



Challenges for tourism-related lifestyle migrant entrepreneurship in rural areas of the Algarve, Portugal

Kate Torkington^{a,*}, Marco Eimermann^b, Filipa Perdigão Ribeiro^a, Susana Conceição^c

^a Universidade do Algarve & CITUR – Centre for Tourism Research, Development & Innovation, Portugal

^b Geography Department and Arctic Research Centre (ARCUM), Umea University, Sweden

^c Universidade do Algarve, ESGHT, Campus da Penha, 8005-139, Faro, Portugal

ARTICLE INFO

Keywords:

Entrepreneurship
Lifestyle migration
Rural tourism
Challenges
Algarve

ABSTRACT

Many rural areas in southern Europe have long suffered from outward migration but have recently been attracting new types of in-migration. This includes lifestyle migrant entrepreneurs (LMEs) seeking ways of improving their own quality of life and, at the same time, bringing new projects which aim to build on the potential and resources for rural tourism in their chosen destination place. Drawing on data from in-depth research interviews with LMEs and other stakeholders, this article stems from a research project focused on exploring tourism-related entrepreneurial lifestyle migration in the rural Algarve, in southern Portugal. Although this type of migration has often been identified as a potential driver for the sustainable development of both tourism activities and rural areas, this study focuses on the challenges identified, principally by the LMEs themselves, as regards the setting up, operationalisation and continuing activities of tourism-related businesses in rural areas of the Algarve. A variety of challenges were detected, at the micro-, meso- and macro-levels of the entrepreneurial migration process. The most recurrent problem faced is the level of bureaucracy and the difficulties encountered in legal processes. Although this is sometimes due to the language barrier, it is also related to the lack of clear information on procedures and the lack of specialised support. This finding points to the need for a greater level of cooperation and communication among the various stakeholders to ensure a more sustainable development of tourism in these rural areas.

1. Introduction

Many areas of the more remote and peripheral rural areas of southern Europe have experienced a ‘rural exodus’ over the past few decades, as people have been abandoning traditional ways of life, usually based around small-scale agricultural production, and moved towards urban centres in search of better opportunities. The remaining population, besides being sparse, is often spatially dispersed and ageing, and faces a range of challenges such as outdated and inadequate infrastructure and difficult access to services of general public interest (European Commission, 2021). Added to this, factors such as the lack of employment and business opportunities and the scant leisure and cultural facilities mean that it can be difficult to attract newcomers, especially young people, to move to and stay in these areas.

However, some areas which have long suffered from outward migration and the decline of the traditional, production-oriented,

agriculture-based economic paradigm, have recently been attracting new types of in-migration, including lifestyle-oriented migrant entrepreneurs (LMEs) seeking ways of improving their own quality of life and, at the same time, bringing new projects which often aim to build on the potential for rural and nature-based tourism in their chosen destination place (Bredvold and Skålen, 2016; Carson and Carson, 2018; Carson et al., 2018; Cunha et al., 2020; Dinis, 2021; Eimermann & Kordel, 2018; Mendoza et al., 2020; Morén-Alegret et al., 2018). At the same time, the demand for rural tourism has witnessed a sharp growth over the past decades, and particularly since the Covid-19 pandemic (Silva, 2022; Seraphin and Dosquet, 2020; WTTC, 2020) and is forecast to continue to grow at a steady rate globally over the next ten years (Shah, 2023).

The way forward in rural development has been discussed in terms of ‘soft’ tourism. As a form of sustainable tourism, the concept of soft tourism emerged in the European Alps in the 1980s (Snowdon et al., 2000), comprising small-scale, locally owned businesses which build on

* Corresponding author.

E-mail addresses: ktorking@ualg.pt (K. Torkington), marco.eimermann@umu.se (M. Eimermann), fperdig@ualg.pt (F.P. Ribeiro), sconceicao@ualg.pt (S. Conceição).

<https://doi.org/10.1016/j.jrurstud.2025.103562>

Received 15 January 2024; Received in revised form 6 January 2025; Accepted 7 January 2025

Available online 10 February 2025

0743-0167/© 2025 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

resources that are distinctive to local areas and are rooted in the local economy (Sharpley, 2002). Since soft tourism is embedded in the local entrepreneurial eco-system (Bichler et al., 2020), it has the potential to generate higher local income and employment multipliers per unit of visitor spend (Slee et al., 1995, 1997; Lewis, 2001). Rural tourism of this type is therefore increasingly seen as the basis for an alternative development strategy for remote and peripheral rural areas. Moreover, recent studies are revealing that a significant proportion of tourism-related entrepreneurship in remote and peripheral areas, particularly in northern Europe, is driven by lifestyle migration (Bredvold and Skålén, 2016; Carson et al., 2018; Iversen and Jacobsen, 2016; Lundberg and Fredman, 2012; van Rooij and Margaryan, 2019).

