

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Abstract

The loss of traditional culinary knowledge threatens food heritage in rural communities, affecting their cultural identity and the potential for gastronomic tourism. This study aimed to design a community education program related to the recovery of food heritage in a rural coastal parish in Ecuador through a community engagement project that integrates theoretical and practical workshops and awareness-raising campaigns to strengthen gastronomic tourism and local community development. The proposed methodological design consisted of a qualitative participatory learning approach that included three phases: i) definition of a group of entrepreneurs with food-related businesses, ii) design of interviews and surveys to establish a baseline for business management, and iii) heritage food education through participatory workshops and campaigns. Overall, the community engagement project encompasses more than 40 beneficiaries, who received training focused on four main areas: i) cooking practices, ii) recovery of traditional recipes, iii) hygienic food handling, and iv) customer service. This enabled the strengthening of technical skills and the preservation of local culinary heritage, which was reflected in the improvement in the quality of services offered to visitors during the project period. The methodological approach employed demonstrates the importance of academia in addressing the problems and needs of rural communities to promote sustainable local development through food heritage valorisation. Future community engagement initiatives require the integration of impact assessment and long-term sustainability components

Keywords

Gastronomic tourism, Food heritage, Traditional recipe, Coastal communities

1. Introduction

Culture can be represented in countless ways, and food is one of them, through which people, their customs, and traditions are represented [1]. Gastronomic culture plays an important role in the level of satisfaction with the tourist experience, which is why, in 2010, UNESCO included it in the list of intangible cultural heritage due to its great value and importance [2, 3].

Food heritage is a set of knowledge, ancestral practices, techniques, and cultural values related to the preparation, consumption, and meaning of food in a specific region [4, 5]. The connection between food heritage and sustainability allows food to be treated differently by considering it as heritage, protecting each of the ingredients that form part of the diet of the territories through the involvement of the local community [6].

Within the general development of tourism, gastronomic tourism enhances the visibility and value of food heritage, contributing to the cultural sustainability of communities [7, 8]. This type of tourism has gained momentum in recent decades, becoming an essential element in destinations, especially in terms of highlighting the heritage of each locality [9], and recognizing traditional cuisine through its revival [10].

In rural areas, particularly in coastal regions, food heritage is of significant importance, as it is directly linked to the social and productive dynamics of the place [11, 12]. Rural communities are

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generally characterised by their ancestral knowledge of preparing traditional foods, which has been passed down through generations [13, 14]. However, factors such as age, migration, lack of government support, and changes in habits pose a risk to the preservation of this knowledge (e.g., [15, 16, 17, 18, 19]). Unfortunately, there is a misconception about the knowledge of local communities, as it is considered unscientific, despite evidence suggesting that these practices involve centuries of trial and error. The empirical nature of this type of knowledge represents a significant disadvantage as it is not physically documented, since it is information that is transmitted locally through lived experience [20].

Given this scenario, it is necessary to integrate academia as a key player in processes that engage with society to preserve food heritage. Universities promote participatory processes with the community for the co-creation of knowledge and strengthening of local capacities, which translates into strategies for rescuing the value of food heritage as a tool for sustainable development. In terms of development, community knowledge has an impact on the various dimensions that development can have, which is why development experts must incorporate and value this wealth of local knowledge in decision-making at all levels [21]. Training processes that reinforce the understanding of local communities have been strengthened, indicating a revaluation of the knowledge and traditions of communities [22].

Issues such as the promotion of cultural heritage and the unique characteristics of communities, to name a few, have great potential to be exploited, as they are currently understudied topics within gastronomic tourism [23]. When local actors and members of a university community work holistically, an environment of trust is fostered, in which the products generated by students become a valuable contribution to the social environment [22].

Ecuador is a country located in the equatorial region of South America, characterized by a rich gastronomy marked by its four regions and its multiculturalism [24]. The rural parish of El Morro, belonging to the Guayaquil canton of the Costa region (Figure 1), has a historical background dating back to the 17th century, whose foundation is attributed to indigenous populations of the time [25]. According to the latest census in 2022, it has a population of 6,502 inhabitants, whose economic activities are mainly based on fishing, agriculture, and tourism [25, 26]. In the tourist area, the parish of El Morro has diverse gastronomic offerings, with typical dishes based on livestock products such as characteristic goat meat stews, dairy-based products, and a wide variety of dishes with seafood ingredients, mainly shrimp, fish, shellfish, and crabs.

