Digital tourism and sustainable development of rural and inland areas with food and wine tourism: the role of web portals

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Abstract: Rural and inland areas in Italy cover a large area. They are mainly agricultural and underdeveloped, which generates social hardship and depopulation. The study focuses on ICT as a possible tool for the development of wine and food tourism especially in these areas. After outlining an exhaustive bibliographical framework and the characteristics of the

* This article is the result of collaborative work between the authors. However, it should be pointed out that Guido Migliaccio set up the methodology and edited the literature review. It is therefore possible to attribute to him the paragraphs 'Introduction', 'Literature review and theoretical framework', 'Materials and methods' and 'Discussion, conclusions, and future implications'. Carmine Lausi and Mariano Baldi, on the other hand, developed the business case, as they are founding partners of the innovative start-up “La Cucina Campana srl”, that created the portal "lacucinacampana.it" under analysis and signed a “Collaboration agreement for research activities” with University of Sannio. In particular, the paragraph 'The case study' can be attributed to Carmine Lausi, while Mariano Baldi can be considered the author of the paragraph 'The context'.

This publication also stems from the fruitful debate that developed on the subject matter at three different international conferences held in Bulgaria (Lausi et al., 2023), Moldova (Migliaccio et al., 2023) and in Italy, in Taormina, at the 2023 annual scientific meeting of the Italian Society of Tourism Sciences (SISTUR). The paper published here is a revised and considerably expanded version of the previous contributions.
socio-economic context, it is analyzed and evaluated the innovative web portal "lacucinacampana.it", which proposes integrated information on the typical food of Campania, Italian region characterized by conspicuous tourist flows towards renowned destinations that could partially deviate towards less frequented destinations.

The portal, realized by an innovative start-up, presents integrated content in 11 languages related to food products and their suppliers, local dishes with the restaurateurs offering them, associated places with their tourist attractions, itineraries, food and wine experiences, etc.

The study shows that the examined web portal satisfies the needs of food and wine tourists, with a model that can be reproduced on a national and international scale, highlighting the fundamental role that ICT technologies can play in increasing food and wine tourism, especially in rural and inland areas. The study complements the modest literature on web portals aimed at tourism development, providing useful considerations and concrete proposals.

The portal promotes the sale of typical food products and food and wine tourism, increasing the incomes of agri-food suppliers and registered restaurateurs. Overall, it promotes the economic development of the areas concerned, complementing the other initiatives of public institutions and trade associations.

This study may also stimulate further useful analyses to address development issues in rural and inland areas.

**Keywords:** Italian tourism; Rural tourism; Typical food; Campania cuisine; ICT technologies; Food and wine tourism.

**JEL Codes:** I13; O18; Q17; Z32

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1. **Introduction**

Contemporary tourists need timely, clear and comprehensive information, especially because they want to choose destinations that suit their specific desires and interests: ICT technologies can meet this need.

Indeed, Cesario et al. (2022) correctly stated: 'Tourists have been strengthening themselves, evaluating their options and making more independent travel decisions, reducing their reliance on experts and generating more self-planned demand, requiring more information and guidance when arriving at their destinations'.

The latest ICT technologies make it possible to manage the offer by orienting it towards the tourist's experience, increasing his or her satisfaction.

It is therefore desirable for destinations to invest more resources in technology, also to enable the personalisation of the trip.

Food and wine tourism, a driving force for the Italian economy (Garibaldi, 2023a), can take advantage of this prospect, enhancing the territories and promoting an increase in tourism and the agri-food economy. Indeed, one must consider that, despite the expansion of the international market, Italy remains a sought-after destination that is gradually recovering from the crisis caused by the pandemic and the recent wars (Figure 1).
The trend in admissions between January and August 2023, compared to 2022, shows an overall +4%: foreign flows are +10%, and domestic flows -2% (Centro Studi TCI, 2023).

In this overall upward trend, one must consider the prominence of food and wine tourism, which, according to the World Tourism Organisation (UNWTO), is a fast-growing segment everywhere especially in Europe, where there are hundreds of thousands of such holidays (Garibaldi, 2017).

A recent survey (formazioneturismo.com, 2023) showed that interest in food and wine experiences is also on the rise in Italy: 21% of tourists stated that gastronomic activities were their main reason for travelling, while 58% chose a holiday linked to wine experiences. These trips are often enriched with visits to companies and wineries, participation in food-related festivals and events, etc.

The most recent report on food and wine tourism and sustainability (Garibaldi, 2023a) also confirms this growth (Figure 2) of Italian travellers: food, wine, and beer are the most numerous motivations, together with natural landscapes.

Figure 1. Arrivals and presences trends in Italy (absolute values - June-September)

Source: horecanews.it (2023)

[Graph showing arrivals and presences trends in Italy.]

Figure 2. Food and wine tourism in Italy – Trend

Source: Wass (2023)
This tourism also develops the cultural identity of the destinations, slow and green mobility, involvement in the experience and therefore the enhancement of small villages and rural realities.

The Italian context is suitable considering that 79.9% of Italian municipalities are defined as 'rural' (ISTAT, 2022) and 53% of municipalities belong to 'inland areas' (Presidency of the Council of Ministers, Department for Cohesion Policies, 2017).

Inland or not, rural areas are at risk of depopulation, to be avoided for intuitable socio-economic reasons, safeguarding the territory (Porrovecchio, 2023), landscapes (Agnoletti et al., 2011) and local traditions (Mastronardi et al., 2017) sought by tourists. In it only tourism thus seems to be the main lever of development (Distefano, 2001; Bencardino & Marotta, 2004; Lampreu, 2023), hoping however for an integrated action among public institutions (Bassi and Carestiato, 2016), Local Action Groups (LAGs) (Gargano, 2021) and social enterprises (Fazzi, 2021). It hampers the fragmentation of the territory and the distribution of attractions in different, though not very distant locations.