This study therefore aims to build on the small but growing body of literature that explores migrant entrepreneurship in rural environments. The study stems from a research project focused on exploring tourism-related entrepreneurial lifestyle migration in the rural Algarve, in southern Portugal. Although this type of migration has often been identified as a potential driver for the socio-economic development of both tourism and rural areas, the actual contributions of entrepreneurial lifestyle migration to successful and sustainable rural destination development needs further empirical research in a variety of geographical contexts (Bredvold and Skålén, 2016; Brandt Broegaard, 2022).

Drawing on data obtained from 62 research interviews with various stakeholders, including lifestyle migrant entrepreneurs, representatives of local governance and other stakeholders operating at the intermediary or facilitating level, this article focuses on the challenges identified as regards the setting up, operationalisation and continuing activities of tourism-related businesses in low-density rural areas of the Algarve. It is hoped that by better understanding the challenges faced at various levels, a contribution can be made to support both entrepreneurial migration processes and rural development policy agendas in southern Europe.

The next section presents a review of the literature, particularly focusing on the challenges faced by peripheral rural areas in southern Europe, the encouragement of tourism as an alternative rural development strategy, and previous research conducted on entrepreneurial lifestyle migration in Europe. We then describe the research site and the methodology and data used in the study, before going on to present the findings in the form of a brief profiling of the migrant entrepreneurs and their businesses followed by an analysis of the challenges identified by the various stakeholders.

2. Literature review

2.1. Challenges for rural areas in southern Europe

Since 'rural' no longer equates almost entirely to 'agricultural', the development of rural areas, especially those that are considered remote and/or peripheral, is a matter of concern in most western countries (Lane, 2009). In the south of Europe, including Portugal, one of the most concerning issues is depopulation: the exceptionally high rates of outward migration of younger and better-qualified individuals inevitably leads to high ageing indices, low density of business activities and lack of jobs and employment opportunities. Rural depopulation is indeed a 'systemic' phenomenon (ESPON, 2018), since the major challenges faced in these regions, which also include poor access to public services, lack of economic competitiveness and innovation and difficult accessibility to and from urban centres, are both the causes and symptoms of population decline. In this way, rural territories can become 'inner peripheries' - defined as regions with significantly lower access to services of general interest even though they may not be peripheries in the strictly geographical sense.

Another term often encountered when characterising remote or peripheral rural areas is 'lagging', suggesting that these areas are not developing or evolving at the same rate as non-rural areas. According to

Dinis (2021), 'lagging' areas of southern Europe, which are characterized by the progressive decline and abandonment of traditional activities and continuous population exodus, have problems maintaining basic social infrastructures and services which are necessary to ensure a reasonable quality of life. The prospects for socio-economic development and the sustainability of rural communities are therefore also poor, and there is often a feeling that such regions have been abandoned by central governments (Almeida, 2017).

In the case of the Algarve, the focal region of this study, a report by the Regional Coordination and Development Agency (CCDR Algarve - Comissão de Coordenação e Desenvolvimento Regional do Algarve, 2015) identified several aspects as contributing to the 'lagging' situation of the rural areas of the region in the first decade of the 21st century. These include the severe disruption of the socio-economic fabric due to heavy outward migration from the 1960s onwards, leading to the growing loss of human resources and the accentuated aging population; the sharp disparity in socio-economic development indices between the inland and the coastal zones of the Algarve; and the application of strategies, methodologies and types of investments that did not manage to reverse stagnation trends. The resulting problems flagged by the report are those which are familiar to most southern European areas, including limited access to and closure of public health, education services and administrative services; limited public transport, which hinders access to and from the more remote areas; outdated and inadequate basic sanitation; and very limited job opportunities. The difficulties in attracting and keeping a younger population were also emphasized.

2.2. Rural tourism as part of an alternative development strategy

In view of the significant challenges confronting peripheral rural areas, a pressing need for regional development policies and strategies has arisen, based on intrinsically different parameters to those of the state-led, top-down modernization paradigm that underscored rural development programmes focused on agricultural production which dominated until the end of the 20th century (Woods, 2011). Rather than viewing these regions as 'disfavoured' and 'lagging' and therefore in need of external assistance to reach the ultimate goals of modernization and convergence with the rest of society, the new rural development paradigm gave value to the "unique social, cultural and environmental resources that can be harnessed in individual and divergent development paths" (Woods, 2011: 141). This was structured around the defining features of endogenous, integrated and sustainable development and bottom-up innovation, led by communities themselves (van der Ploeg et al., 2000).

Likewise, Hoggart and Paniagua (2001) and Lundmark (2006) have suggested that restructuring of rural areas should entail qualitative changes in social structures and other aspects of life, not only quantitative measurable changes. Simultaneously, the process of restructuring is linked to global policy frameworks as well as economic, demographic and social processes, both global and local in character. In a rural context, this process has been described in terms of a shift from the productive to the post-productive economic paradigm (Wilson, 2001 provides an extensive overview). These changes can lead to opportunities for new, different businesses, connecting the local community to a wider arena with different sets of opportunities and constraints, and perhaps less vulnerable to change (Paniagua, 2002).