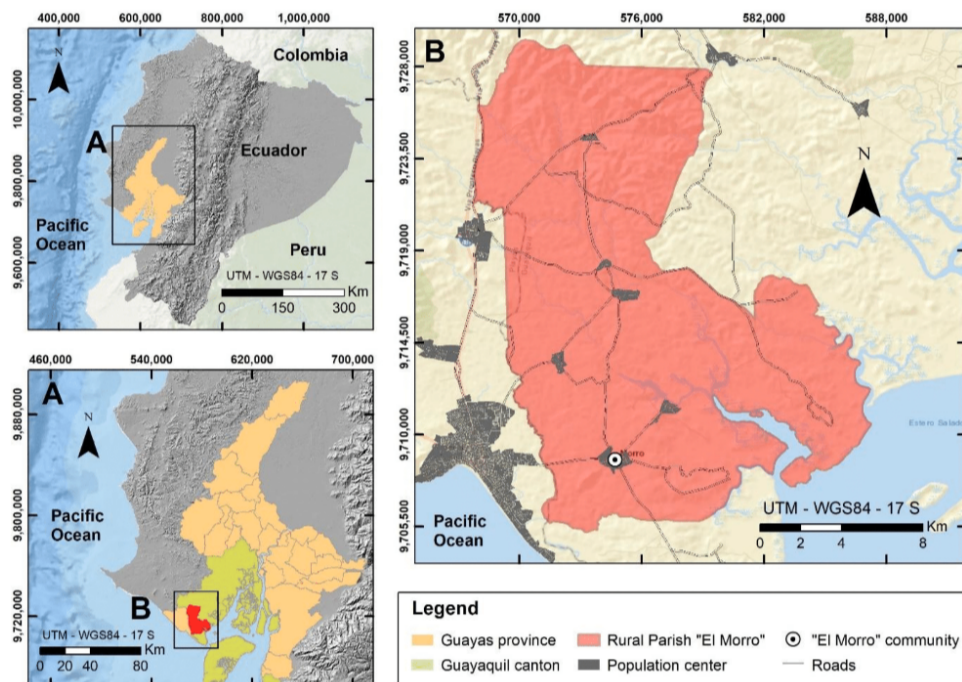


Figure 1: Location of “El Morro” community.

In this context, this study poses the following research question: How does the articulation between the university and rural coastal communities affect the rescue and strengthening of food heritage through outreach projects? This study aimed to design a community education program focused on preserving food heritage in a rural coastal area of Ecuador through a community outreach project that integrates theoretical and practical workshops and awareness campaigns to strengthen gastronomic tourism and local community development.

2. Material and methods

This study adopted a participatory action research methodology to diagnose, strengthen, and validate the gastronomic capabilities of the El Morro community through workshops designed according to guidelines for preserving ancestral culinary knowledge, conserving food heritage, using local products, and promoting gastronomic innovation. This approach allowed for the articulation of the initial diagnosis and the strengthening of capacities for the development of strategies that promote gastronomic tourism and local socioeconomic development. Figure 2 summarizes the methodological design used in three main stages.