The wine and food tourist, perhaps more than others, needs to build his or her itinerary, informing himself or herself in advance of local traditions combined with other attractions. ICT technologies and in particular integrated food and wine web portals, where all information on a specific territory can be obtained, can respond to this. They could be added to the generic tourism portals already operating in Italy as summarised in the 'Italy online' website (https://drintle.com/italia-online/), which allows quick connection to all official tourism portals of Italy and its regions. In particular, many tourists in Italy today search the web for information sources suggesting food and wine destinations and online intermediaries of food and wine experiences, such as GetYourGuide, Viator and others (Garibaldi, 2023b). Software solutions focused on certain products such as wine are also registered. Wine Suite, for instance, is a popular CRM and marketing software to improve sales and manage wine tourism (wine-suite.com, 2023); it is provided by Divinea, whose website divinea.com is also a major wine tourism portal in Italy. Similar experiences are also registered with digital portals where local products, especially wine, can be described and sold (Nomisma, 2022).

In this dynamic and progressively evolving context, this paper illustrates the benefits that can be obtained from such technologies, aiming to answer this Research Question:

RQ1: What role can new ICT technologies, in particular web portals, play in increasing wine and food tourism, which also benefits rural and inland areas?

The response is developed by analysing the main bibliography that constitutes the necessary theoretical framework. It critically presents the main scientific contributions concerning rural and inland Italian areas, as well as wine and food tourism and digital tourism: these are the four themes that converge on the case study presented next. This is followed by an illustration of the method and materials used. A large paragraph is then dedicated to a detailed analysis of the context within which the portal is set. The context is outlined by focusing on the geo-economic and social characteristics of rural and inland areas, as well as the main and recent initiatives for their development, highlighting the contribution of food and wine tourism. Then the "case study" of the web portal "lacucinacampana.it" (Lausi et al., 2023; Migliaccio et al., 2023) is presented, showing how it can meet the needs of potential tourists. This portal is exportable, with adaptations, wherever food and wine tourism is to be fostered, enhancing the destinations where the finest food products are obtained in contexts attractive for their natural and social characteristics. In the end, the conclusions, the implications for science and operational practice, as well as the limits of the research and possible future developments.
2. Literature review and theoretical framework

The innovative project of the 'laucinacampana.it' web portal would like to meet the needs of tourists potentially interested in visiting the less touristically exploited areas, which are nevertheless rich in natural attractions and unique local traditions. A further element of interest could be the genuine foods and wines that have always characterised rural and inland areas. This is a world that still appears to be uncontaminated by unbridled modernism and thus offers a 'still in time' landscape with unique peculiarities that modernism has erased almost everywhere. The case study therefore stimulates evaluations of the environmental contexts relating to rural and inland areas, as well as reflections on how digital tourism can favour wine and food tourism, without affecting the typicality of places. The presentation of the theoretical framework therefore requires a separate analysis of the main scientific contributions relating to rural and inland areas and wine and food and digital tourism. These are in fact, we repeat, all aspects that affect the central theme of this contribution.

2.1 Rural areas

Rural areas are largely at risk of depopulation, which could be avoided first and foremost by safeguarding the territory that, due to its natural characteristics, could instead attract tourist flows provided it is adequately enhanced and protected, preventing natural disasters such as the one that unfortunately recently dramatically affected Amatrice (Porrovecchio, 2023).

Such places are also characterised by agricultural and agro-industrial traditions in beautiful natural landscapes that are certainly unique and attractive (Agnoletti et al., 2011).

In Italy, unfortunately, there is an obvious contradiction: there are wonderful landscapes little known to tourists and, conversely, accentuated flows where there is a lack of appreciable landscape (Mastronardi et al., 2017).

The depopulation of areas rich in cultural, environmental, and historical resources can be tackled through tourism, even if the best results cannot be achieved despite development projects in some regions such for example, Sardinia (Lampreu, 2020) or Calabria (Verardi et al., 2023). Also worth mentioning is the praiseworthy Marche initiative for the implementation of the Agenda 2030 goals aimed at enhancing intangible cultural heritage in the context of sustainable tourism in rural areas (Cerquetti et al., 2022).

The tourist enhancement of these areas requires a significant contribution from public institutions (Bassi and Carestiato, 2016), especially those that know the areas to be enhanced best, together with mountain communities and Local Action Groups (LAGs) that have demonstrated positive capacities in several European countries (Gargano, 2021).

It seems, however, that social innovation is an important lever for the development of these areas (Dalla Torre et al., 2020; Navarro-Valverde, 2022). So are social agriculture (Elsen and Fazzi, 2021) and/or the presence of social enterprises (Fazzi, 2021), which would also have the task of preventing deviance and criminal drift.

It would be necessary to leverage the traditional values strongly rooted in the culture of the populations of these areas. It is no coincidence that the family frequently contributes to the running of farms (De Rosa and Luca, 2016). This intangible heritage could be the strategic element for sustainable tourism development in rural areas (Cerquetti et al., 2022), fostering the diffusion of solidaristic principles as opposed to mere competition (Battino and Lampreu, 2019).

Nevertheless, affection for tradition and its enhancement for tourism should not be at odds with the
spread of digital technologies wherever necessary.

It seems anyhow necessary to focus on tourism for the development of rural areas (Distefano, 2001; Bencardino & Marotta, 2004; Lampreu, 2023).