Rural tourism has, for some time, been endorsed by regional development actors worldwide as a viable alternative for economic diversification and restructuring (Jenkins et al., 1998), to counter the loss of traditional agricultural activities and the consequences of this (Carneiro et al., 2015; Cawley and Gillmor, 2008; Hall, 2004; Haven-Tang and Jones, 2012; Lane and Kastenholz, 2015; OECD, 1994; Sharpley, 2005). It has even been touted as a panacea for all the socio-economic ills of 'lagging' rural areas (Sharpley, 2002). Small tourism businesses in rural destinations have been described as 'economic engines', stimulating local economies by creating multiplier effects (Hallak and Lee, 2023)

and leading to diversification of the economy and reduced unemployment, at least in theory (Lundmark, 2006).

As such, rural tourism has grown steadily and globally over the past three decades (Lane and Kastenholz, 2015), in terms of both supply and demand. Rural areas certainly seem to have a particular appeal to tourists due to their distinct cultural and geographic characteristics and the idea of the rural as a place of consumption has become embedded in western culture (Woods, 2011). The consumption economy, increasingly driven by the tourism and leisure industries, has therefore become increasingly important as a means of sustaining rural spaces and livelihoods (*ibid.*). Nowadays, rural tourism comprises a wide-ranging and multifaceted set of activities and as such, is generally considered to be an umbrella term rather than a strictly defined category of tourism (Jepson and Sharpley, 2015; Lane and Kastenholz, 2015), including and/or overlapping with farm (agri)tourism; outdoor activity tourism; adventure tourism; wellness tourism; wine tourism, and nature-based tourism, among others, with a growing range of different types of accommodation available in rural areas.

Cawley and Gillmor (2008) note how the growing demand for eco-tourism and traditional products and experiences has enhanced the scope for adding commercial value to cultural resources found in rural spaces. This demand then stimulates the creation of small businesses (Irvine and Anderson, 2004). Factors that have led to increased demand for rural tourism include rising levels of micro-mobility, changes in lifestyles, an ever-growing taste for outdoor recreational activities, a desire for 'escape' from urban environments, a wish to find local attractions closer to home, and the general trend towards seeking tourism 'experiences' (Jepson and Sharpley, 2015; Lane and Kastenholz, 2015; Molera and Albaladejo, 2007). Furthermore, a growing number of studies (e.g. Seraphin and Dosquet, 2020; Stankov et al., 2020; Zhu and Deng, 2020) have been highlighting a recent, post-pandemic shift in tourist demand towards more mindful and meaningful tourism experiences, in more sustainable and localised contexts (Higgins-Desbiolles, 2020), including those to be found in rural locations (Rosalina et al., 2021; Vaishar and Šastná, 2020).

However, although this increased demand presents an opportunity for socio-economic growth, the most crucial factor in successful and sustainable development undoubtedly lies in the combined approach taken by the stakeholders, including rural communities, local governance and entrepreneurs (Park et al., 2023). Rural tourism's link to sustainable development is often presented through its apparent role of supporting, using and giving added value to the place-based natural and cultural resources of the 'traditional' and 'authentic' countryside (Lane and Kastenholz, 2015). In the context of sustaining rural communities, emerging rural tourist destinations are seen as dynamic places that are moulded by new mobilities comprising both tourists and workforce, often registering a positive population change (Hall, 2005; Möller and Amcoff, 2018), creating employment opportunities and balancing urbanization trends (Butler et al., 1998; Hall, 2005; Koster and Carson, 2019). It often draws a young and creative workforce and is thus attractive for the long-term strategies of rural peripheral areas in Europe and elsewhere (Hall, 2005; Bohlin et al., 2016; Svalastog et al., 2022). On the other hand, as Gunn (1994) argued, the low availability of adequately trained workers in an area can have considerable influence on successful tourism development. In addition to this, the issues of seasonality and the small scale of many tourism-related labour markets has strong implications for the recruitment of the workforce and the rate of tourism development (Hall and Williams, 2002).

It has also been noted that economic growth in peripheral rural areas is closely linked to the entrepreneurial capacity of the local population (Labrianidis, 2004). However, the supply of potential local entrepreneurs is by no means certain, since those who may have been disposed to and capable of initiating entrepreneurial activities may also have been the first to seek to out-migrate (Labrianidis, 2004; Silva, 2006). The fact that rural and remote areas in many European countries have recently been experiencing a wave of in-migration by individuals searching for

more desirable residential environments and a better quality of life (Benson, 2010; Eimermann, 2016; Fonseca et al., 2021; Iversen and Jacobsen, 2016; Lundmark et al., 2014) could certainly help to counteract any deficit in the local supply of workers and entrepreneurs, although several possible challenges may arise both from and for this in-migration trend. This will be further explored in the next section.