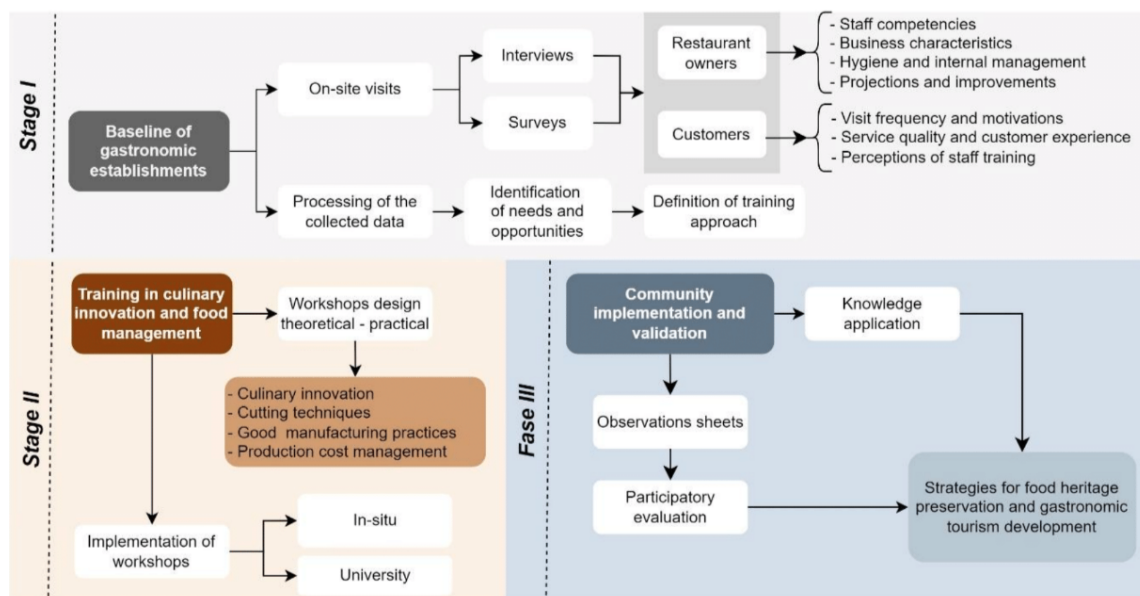


Figure 2: General methodological framework.

2.1. Baseline of gastronomic establishments

This phase included field visits to restaurants in Puerto El Morro to gather basic information on the needs and opportunities for strengthening gastronomic tourism and preserving ancestral culinary knowledge. To this end, interviews and surveys were designed based on closed (yes/no), open, and multiple-choice questions, aimed at owners and customers (Table 1). This exploratory study, in the case of owners, involved gathering information related to establishment management, customer service, economic situation, food hygiene, and food handling. In contrast, the customer study emphasised aspects associated with visitor behaviour, dining experience, service quality, and establishment staff capabilities. The information obtained was processed and analyzed to define the approach and topics needed for community training through students and professors from the Tourism program at the ESPOL Polytechnic University.

Table 1

Questionnaires applied to establishment owners and customers for baseline surveys.

Participants	Section	Questionnaire
Restaurant owners	Staff competencies	1. Have you taken any cooking courses or training programs before? Which ones? 2. Do you have any certification from the completed course?
	Business characteristics	3. Types of visitors to the establishment (local, domestic, international). 4. Approximately how many people visit the restaurant? 5. How many people work at the restaurant? 6. How long has your restaurant been in operation?
	Hygiene and internal management	7. What hygiene practices do you implement in your restaurant? 8. How is product inventory managed in the restaurant?
	Projections and improvements	9. Have you had any negative experiences with customers? 10. What is the most requested dish at your restaurant? 11. What improvements would you like to implement in your restaurant?
		12. Would you be interested in receiving training?
Customers	Visit frequency and motivations	1. How often do you visit El Morro? 2. What is your motivation for visiting El Morro?
	Service quality and customer experience	3. Have you tried food at other establishments? 4. Rate the service quality from 1 to 5, where 1 means "very dissatisfied" and 5 means "excellent". 5. Recommend a dish from one of the establishments you've tried.
	Perceptions of staff training	6. How important is training for food service workers?

2.2. Training in culinary innovation and food management

With the basic information obtained from the surveys and interviews, the second phase involved designing theoretical and practical training workshops for restaurant owners so that they could apply what they had learned using a teaching approach based on the Learning by Doing method [27]. In total, four workshops were designed covering topics such as i) culinary innovation integrated with the use of local products, ii) cutting techniques, iii) good manufacturing practices focused on waste management, pest control, food storage, and handling, iv) recipe production cost management, and v) customer service. The workshops were implemented in university laboratories and facilities, as well as in the beneficiary community.

The students participating in the project created a recipe book as a fundamental tool for implementation with the beneficiaries in the various practical workshops. The recipe books included the required cooking time, standardisation, and preparation instructions for each dish, and the recipes were prepared by the same person. This practical phase, which integrated the participation of beneficiaries with students, was supervised by a culinary professional (teachers from the institution) who taught the process of preparing typical dishes step-by-step.