2.2 Inland areas

Agri-food production is widespread in inland areas of Italy, where the risks of depopulation typical of all marginal areas with a predominantly agricultural vocation are accentuated (Macchi Jánica & Palumbo, 2019). In these areas, there has always been a danger of rapidly focussing on ‘an empty Italy’ (Tantillo, 2023), with all the intuitable socio-economic risks.

These areas have special characteristics that allow them to be considered a test bed for interpreting and designing marginal territories (Italian National Network of Young Researchers for Inland Areas Committee, 2021).

In addition to hoping for renewed public policies (Lucatelli et al., 2022), it is also and above all possible to hope that typical traditional local values (PRINT Collective, 2022) can foster associationism (Fusco, 2023) as a proactive alternative reaction to abandonment.

For years, it has been correctly believed that inland areas can have a significant potential for the country's economic growth (Carlucci & Lucatelli, 2013), especially by enhancing their tourism potential (Meini, 2018), while also rethinking the urban layout of the numerous small villages that characterise them (Decandia & Lutzoni, 2016). They have been hard hit by the negative impacts of the post-pandemic socio-economic crisis, but local food and wine tourism could be a key driver to sustain them, as culinary traditions identify the territory and can be a vehicle to experience the local natural and cultural amenities (Salustri et al., 2022), as well as to develop sustainable initiatives consistent with the 2030 Agenda goals (Cerquetti et al., 2022).

In inland areas, as elsewhere, new technologies can play a fundamental role in enhancing the value of cultural heritage (Borin, 2023) and not only.

2.3 Food and wine tourism in Italy and abroad

Only a few notes can be devoted to the main bibliographical references concerning wine and food tourism in Italy. Numerous publications have developed on this theme (Bazzocchi et al., 2011; Guigoni, 2019; Soletti, 2003; Soletti & Selmi 2006), a clear note of the growing importance it is assuming in the national economy. It is no coincidence that already in 2016 Fortis juxtaposed it with manufacturing and tourism in general, as the third fundamental pillar of the Italian economy.

Food and wine tourism contributes to the so-called ‘sustainable' development of the area by maintaining the relationship between tourism and food production. In it, the elements of environmental, social and economic sustainability guide the tourist to the awareness that the choice of food and wine experiences, such as visits to places of production, food/wine tours and food and wine events, are the means to enrich their knowledge but also to respect nature and the environment (Garibaldi & Pozzi, 2022).

In addition to the useful outcomes of local valorisation projects such as those cited in the Marche (Cerquetti et al., 2022) and Lazio (Salustri et al., 2022), the positive experiences in the Basilicata region (Bencivenga et al., 2017) and in the metropolitan city of Reggio Calabria (Salerno et al., 2023) should be mentioned. The typically Italian situations can and must be compared with international experiences,
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Among which the analyses proposed in Portugal, and more specifically in the city of Duoro (Salvado and Joukes, 2021), in Hungary in the city of Tokaj-Hegyalja, in Spain in the city of Penedes, and Mexico in the city of Queretaro (De Jesus Contreras and Xavier Medina, 2021) are certainly significant. There are still useful experiences previously recorded in Canada, England, France, New Zealand, South Africa and Scotland (Michael Hall, 2013). Instead, the most recent publication by Duarte Alonso et al. (2022) focuses on the wine-growing regions of Argentina and Chile.

The stimuli deriving from the critical description of these positive experiences cannot disregard a previous acquisition of the fundamental concepts of co-creation of positive experiences in tourism, which in the food and wine sector takes on specific connotations, as is well pointed out in Rachão et al. (2021) and Carvalho et al. (2023), in close relation with the necessary synergies with other cultural and territorial resources as Garibaldi previously mentioned in 2019.

It is perhaps unnecessary to point out that food and wine tourism can and must become the main driver of local development, as was already pointed out by Calabrò & Vieri in 2016 and more recently by Ferrari et al. in 2022.

Talking about food and wine for tourism purposes also requires the use of modern, agile and fast means of communication, such as those offered on the web, which use specific languages that are immediate and direct (Meluzzi & Balsamo, 2021).

2.4 Digital tourism

Digital tourism refers to the online promotion of tourism (Tajeddini and Ratten, 2019; Duarte Santos and Lima Silva, 2019; Filieri, 2007). It is considered an evolution of traditional web marketing (Cervi, 2009), with useful applications in nautical tourism (Benevolo and Morchio, 2015) and themed itineraries (Smiraglia and Diolaiuti, 2003), consistent with broader sustainability goals (Gonçalves et al. 2022; Tiago et al. 2022; Tan et al., 2021).

Although frequently mentioned, web portals have rarely been analysed, despite their importance for the growth and development of the tourism business.

Among the few specialised publications, those with a technology-informatics approach stand out. Among the most important is the one by Shrestha et al. (2020) that proposes "a UML-based approach for analysis and design of tourism web portal": a complete tourism web portal that would simultaneously meet the needs of users, companies, and public institutions. It can be considered a useful reference.

A more 'economic' approach characterises, on the other hand, the work of Darmawiguna et al. (2019), who described an integrated tourist information portal implemented in Bali. It is characterised using web scrapping and clustering methods.

Much attention is paid to the design of the web pages of portals (Ahmed and Amagoh, 2008), especially to organise the information in the best way to facilitate user choices. Similar aims characterise studies that focus on the semantics to be used, such as the contribution of Jrai et al. (2007) on tourism web portal interfaces. It follows an earlier 2001 study by Györkös and Leskovar that highlighted the customisation needs of tourism web portals.

The 'semantic web e-portal for tourism' also characterises the analysis by Ahmed et al. (2012).

One must also consider that portals are useful in tourism education (Zabala et al., 2012).