2.3. Lifestyle migration entrepreneurship as a potential driver for the sustainable development of rural areas

As already mentioned above, tourism enterprises in rural areas are often initiated and operated by individuals with lifestyle objectives, in contrast to economic or growth-oriented objectives (Eimermann et al., 2019; Dias and Patuleia, 2021). Bosworth and Bat Finke (2020: 657) suggest that "pro-rural commercial counter-urbanisation", a term which they use to highlight the importance of social and lifestyle factors as well as livelihood choices underpinning business motivations and outcomes, can be fruitfully studied as both a migratory process and as a process that brings about changes in rural settlements and communities. The increasing inflows of newcomers, whether as part of the urban-rural shift or based on other aspects of lifestyle-oriented quests that combine entrepreneurial activities with quality-of-life ideas and values, has been well documented (Ateljevic and Doorne, 2000; Bredvold and Skålen, 2016; Kordel, 2016). Moreover, tourism businesses in rural areas and especially in relatively poor regions, are considered as having a high potential to attract young and creative entrepreneurs (Thulemark et al., 2014; Xiong et al., 2020). Studies have shown how these in-migrants have taken up entrepreneurial activities which, with support from their external networks, previous experience and knowledge, have driven socio-economic change (e.g. Bosworth, 2010; Mitchell & Shannon, 2018; Stockdale and MacLeod, 2013) from a productivist-oriented agricultural paradigm to a more consumption-led economy based on small and micro-businesses, often catering to leisure-seekers and tourists.

Lifestyle migrant entrepreneurs (LMEs) are believed to bring new ideas, skills, investment, networks, markets and jobs for potential new development and innovations (Carson and Carson, 2018), and to easily interact and integrate with local populations, although recent empirical evidence suggests they are seldom actually doing so (Eimermann et al., 2020). This trend also has inevitable implications for local housing, services, and employment, leading to economic inequalities, and resulting problems for community cohesion (Bosworth and Bat Finke, 2020: 655). Therefore, Carson and Eimermann (2023) argue that LMEs' unique experiences need to be studied by drawing on in-depth qualitative methods and that findings are likely to be place-specific regarding both the tourism context and the geographic context. This means taking into account an area's socio-economic profile, history, location and intra-regional variations in population density and tourism infrastructures, aspects to which we now turn to describe this study's research site.

3. Research site

The Algarve is Portugal's southernmost region (Fig. 1), with a total land area of just under 5000 km². Of its total perimeter of 582 km, the coastline to the south and west accounts for 318 km. The major tourism development has taken place along the southern coastline, which is also where the largest urban centres of the region are located. Although the Algarve is well-known as an international sun, sea and golf destination, much of the region's territory can be characterised as rural and sparsely populated. To the east, the Guadiana river runs along the international border with Spain and through the rural municipalities of Alcoutim and Castro Marim before meeting the ocean at the town of Vila Real de Santo António. The northern part of the region is characterised by the *serras* (ranges of low mountains), of which the highest point is Foia (902m) in the Serra de Monchique in the western part of the region. Extending