2.3. Community implementation and validation

Stage III involved the practical application of the gastronomic knowledge acquired, in which the establishment's owners, who participated in the training workshops, took part in the traditional local gastronomic festival open to the public. In this stage, it was possible to validate the community's learning through participatory approaches (teacher-student-community) that analyzed innovative recipe preparation, strengthening customer service, and health management. Community learning was validated through participatory approaches (teacher-student-community) that analysed innovative recipe preparation, strengthened customer service, and improved health management. This type of validation was possible through direct observation, feedback from attendees, and self-assessment by participants, which made it possible to identify achievements and areas for improvement in the program.

Based on the information from Stages I and II, as well as the practical implementation of techniques, this stage also included the proposal of strategies for food heritage and the strengthening of gastronomic tourism in the study area.

3. Results and discussion

3.1. Gastronomic and local actor characterization

The results of the gastronomic baseline survey of the study area gathered information from four establishments that have been offering gastronomic services for more than 10 years, except one establishment that has been operating for three years (Table 2).

Table 2

Establishments surveyed as baseline of local gastronomy offerings in the study area.

Name	Type of establishment	Service offered (Taditional dishes)	Operation time (years)
Dody Gastro Bar	Entrepreneurship	Encebollado	3
Don Jimmy	Restaurant	Lisa, arroz marinero, cazuela, ceviche de concha, sopa marinera	13
Garza Rosada	Restaurant	Arroz marinero, cazuela, ensalada de cangrejo, corvina y lisa asada, encocado, cangrejo al ajillo)	17
Don William	Restaurant	Pescado asado, cazuela, arroz marinero, sopa marinera	15

The dishes described in Table 2 are typical of Ecuador's coastal region. A brief description of each is provided below:

- “Encebollado”: A hot soup based on tuna, yuca, red onion, coriander, and other spices.
- “Arroz marinero”: A type of rice with different types of seafood, similar to paella in Spain.
- “Cazuela”: It is prepared with fish or seafood, covered with a dough made from grated green plantains, which is cooked in an oven.
- “Ceviche de concha”: A cold dish prepared with conch marinated in lemon juice, onion, tomato, cilantro, and sometimes a touch of spice.
- Crab salad: A fresh mixture that includes crab meat, vegetables such as onion, tomato, and bell pepper, seasoned with lemon and aromatic herbs.
- Grilled sea bass and mullet: A type of fish characteristic of the Ecuadorian coast, eaten roasted or grilled.
- “Encocado”: Coconut milk-based stew with fish or seafood.
- Garlic crab: Preparation that includes crab cooked in garlic sauce, oil and sometimes a touch of chili, very aromatic and tasty.

Concerning the management and operation of food premises, despite the taste quality and customer service, there are weak areas (Table 3), such as limited kitchen staff and poor food separation and defrosting practices. Proper handling of raw and cooked food separation is a priority issue in food safety principles in restaurants, universities, and hospitals [27].

For the hygiene component, pest control and waste management reflect that establishments maintain active scheduled fumigations and have weekly waste collection. However, waste separation is not common, and waste is disposed of in plastic bags rather than in containers. Some of the kitchen equipment requires maintenance to ensure its operability.

The findings presented here coincide with the problems and weaknesses in other coastal areas of the country, such as the San Pablo municipality in the Santa Elena province, where a study conducted in 2022 showed that the restaurants analyzed need to improve their good practices and increase the quality of food preparation hygiene [28].

Table 3

Positive and weak aspects in the gastronomic management of newly established establishments.

Category	Positive aspects	Weaknesses identified
Customer service	Proper customer service to diners.	Lack of service technique training.
Food hygiene and handling.	<ul style="list-style-type: none"> • Clean facilities in most cases. • Appropriate attire in certain cases. • Use of refrigeration equipment for food preservation. • Adequate portion sizes. 	<ul style="list-style-type: none"> • Absence of basic equipment like aprons, gloves, masks. • Deficiencies in raw and cooked food separation. • Inadequate thawing practices in some cases.
Pest control and waste management.	<ul style="list-style-type: none"> • Scheduled pest control in some establishments. • Weekly waste collection. • Some trash bins. 	<ul style="list-style-type: none"> • Lack of waste separation in some establishments. • Use of plastic bags instead of proper containers. • Lack of maintenance for equipment like stoves and refrigerators. • Damaged or unused equipment.
Training.	Interest in participating in customer service, hygiene, and culinary innovation training.	Logistical limitations and time constraints preventing regular training attendance.