A cataloguing of the main experiences of governmental web portals and social networks in the field of tourism is proposed by Altamirano et al. (2015), albeit referring only to Latin America.

What is lacking, therefore, is a bibliographic source that focuses on a truly and fully integrated web portals.
portal that can meet the information needs of tourists, such as the 'lacucinacampana.it' portal, which could therefore become an interesting case study.

3. Materials and methods

The case method frequently characterises business economics studies for teaching and research (Biancone, 2017; Turrini, 2002).

Each case is typical because it is characterised by a close connection with the context that makes it unique. However, useful elements can be found in similar situations.

After outlining a comprehensive bibliographical framework, this methodology describes, analyses and evaluates a concrete experience, emphasising the main economic and social aspects.

Official documentation, the web portal and other qualitative information are analysed, which may uncover strategies not highlighted in official documents.

The possibility of generalising the analysis is then considered, based on the detailed and up-to-date information available.

The following is the business case of a web portal that intends to foster the development of sustainable tourism in Campania, a region in the south of Italy characterised by typical local food and wine production, in natural and cultural contexts that are already by themselves attractive to tourist flows. It is verified whether the functionalities of the web portal and its Apps can meet the needs of wine and food tourists, also to promote tourism in rural and inland areas.

The case method was chosen because it is a widely used approach in the economic and social spheres, also considering that it offers a unique opportunity to understand the specific dynamics and key factors influencing tourist flows. The portal has unique characteristics related to local production, and cultural and natural contexts, making it an ideal object for the application of this method, which explores in detail the complexity of economic and social interactions related to food and wine in rural and inland areas.

This approach makes it possible to draw a complete picture of the web portal experience, analysing it together with the analytical description of the context, also in its typical qualitative aspects.

The case method also offers the possibility of assessing the generalisability of the conclusions and, by proposing the export of the digital product to other similar situations, helps to suggest a possible solution, albeit partial to the atavistic depopulation problems of vast areas of our country.

Access to the portal, which is not yet open to the public, was possible via login credentials obtained thanks to the fact that two of the three authors of these notes are its designers, and partners in the innovative start-up that conceived and developed it.

4. The context

4.1. Italy's rural areas

The Organisation for Economic Co-operation and Development (OECD) defines 'predominantly rural areas' as places where more than 50 per cent of the population resides in rural municipalities, defined as areas with fewer than 150 inhabitants per square kilometre.

This definition of 'rural area' was proposed by the European Commission for use by member states, but only a few countries have used it in national and regional Rural Development Programmes (RDPs).
Other states and regions have adopted their definitions, which can be grouped into 2 categories: sectoral (e.g. forestry and agriculture) and territorial (e.g. Measure 3 eligible areas) (Rete Europea per lo Sviluppo Rurale – RESR, no year).

In Italy, in the National Strategic Plan (NSP) 2007-13, in agreement with the regions, a method similar to the OECD method was adopted, but with the addition of information on the altimetry of municipalities and the size of the agricultural land area in provincial capitals. Using this method, 3 types of rural areas and urban poles were defined, and it was found that more than 90% of Italy's territory consists of rural areas (Rete Rurale Nazionale 2014-2020, no year -a).

In the 2014-20 programming (Rete Rurale Nazionale 2014-2020, no year -b), based on the above-mentioned classification method of the 2007-13 NSP, municipalities were defined as 'rural' if they had a density value of less than 150 inhabitants per square kilometer or a rural area that is more than two-thirds of the total. Furthermore, Italian areas were divided into:

A) **Urban and peri-urban areas**: comprise strictly urban provincial capitals and groups of municipalities where the rural population is less than 15% of the total;

B) **Intensively farmed rural areas**: comprise rural municipalities (both urbanised and predominantly or significantly rural) located mainly in the lowlands of the country where, although the average density is high in some cases, the rural area occupies more than 2/3 of the total;

C) **Intermediate rural areas**: comprise rural hill and mountain municipalities with higher population density and intermediate development (relatively rural mountain, significantly and predominantly rural north-central hill, urbanised hill and mountain);

D) **Rural areas with development problems**: comprise southern (predominantly and significantly rural) hill and mountain rural municipalities with lower population density in all regions.

In the ISTAT report 2022 (referring to 2020) on Inland Areas (ISTAT, 2022), 79.9 per cent of Italian municipalities are defined as 'rural', based on the European classification of the degree of urbanization.

### 4.2. Italy's inland areas

In the 2014-2020 Partnership Agreement (Presidenza del Consiglio dei Ministri, Dipartimento per le Politiche di Coesione, 2017), Section 1, paragraph "1.1.4 territorial challenges" defines both rural areas (in a similar way as described above) and inland areas, understood as "that majority part of the Italian territory characterised by significant distance from the centres of supply of essential services".

The "Service Offer Centre" is identified as that municipality, or aggregate of neighbouring municipalities, able to offer simultaneously: all secondary school offerings, at least one hospital with a Level I DEA and at least one Silver railway station.

The other municipalities are then subdivided into 4 bands: waist areas, intermediate areas, peripheral areas and outermost areas, based on an "accessibility indicator" corresponding to the minutes of travel time needed to reach the nearest hub. The bands are calculated using the tertiles of the distribution of this time in minutes, equal to about 20 and 40 minutes, and inserting a band of over 75 minutes (equal to the 95th percentile) to identify the outermost areas.

Inland areas are those belonging to the bands of intermediate areas, peripheral areas and outermost areas: they make up about 53% of the Italian municipalities (4,261), in which 23% of the Italian population (i.e. more than 13 million inhabitants) resides according to the last census, corresponding
to more than 60% of the Italian territory (Table 1 and Figure 3).