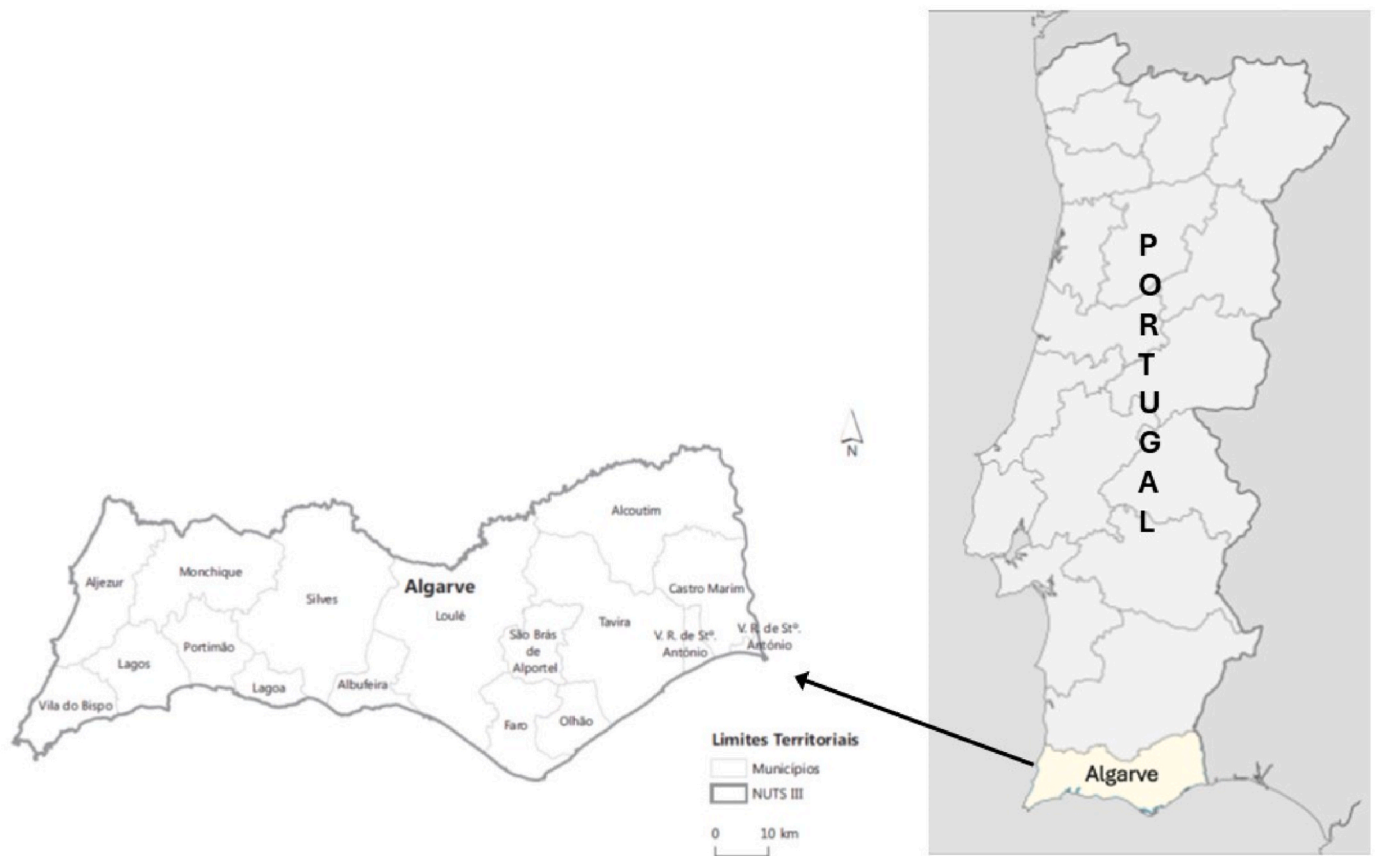


Fig. 1. Map showing location of the Algarve region, with the 16 municipal divisions.
Source: INE (2019) and authors

from the central Algarve to the east is the Serra de Caldeirão. Between the *serra* and the coast, the transitional rural area known as the *barrocal* provides the most fertile area of the region and is where most of the region's agricultural activities are concentrated.

There are 47,108 ha. of protected areas in the region, consisting of natural parks and reserves as well as protected landscapes (INE, 2019). These areas notably include the *Parque Natural do Sudoeste Alentejano e Costa Vicentina* (in the municipalities of Aljezur and Vila do Bispo in the west) and the *Reserva Natural do Sapal de Castro Marim e Vila Real de Santo António* which stretches alongside the Guadiana river in the east. Around 15% (74,151 ha) of the Algarve is classified as wooded or forested area.

Administratively, the region is divided into 16 *concelhos municipais* (municipal councils, see Fig. 1) and ¹ each of which is divided into *freguesias* (civil parishes).² The current national Rural Development Plan (PDR2020) lists 50 of the region's 67 *freguesias* (around 75%) as being predominantly rural. According to the PDR 2020 classification, all 16 of the Algarve municipal councils have at least one rural *freguesia*, and six are made up entirely of rural *freguesias*: the municipal councils of Alcoutim and Castro Marim in the east; Aljezur, Monchique, and Vila do Bispo in the west; and São Brás de Alportel in the central part of the region.

According to data from the National Population Census 2021, more than half of the Algarvian *freguesias* ($n = 35$) have low population density (i.e. less than 100 per km²). Furthermore, the majority of these (77%) have a population density of less than 50 inhabitants per km,²

including the whole of the municipal councils of Alcoutim in the east, and Aljezur, Monchique, and most of Vila do Bispo in the west. The most sparsely populated *freguesias* belong to council of Alcoutim, with between 2.12 and 7.22 inhabitants per km,² making it the most sparsely populated council in Portugal.

These sparsely populated areas also reveal very high ageing indexes. Whilst the overall ageing index in the Algarve region, according to data from the 2021 Population Census, is 176.72, the highest ratios of ageing populations, with an index of above 200, are in the councils of Alcoutim (758.86); Monchique (334.36); Castro Marim (296.88); Tavira (252.08); Vila do Bispo (216.46) and Aljezur (210.08). Moreover, seven rural *freguesias* have an ageing index of over 500 and a further three have an ageing index of over 1000.

On the other hand, most of the rural areas of the Algarve have seen a recent increase in numbers of foreign nationals, with data from the 2021 population census showing that in some rural areas, over 20% of the population is made up of foreign nationals. Since the previous Census (in 2011), some of the more rural councils have attracted a high level of newcomers. The Algarve municipality with the highest population increase was in fact Vila do Bispo (+8,73%), in the southwestern tip of the region, which was certainly due to a sharp increase in foreign residents. In both Vila do Bispo and the neighbouring council of Aljezur, around 26% of the population in 2021 were foreign nationals. Figs. 2 and 3 show the contrast between the overall population density and the population density of foreign nationals of the Algarvian *freguesias*. It can be clearly seen that foreign nationals make up a large part of the population of some of the least populated areas of the region.

The first official statistics on rural tourism in Portugal date from 1984, when just 103 rural tourism accommodation establishments were noted, although over the following two decades the average growth rate per year was around 10%, so that by 2008, there were 1047 units

¹ This corresponds to Eurostat's Local Administrative Unit at 1st level (LAU1).

² Eurostat LAU2 level.