Interviews were conducted with an average of 10 customers per establishment, where 60% of diners were residents of the area studied. The main reasons for the local population and tourists to visit the establishments are the cuisine, nature, and dolphin watching, making it an appropriate tourist destination for families. Of those surveyed, 70% had tried food at other establishments to find a more varied menu, and due to overcrowding. Another factor that may influence this decision is that the residents' population considers the costs to be relatively high. Ninety percent of respondents rated the establishment as providing good service, highlighting the need to improve facilities for greater comfort.

According to the respondents, 90% of diners recommended the onion dishes at a particular restaurant as some of the best dishes in the area, mentioning that the price and service at the establishment were reasonable. All those interviewed (100%) pointed out that training is essential because it allows establishments to improve their products, reinforce their cooking knowledge, and guarantee the quality of their food preparations. In addition, they highlighted that training allows workers to expand their businesses and acquire culinary skills from professionals.

Based on the interviews, several needs of the gastronomic entrepreneurs were identified. The cabins or establishments where cooking occurs lack sufficient space to prepare food. In addition, they need to learn about preservation and handling techniques, as seafood, which is typical of rural coastal areas, is a type of food that requires special care in its preparation.

3.2. Knowledge transfer to strengthen gastronomic potential

According to the results obtained, 46 inhabitants of the study area benefited from the various workshops. The beneficiaries' ages range from 26 to 91 years old, with the majority being women (93%) entrepreneurs. Twenty-two entrepreneurs participated in the practical workshops, 22.7% of whom contributed to the revival of traditional recipes from El Morro.

The culinary innovation workshop reflected the use of local products in the preparation of "seco de chivo", a typical dish of the region consisting of goat meat stewed over low heat in a sauce with garlic, cumin, achiote, peppers, onion, cilantro, tomatoes, beer, naranjilla juice, and other spices. In the context of culinary innovation, the beneficiaries learned how to prepare "seco de chivo" using new ingredients

and accompaniments that gave the dish a different and original touch (for example, its use as a filling for a plantain empanada), as well as creole sauces that highlighted the flavour and texture of the dish.

The workshop on cutting techniques and the use of local products focused on basic cuts, such as brunoise, jardinière, parmentier, macedonia, julienne, feather, and chiffonade, which are used in the preparation of bases for Creole refritos, garnishes, sauce accompaniments, and seafood rice dishes. The objective of this workshop was to achieve a harmonious presentation thanks to the uniformity of the cuts and even cooking. In addition, the aim was to attain correct mise en place and apply cooking processes that allow for proper time management when preparing food.

The cost workshop was held with the aim of training beneficiaries to apply the costing techniques learned in the workshop to their businesses, so that they can improve their financial management and make decisions related to the production and sale of their products, ensuring the profitability of their businesses, as well as cost control and price management, which is linked to the concept of price lists and the difference between shrinkage and waste in standard recipes (the workshop was conducted virtually).

The customer service workshop focused on the skills required for customer management; elements of pre-service, considerations to take into account while waiting for customers to arrive, and part of the steps during service, as well as the steps during service, which involve post-service and specific English terms that are useful and easy to use for people dealing with foreign customers. To reinforce the participants' knowledge, simple exercises were carried out to put into practice what had been explained previously, along with feedback.

3.3. Practical application and strategies for gastronomic tourism

The participation of entrepreneurs in a local gastronomic event reflected the integration of traditional and innovative dishes, demonstrating the revival of ancestral culinary knowledge, which made it possible to verify the extent to which the topics covered in the training sessions were applied. In November 2023, the fifth edition of the “Seco de Chivo Morreño” festival was held, where the techniques learned in the cutting and recipe innovation workshops were implemented. The festival was attended by more than 20 entrepreneurs from the parish of El Morro and its surroundings, who presented innovative goat-based dishes. Among them, six beneficiaries who participated in the workshops prepared dishes such as stuffed goat, green plantain empanadas filled with goat, goat tripe (a stew of goat meat and ribs in peanut sauce, accompanied by potatoes), and goat lasagna.

According to the evaluation of the gastronomic offerings after the training workshops, the main innovative dishes that stand out are goat empanadas, goat tripe, goat lasagna, and goat casserole. However, although these gastronomic offerings attracted the customer's attention, the reception was only partial, possibly due to reasons related to the customer, the experience, or logistical aspects.