Table 1. Main characteristics of municipalities classified according to the proposed methodology

<table>
<thead>
<tr>
<th>Classification of Municipalities</th>
<th>Number</th>
<th>%</th>
<th>Altitude</th>
<th>Number of inhabitants</th>
<th>%</th>
<th>Variation 1971-2011</th>
<th>Surface (km²)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pole</td>
<td>219</td>
<td>2.7</td>
<td>145</td>
<td>21.223.562</td>
<td>35.7</td>
<td>-6.8</td>
<td>29.519</td>
<td>9.8</td>
</tr>
<tr>
<td>Intermunicipal pole</td>
<td>104</td>
<td>1.3</td>
<td>166</td>
<td>2.466.455</td>
<td>4.1</td>
<td>22.7</td>
<td>6.251</td>
<td>2.1</td>
</tr>
<tr>
<td>Waist</td>
<td>3508</td>
<td>43.4</td>
<td>215</td>
<td>22.202.203</td>
<td>37.4</td>
<td>35.8</td>
<td>81.815</td>
<td>27.1</td>
</tr>
<tr>
<td>Intermediate</td>
<td>2377</td>
<td>29.4</td>
<td>395</td>
<td>8.953.282</td>
<td>15.1</td>
<td>11.6</td>
<td>89.448</td>
<td>29.6</td>
</tr>
<tr>
<td>Peripheral</td>
<td>1526</td>
<td>18.9</td>
<td>607</td>
<td>3.671.372</td>
<td>6.2</td>
<td>-8.1</td>
<td>73.256</td>
<td>24.3</td>
</tr>
<tr>
<td>Outermost</td>
<td>358</td>
<td>4.4</td>
<td>627</td>
<td>916.870</td>
<td>1.5</td>
<td>-5.3</td>
<td>21.874</td>
<td>7.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>8092</td>
<td>100.0</td>
<td>358</td>
<td>59.433.744</td>
<td>100.0</td>
<td>9.8</td>
<td>302.073</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: DPS (Dipartimento per lo sviluppo e la coesione economica) processing of ISTAT data, Population and homes census 2011

Figure 3. Map of municipalities classified according to the proposed methodology

In particular, about 97% of the inhabitants of the Inland Areas live in municipalities in rural areas of Zone C (Intermediate Rural Areas) and Zone D (Rural Areas with Development Problems); the latter coincides with mountain areas. According to the 2014-2020 Partnership Agreement - Italy - Sections 3 and 4, the operational implementation of the Inland Areas National Strategy (“Strategia Nazionale per le Aree Interne” - SNAI) was divided into 2 phases:
1. Identification of areas on which to focus intervention and their inclusion in the European Structural and Investment Funds (EIS) 2014-2020 programming;
2. preparation of Area Strategies and implementation of planned interventions.

In 2014, the first phase was launched: the selection was carried out by all the regions and the Autonomous Province of Trento with a public inquiry, in agreement with the Inland Areas Technical Committee, reporting the information in the 'Area Strategies' section of each regional territory. Between 2014 and 2017, Regional Council Resolutions were approved, which led to the selection of 72 inland areas (Figure 4): they include a total of 1077 municipalities, in which just over 2 million inhabitants live (Agenzia per la Coesione Territoriale, no year).

**Figure 4.** Map of inland areas selected by SNAI in Italy

![Map of inland areas selected by SNAI in Italy](source: SNAI)

In particular, in Campania four areas were selected (Figure 5): Alta Irpinia, Inland Cilento, Tammaro-Titerno, Vallo di Diano, with these overall numbers.
**4.3 Initiatives for the development of rural and inland areas in Italy**

In rural and inland areas in Italy, there is a great lack of infrastructure and a serious demographic decline over the years. For example, in two provinces of Campania (Benevento and Avellino), the 2nd ‘Campania Inland Areas Report. Focus Irpinia / Sannio’ (Confindustria Centro Studi Campania, 2023) showed that in the period from 2016 to 2021, there was a loss of around 42,000 inhabitants (around 6%), most of whom were young people between the ages of 18 and 39 (around 30% in 2020).

As this is an extremely felt problem, numerous initiatives have been launched to try to develop rural and inland areas.

At the public level, the aforementioned National Strategy for Inland Areas (SNAI) is being implemented, which is investing in the enhancement of local communities to counter the demographic exodus by creating employment opportunities.

There are other examples of public initiatives, such as the intervention for the regeneration of villages in the National Recovery and Resilience Plan (‘Piano Nazionale Ripresa e Resilienza’, PNRR), Mission 1 - Digitisation, Innovation, Competitiveness and Culture, Component 3 - Culture 4.0 (M1C3). Measure 2 'Regeneration of small cultural sites, cultural, religious and rural heritage', Investment 2.1: 'Attractiveness of historic villages', funded by the European Union - NextGenerationEU, structured in two components:

- intervention line A, with funding for 21 major projects of EUR 20 million each, totalling EUR 420 million, the selection of which was the responsibility of the autonomous regions/provinces;
• intervention line B for Local cultural and social regeneration projects in at least 229 historic villages, in line with the tab for investment 2.1 of the PNRR-M1C3-Culture, with available resources of EUR 580 million, of which:

- 380 million reserved for local cultural and social regeneration projects submitted by municipalities
- 200 million reserved for micro, small and medium-sized enterprises, profit and non-profit, located or intending to establish themselves in the selected villages.

A further initiative is the five-year project '2023-2028 Return to Italy', which is being carried out by the business network 'Destination South' (Migliaccio et al., 2018) and has involved numerous public bodies, associations and other private enterprises. It is aimed at Italians living abroad and eager to return to their native country to learn about their origins and traditions, generating 'Return Tourism'. The first year of the project is called the '2023 Year of Return Tourism' (Rete Destinazione Sud, 2023). This project promotes Italy's image abroad intending to attract tourism and investment, fostering business meetings and creating stable partnerships with Italians living abroad, to create fertile ground in the villages and inland areas to foster a demographic and social-economic repopulation, as these are the sites that have mostly been the site of migration in the last century.