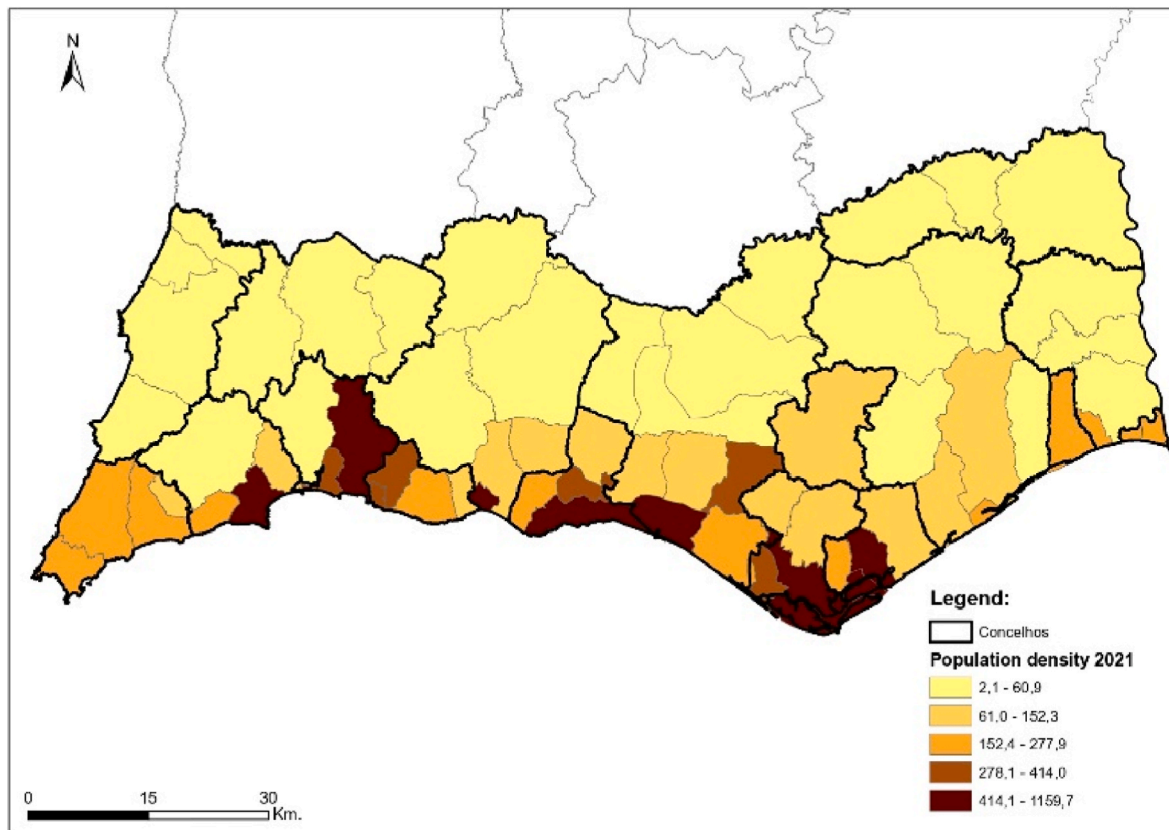


Fig. 2. Population density of the Algarve.
Source: authors (ArcGIS; data from INE).

(Duarte, 2010), rising to 1793 in 2022 (Tomé, 2022). However, the distribution of these units has not spread uniformly across the country, with the majority located in the north and centre of the country. Only around 3% were to be found in the Algarve in 2008, rising to just 8% of the national share of beds in rural tourism units in 2022 (Tomé, 2022). Duarte (2010) also notes that despite the increase in supply, occupancy rates remained relatively low in the first decade of the 21st century. Although the main market for rural tourism in Portugal has been the domestic market, more recently there has been a significant increase in demand from international tourists, although the average length of stay remains low at 2.2 nights, which is close to the pre-Covid rate registered in 2019, and is concentrated in the summer months (Tomé, 2022), despite being widely considered as a possible means for combating the strong seasonality felt across the tourism industry nationally and particularly in the Algarve. Indeed, the Algarve Regional Tourism Board has recently been promoting the potential of the destination for outdoor and nature-based tourism, with initiatives such as the Algarve Cycling & Walking programme, Algarve Nature Fest, and the launch of a regional Sustainable Tourism Observatory (<https://www.turismodoalgarve.pt/menu/296/projetos.aspx>).

4. Methods and data

For the purposes of this research project, it was decided to keep as broad a framework as possible for considering what constitutes rural space in the Algarve. Therefore, the geographical scope of the study was informed by the list of 50 *freguesias* (parishes) defined by the Portuguese Rural Development Plan (PDR2020).³ This meant that all 16 *concelhos* (municipalities) of the Algarve would potentially be included in the

project research site, as there is at least one rural parish in each municipal council. The data for this study was collected through a total of 62 research interviews with stakeholders, conducted between July 2022 and January 2023. The Ethics Review Committee at University of Algarve (ESGHT) approved the design and methodology of the project, including the use of research interviews, in May 2022. Informed consent was obtained from participants before starting the interviews.