About customers or the general public, despite enjoying trying new dishes, when it comes to making a decision, they generally prefer traditional and familiar options [29], which could be associated with a lack of knowledge about ingredients, techniques, or even the fact that the customer profile may not be aligned with the innovative proposal. In terms of experience, acceptance could be enhanced by providing a story or cultural explanation of the reason for the new dish, highlighting the importance of trying it [30]. On the other hand, from a logistical point of view, although the study area is characterized by the aforementioned typical food, innovative gastronomic events could be implemented in areas with greater customer diversity, allowing for the broader dissemination of dishes with creative techniques that rescue ancestral knowledge and promote the use of local products [31].

To promote a balance between the gastronomic tourism development of the area and the conservation of its food heritage, this study proposes a set of strategies (Figure 3) focused on three main aspects: i) participatory approaches for knowledge transfer between generations, ii) effective intervention by academia for culinary innovation and food heritage preservation, and iii) sustainability of gastronomic tourism for local community development. The proposed strategies are divided into four areas of action, which, according to [32], demonstrate that the attention given to social issues by academia is a tool for addressing local and regional problems in the gastronomic context. Future studies could

consider the inclusion of gastronomic tourist routes in geotourism routes [33] and sustainable use of natural resources [34], which represent an opportunity for socioeconomic development for communities, especially in projects linked to academic support [35].

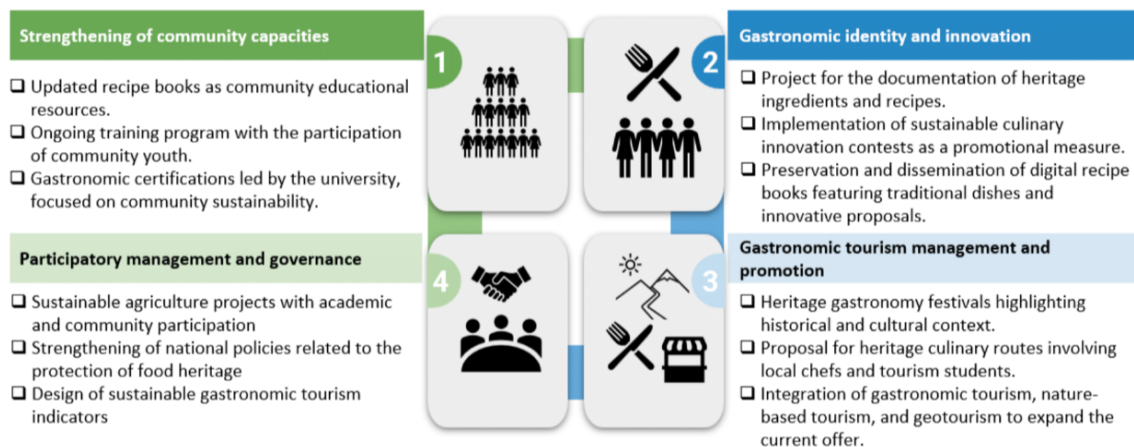


Figure 3: Strategies for strengthening gastronomic tourism and preserving food heritage.

4. Conclusions

The methodological approach proposed in this study made it possible to identify El Morro's gastronomic potential, rooted in its food heritage and the community's interest in improving the gastronomic offering and promoting local development. The initial assessment revealed key positive aspects, such as diners' preference for the seasoning of the food and good customer service. However, significant gaps were revealed in areas related to hygiene, food handling, waste management, and updating culinary knowledge.

The implementation of training workshops led by academia through community outreach projects strengthened the technical and management skills of the entrepreneurs who benefited, prioritising a balance between innovation and the preservation of food heritage. The validation of knowledge highlights the positive results of the interaction between the community and academia on issues related to gastronomic tourism.

Although the reception of innovative dishes was partial, the need arose for strategies in gastronomic management, as well as communication and consumer awareness. In this sense, this study proposes a set of strategies to promote responsible tourism management, integrated with participatory processes with academia and government entities. Among the main limitations are the reduced availability of time in the community to participate in training processes, as well as uncontrolled external conditions, such as the tourist season or climatic and social factors that compromise community participation. Future research should consider expanding the establishment's involvement, implementing long-term monitoring projects, and integrating food heritage into the geological and natural wealth of the place.

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Declaration on Generative AI

The authors have not employed any Generative AI tools.

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