In line with this strategy is the 'Year of Italian Roots' initiative within the PNRR Project 'Tourism of Roots - An Integrated Strategy for the Recovery of the Tourism Sector in Post-Covid-19 Italy', set up by the Ministry of Foreign Affairs and International Cooperation with the involvement of Italian municipalities. This initiative, mainly aimed at municipalities with fewer than 5000-6000 inhabitants, provides funding for those that organise activities of interest to compatriots living abroad and then offer a discount in their reception facilities for this type of tourism.

4.4 Needs to be met for further development of rural and inland areas in Italy

Much of the rural and inland areas in Italy are characterised by a huge heritage of history, traditions and resources in terms of food and wine, nature and small villages. These areas could therefore benefit enormously by developing 'experiential tourism', 'slow', 'de-personalised', respectful of communities and the environment and leveraging the plurality of resources present.

This tourism is therefore substantially different from mass tourism, but like it, it can be an important driving force for this part of the Italian territory, bringing out its riches and untapped potential.

For example, the ‘Presentation of 2nd Report on Inland Areas of Campania’ (Lampugnale & Marotta, 2023), highlighted that for the provinces of Avellino and Benevento, the qualifying and most attractive factors are:

- typical local products (agri-food, handicrafts);
- sites of historical and cultural interest, such as historical-archaeological centres and rural villages;
- natural resources in terms of parks, nature reserves and wine and olive cultures;
- a discrete presence of rural accommodation facilities, such as agritourism.

A fundamental boost to tourism in rural areas is given by agritourism, which represents one of
Italy's jewels in the crown by bringing together the concepts of typicality, culinary tradition and territory: with them, rural areas and their culture have found a means of promoting innovation and diversification in the agricultural sector.

'Agritourism are a point of reference for an active tourist in search of outdoor experiences, particularly attentive and sensitive to issues of sustainability, typical and healthy food, and the rediscovery of rural traditions.

Supporting their further growth will contribute to enhancing and relaunching minor villages and the rural hinterland, places of great charm but often less known to the tourist public' (Garibaldi, 2022a).

An example of the concept of innovation applied to the rural sector is the establishment of so-called educational farms, a classic example of experiential tourism, and the enrichment of experiences available in agritourism, based on:

1) tasting of typical products;
2) nature observations, coming into contact with nature by alternative means such as trekking and cycling.

Tourists, both Italian and foreign, have in recent years shown a steadily growing desire for agritourism, which is an expression of a desire to discover small villages and their traditions, as an alternative to the better-known destinations crowded by mass tourism.

The above therefore identifies food and wine tourism as the most suitable and congenial to rural and inland areas. It is a strong help in combating the depopulation of such areas, providing a significant means of socio-economic development that is also sustainable, all while meeting the real demand of tourists.

The needs to be met to promote food and wine tourism were highlighted in the recent ‘Report Food and Wine Tourism and Sustainability 2023’ (Garibaldi, 2023a).

From this, it can be deduced that to promote this type of tourism in rural and inland areas, it is necessary to:

1) make all the information tourists need available simply and immediately (possibly in their native language);
2) uniting small villages into complete tourist routes that, building on local resources, allow tourists to explore new destinations by decongesting areas subject to 'over-tourism' and deseasonalising tourism;
3) inform about healthy and sustainable lifestyles, such as the Mediterranean Diet;
4) promote 'sustainable' productions by informing tourists and accompanying them on guided tours of production sites.

5. The Case Study on the integrated web portal 'lacucinacampana.it'

5.1 Portal Structure and Functionalities

This section examines the case of the web portal 'La Cucina Campana' (hereafter referred to as 'Portal'), developed by the innovative StartUp 'La Cucina Campana srl' (established on 18/1/2022 with a registered office in Salerno).
The Portal is based on an innovative model, for now, applied to Campania but easily extendable to other Italian and foreign regions.

This model offers tourists in an integrated manner almost all the information they are interested in, with a focus on food and its ecosystem, satisfying their needs and at the same time promoting the socio-economic development of the territory.

The Portal is accessible on the web at www.lacucinacampana.it address, for the time being via credentials, waiting for its public opening (together with the publication of the relevant Android and IOS APPs in the appropriate libraries) which will take place shortly, accompanied by a communication campaign especially on social media.

The Portal makes available fully interconnected sections, between which one can move easily (Figure 6), thus finding everything useful for food and wine tourists.

**Figure 6. Multi-access and 360° integration feature of the Portal**

In this way, one can find agri-food products of interest and the suppliers qualified to offer them, local dishes with their recipes and the restaurateurs where they can be enjoyed, and associated places with their cultural, natural and artistic attractions.

In addition, the Portal contains examples of complete food and wine itineraries (with descriptions of each stage), events, food and wine experiences, and articles on food culture.

The information content is organised in 'sheets', according to a common layout where the colours and structure of the sheets are congruent with the information covered.

Each sheet contains the main information, links to other specialised sites for more in-depth information, and links to the other sheets of the portal related to the subject matter.

The integrated '360°' approach is made possible by a sophisticated Software architecture, which also offers the 'multi-entry' functionality with which, from the Portal's home page (Figure 7) and using the available advanced search tools, one can jump directly to the sheets of interest.

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*Source: Author elaboration*
For example, from the home page, those interested in a local dish can find its sheet, and from there move on to its recipes (Figure 8), the restaurants where it can be enjoyed, the places associated with it, and any related itineraries.