The stakeholders were divided into three groups: lifestyle migrant entrepreneurs ($n = 37$); representatives of local governance ($n = 16$); and other stakeholders ($n = 9$). The lifestyle migrant entrepreneurs (LMEs) were selected to provide interview data from a variety of nationalities, involved in a range of rural tourism-related business activities, across the 16 municipalities of the Algarve. Potential interviewees had been previously identified during an initial stage of the research by using several methods: by consulting the database of the National Tourism Registry, by conducting a search using Google maps and its links to business websites, and by searching various social media channels. They were then contacted directly to verify their suitability for the study (i.e. to confirm that they had migrated to the Algarve) and to invite them to participate. The majority of people contacted were happy to participate and invited the interviewers to their business premises in order to better understand their activities and conduct the interview *in situ* (26 of the 37 interviews). When this was not possible, interviews were conducted remotely via Zoom. In all cases, a project information sheet was provided and informed consent was given by the participants. The interviews followed a loosely structured topic guide and lasted for an average length of 62 min. Twenty-seven of the interviews had just one interviewee, and ten had two interviewees. This meant that in total, 47 LMEs participated in the study (26 males and 21 females). Thirty-one of the interviews were carried out in English, and six in Portuguese. Further details are given in section 5.1 below.

The interviewees from local governance were selected to represent

³ Available at <http://www.pdr-2020.pt/>.

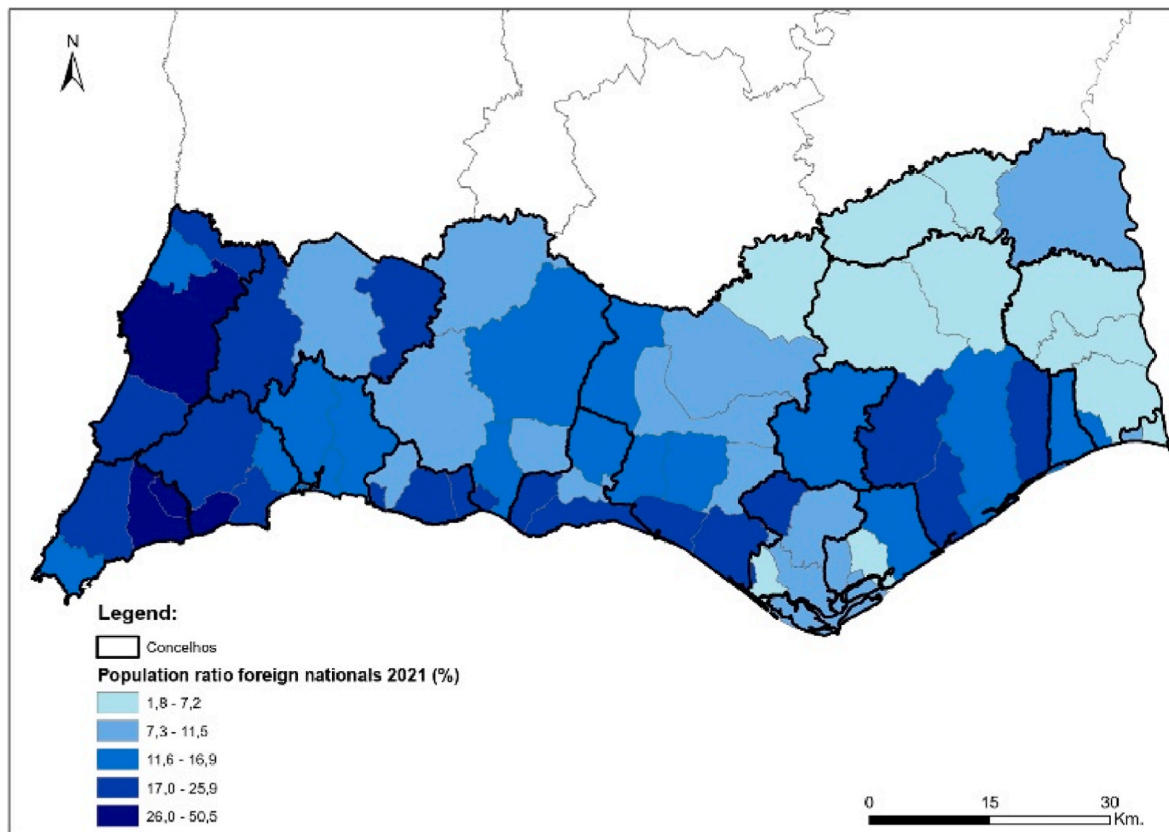


Fig. 3. Population density of foreign nationals in the Algarve.
Source: authors (ArcGIS; data from INE).

the 16 municipalities of the Algarve region. Seven of the interviewees were the President or Vice-President of the municipal council in question; seven were Councillors responsible for tourism and/or local businesses and entrepreneurship, and two were Presidents of a rural *freguesia*. The other stakeholders interviewed included representatives of the public sector Regional Development Agency – CCDR Algarve, local rural development associations, public and private support offices for entrepreneurs in the region, and experts involved in a range of public and private initiatives directly related to rural tourism in the Algarve. These interviews followed a topic guide with questions relating to the evolution of rural tourism in the area and the profiles and impacts of migrant entrepreneurs.