Similarly, anyone interested in an agri-food product can find its sheet and then view the recipes that use that product, the companies that sell it, the places of origin, the itineraries and the experiences that allow them to get to know that product.

The 'Places' section now contains sheets for more than 250 municipalities in Campania, mostly
relating to small towns in rural and inland areas. Each sheet is designed from the tourist's point of view and offers information of interest (how to get there, what to see, links for more in-depth information on cultural and naturalistic aspects, and so on). In addition, information associated with the location can be selected with a 'click':

- typical food products
- suppliers where you can buy them
- characteristic dishes with recipes
- restauateurs where such dishes can be enjoyed
- food and wine experiences
- itineraries for visiting the surroundings.

As an example, the sheet of Postiglione (Figure 9), a small village in the province of Salerno, in a rural area of about 2,000 inhabitants, is shown.

The sheet shows general information and, at the bottom, links to other sites (on the left) and 5 links to associated sections (on the right), among which that of typical products is selected, to show the "preview" of the sheets of the 3 products associated with Postiglione.

![Figure 9. Example of a small rural municipality sheet](image)

Source: Author elaboration

The Portal's 'Itineraries' section proposes routes in stages for tourists, often leading them to little-known rural and inland areas. For example, an itinerary is proposed (Figure 10) that revolves around the centre of Cava de' Tirreni, highlighting the small hillside hamlets and surrounding places, proposing the art, history, religion, landscapes and nature typical of these little-known areas.
All this is associated with local food and wine through links with local dishes and typical products. The 'Experiences' section seeks to meet the growing demand for 'experiential tourism' by offering more than 100 possibilities for various types of wine and food experiences (tastings, cooking courses, visits to wine cellars or oil mills etc., (Figure 1), especially in the rural areas of Campania, such as Sannio, Cilento and Alta Irpinia.

Figure 1. Example of a route through unfamiliar areas

Source: Author elaboration

Figure 11. Example of a food and wine experience with associations to places and products

Source: Author elaboration
The 'Agri-food Suppliers' and 'Restaurateurs' sections contain more than 2,500 entries with detailed information on their products and dishes: in practice, the Portal offers an 'online shop window' with e-commerce possibilities to help these activities make the 'digital transition', be competitive and overcome geographical barriers, even in the most disadvantaged areas. The Portal offers advanced searches that make it easy to find suppliers and restaurateurs with specific characteristics, such as agritourism with certain quality labels that are located in a certain municipality.

The Portal greatly facilitates internationalisation because its contents are available not only in Italian but also in 10 foreign languages (English, French, German, Spanish, Portuguese, Russian, Ukrainian, Arabic, Japanese and Chinese). For example, each typical product is presented to tourists in its native language, ensuring that its characteristics are better understood and appreciated, and increasing its attractiveness, stimulating tasting and a fully informed purchase. Since the Portal is available to all, without geographical limits, it is a powerful vehicle for Campania's agri-food products, which can be purchased anywhere, online, in one's language.

The Portal also has a cultural section called 'Knowledge', which contains hundreds of sheets on various topics of general interest related to the world of food, such as the 'Mediterranean Diet', the description of geographical denomination marks, the rules of healthy eating, sustainable agriculture and the health benefits for consumers, the fight against food waste, etc. The Portal's software architecture is completely scalable and reusable. Its first application concerns Campania, so for the time being the information data of that region has been entered, but the same model can easily be replicated at any geographical level, loading only the data relating to the territory of interest. In this regard, the Start-Up has planned the 'Scale Up' at a national and international level, following the first experimentation in Campania.

5.2 Aims and achievable objectives

From the concepts expressed above, it emerges how the www.lacucinacampana.it portal fully contributes to satisfying the needs of wine and food tourists and thus can contribute to the development of Campania's rural and inland areas, with a model that can be reproduced on a national and international scale.

In particular, the Portal promotes tourism and agriculture, which are key levers for the development of these areas, contributing mainly to these objectives:

- promote local agri-food products, focusing on typicality and quality and favouring the ‘km0’ supply chain;
- make local dishes known and the restaurants where they can be enjoyed;
- provide a digital showcase for all restaurateurs and suppliers of agri-food products;
- enable suppliers to have access to international markets;
- boosting food and wine and experiential tourism, bringing tourists to areas that are currently less visited;
- help consumers choose healthy, quality food, contributing to improved health and reduced health expenditure;
- raise consumer awareness of sustainable agricultural products, highlighting their benefits.

The Portal thus contributes to the evolution towards more responsible tourism and the mitigation
of the following problems of 'Boosterism':

- over-tourism → in fact it motivates tourists to go to areas with fewer visitors, and all year round (promoting the deseasonalisation of tourism)
- inequality → it promotes small food suppliers and quality restaurateurs
- environmental degradation and negative social consequences experienced by host communities → it promotes the sale of ‘km0’ products (reducing the smog caused by transport), raises citizens' awareness of environmental care and the reduction of food waste, enhances the value of environmentally sustainable agri-food suppliers, creates jobs by allowing agri-food suppliers access to national and international markets and promoting the development of tourism-related activities and the related allied industries.

The web portal (with its mobile applications) is an effective digital technology that enables the creation by operators of new tourism experiences in line with tourists' needs and allows the latter to co-create customised itineraries, promoting experiential tourism.

6. Discussion, conclusions, and future implications

The analysis of the training needs of contemporary tourists, especially those coming from other nations, the observation of a significant and growing attention towards food and wine tourism in Italy (Bazzocchi et al., 2011; Fortis, 2016; Guigoni, 2019; Soletti, 2003; Soletti & Selmi 2006, Garibaldi, 2023a) and the pressing need to foster the development of rural areas (Bencardino & Marotta, 2004; Lampreu, 2023; Distefano, 2001), especially if also internal (Carlucci & Lucatelli, 2013; Meini, 2018), prompted this study, which firstly proposed a conceptual framework related to the different interconnected themes dealt with. The subsequent description of the innovative portal showed that new communication technologies can integrate a great deal of information, facilitating tourist choices and thus favouring the movement of visitors from well-known traditional destinations to notoriously neglected areas.

Based on what is presented in this paper, it is possible to state that this study fully answers the research question (RQ1) by showing the fundamental role that web portals can play in increasing food and wine tourism, especially in rural and inland areas.

The preservation of agricultural and agro-industrial traditions in beautiful natural landscapes (Agnoletti et al., 2011) can thus be concretely realised by displacing tourists from areas that are more frequented, but lack an appreciable landscape (Mastronardi et al., 2017). The Campania experience can be added to those described of Sardinia (Lampreu, 2020), Calabria (Verardi et al., 2023) and Marche (Cerquetti et al., 2022), characterised by the similar objective of preventing the depopulation of inland areas.

The outcomes of the dissemination of the 'lacucinacampana.it' portal can only be assessed after its actual diffusion, hoping however for the favourable reception of the Campania Region and other local institutions, considering the fundamental role of public institutions repeatedly invoked by the doctrine (Bassi and Carestiato, 2016; Gargano, 2021; Lucatelli et al., 2022). It is also hoped that social development actors will overcome frequent prejudices towards the new digital tools, modernising their useful action already under analysis (Dalla Torre et al, 2020; Navarro-Valverde, 2022; Elsen & Fazzi, 2021; Fazzi, 2021), while preserving the typical values of rural areas, especially if they are also internal (De Rosa
and Luca, 2016; Battino and Lampreuf, 2019; PRiNT Collective, 2022), which have always had a prevalent agricultural vocation in Italy (Macchi Jánica & Palumbo, 2019) and are at risk of depopulation (Tantillo, 2023; Coordinamento Rete Nazionale Giovani Ricercatori per le Aree Interne, 2021).

The hope for a positive contribution of these areas to the country’s economic growth (Carlucci & Lucatelli, 2013) necessarily transits through tourism development (Meini, 2018; Salustri et al., 2022; Bencardino & Marotta, 2004) consistent with the most widespread principles of sustainability (Cerquetti et al., 2022).

Italy could thus add a hopefully positive outcome also in the Campania region, which could thus hold a positive comparison with wine and food development experiences already recorded in other nations (Salvado and Joukes, 2021; De Jesús Contreras and Xavier Medina, 2021; Michael Hall, 2013; Duarte Alonso et al., 2022).

In any case, it seems clear that new information technologies can and should play a fundamental role in tourism enhancement (Borin, 2023; Tajeddini and Ratten, 2019; Duarte Santos and Lima Silva, 2019; Filieri, 2007; Cervi, 2009). Digital food and wine tourism could thus add to the positive experiences of ICT use already recorded in nautical tourism (Benevolo and Morchio, 2015) and in themed itineraries (Smiraglia and Diolaiuti, 2003).

The study of this portal adds to the rare contributions related to tourism portals (Shrestha et al., 2020; Darmawiguna et al., 2019; Ahmed and Amagoh, 2008; Györkös and Leskovar, 2001; Altamirano et al., 2015), fostering the development of studies and research on topics that will surely characterise the future hinging on the diffusion of artificial intelligence. It thus certainly contributes to the current and prospective scientific debate, even considering that the theoretical implications of these notes emphasise the fundamental role of web portals in promoting many economic initiatives. The case study approach also provides a solid theoretical basis for understanding how new communication technologies can be exploited to enhance agricultural traditions and landscape resources.

The description of an innovative portal cannot exhaust the broader issue of technology dissemination in tourism. However, it can represent a valid example because it is applicable in a region that has a natural vocation for tourism due to its natural, historical and cultural beauty.

Other limitations of the research are related to the methodology of the cases, which have an ordinary 'limited generalisation'. That is, the specific dynamics of the Campania region may differ from other areas, although the flexibility of software could easily overcome this difficulty and the current other specificities of the portal. Current technologies are subject to rapid obsolescence, but the emergence and spread of artificial intelligence can only further validate and enhance the philosophy behind the current product, favouring the automated construction of itineraries concerning the tourist's characteristics and changing needs.

It will be necessary to assess the economic sustainability of this initiative in the coming years and, above all, its popularity among tourists. It will also be necessary to estimate how much of the hoped-for tourist development of rural and inland areas will be attributable to the portal: much will also depend on the computer culture of tourists and their predisposition to use portals and apps as tools for obtaining the necessary information to map out their itineraries. The portal operators should take care to accurately record data on its use, to allow useful relations with statistical data on the dynamics of tourist flows.

The success of the initiative will also depend on the sensitivity of local economic operators to digital tools of this type, helping to enrich the information already present, innovating, detailing and updating it with food and beverage events, which should also be the main attraction.
These desirable managerial implications go beyond the mere observation of the potentially positive role of web portals. Several additional opportunities for the local economic operators and institutions involved are highlighted. Potential collaborations with the 'lacucinacampana.it' portal could be enhanced with marketing initiatives and partnerships with local businesses, aimed at improving the tourist experience and stimulating the local economy. In other words, operators in the sector should adopt a proactive approach to digital tools, modernising their actions without compromising the typical values of rural areas. Careful management of portal usage data can provide valuable information to adapt and continuously improve the offer, ensuring the best long-term economic sustainability.

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