All 62 interviews were recorded and subsequently transcribed and checked by members of the research team. Where needed, transcripts were translated into English by research team members. The data was coded and analysed using NVivo software and Excel spreadsheets. Every effort has been made to guarantee anonymity and confidentiality of participants, using code names or pseudonyms where appropriate.

5. Findings

5.1. Brief profile of the LMEs and their businesses

The entrepreneurs interviewed for this study revealed a wide range of nationalities, including eleven different EU nationalities (Austrian; Belgian; Dutch; Finnish; French; German; Hungarian, Irish; Italian, Portuguese and Swedish) and five non-EU (Brazilian, British; Mexican; South African; Zimbabwean). Several of the interviewees had dual nationalities, and many came from mixed-nationality households. The Portuguese nationals ($n = 6$) had either lived for some time in another country (i.e. France, UK or USA) or had migrated from large urban centres in Portugal. As for age groups, the majority were aged between

40 and 60 years old at the time of the interview, with a further 13 being under 40 years and eight older than 60. In 15 of the interviews, the participants mentioned having dependent children living with them. Although the majority were running their business as a couple, five women and two men were running their business alone (in some cases, after having separated from their partners with whom they started the business). The date of arrival in the Algarve, which generally corresponded to the start of business activity, spanned 40 years, from the early 1980s until 2022, therefore giving a sample which included very well-established and very recent businesses: at the time of the interviews, roughly one-third of the participants had been in the Algarve for five years or less, one-third between six and ten years, and one-third for more than ten years. The majority had a high level of education, and they came from a wide range of previous professions and occupations. Most said they spoke very little Portuguese, although some of those who had been living in Portugal for several years were able to speak 'fairly fluently' and seven of the interviewees were native speakers of Portuguese. In four of these cases, the interviewees had been living abroad before moving to the Algarve, and the other three had all moved to the Algarve from a large urban centre elsewhere in Portugal.

Interestingly, the vast majority had no previous experience in tourism-related work or business, with only six participants saying that they had previous experience in the sector. In 25 of the 37 cases, it was the first business venture the participants had undertaken. This lack of experience and knowledge reflects findings noted in other studies (e.g. Bichler et al., 2020; Carson and Carson, 2018). In almost all the cases (29), the businesses were established by the interviewees themselves; of the remaining eight, one was taken over from his parents and the others were purchased, although in some cases the business had not been functioning for some time and the premises or equipment required considerable renovation and/or change.

In short, for the most part, it would appear that quite a risk had been

taken in starting up a business for the first time, using personal funds and savings, with little or no previous experience in the tourism sector and little or no knowledge of the local language. On the other hand, the accumulated capital - both economic and socio-cultural - of these migrants, including access to and support from extensive external networks and their strong orientation towards a particular kind of lifestyle and perceived better quality of life, would indicate a propensity towards success in their chosen business activities. Indeed, although nine of the businesses in question were in their first year of operation, twelve had been operating already for up to five years, eight for between six and ten years, and eight for more than ten years. For the most part, the interviewees classified their businesses as being successful. However, it was noticeable that few of the entrepreneurs were interested in growing their business, and that success for them entailed maintaining a small business of high-quality service provision at a level that also allowed them to dedicate time to their own lifestyle pursuits and objectives.

In terms of business activity, the most frequent involved some kind of accommodation provision, followed by catering and lastly tourist activities. Table 1 shows the distribution of the types of business.

When asked to characterise their clientele, the majority indicated that their clients were mostly international (either tourists or, in the case of the cafés and restaurants and tourist activities, a mixture of tourists and foreigners living in the area). Although some reported an increase in Portuguese clients during and since the Covid-19 pandemic, none of the businesses relied entirely on the domestic market. As such, the fact of speaking very little Portuguese did not have an impact on the running of the business in terms of dealing with clients. The majority of the businesses (n = 30) stated that they are open all year round, although many noted definite 'peak' seasons depending on the type of activities they are involved in. Regarding job creation, 17 of the businesses employed full- and part-time staff. Five businesses had ten or more employees, with two stating that they had 25 or more staff, depending on the time of the year. Of the remaining cases, eleven had no regular employees outside the household at the time of the interview; five took on employees 'as and when needed', and four relied on volunteers (e.g. through the 'Work-away' programme) and/or visiting family members for extra help. Other socio-economic aspects frequently mentioned by interviewees that can support local economies and communities include using local products and produce in their business activities and using and/or promoting other local service providers, e.g. other tourism businesses, local shops, markets, cafés and restaurants.

5.2. LMEs as seen by other stakeholders

One finding of note to emerge from the interviews with local governance representatives is that there is no systematic data collected on LMEs in the region. The majority of interviewees were certainly aware that there are growing numbers of migrant entrepreneurs in the rural areas of their respective municipalities, but with the exception of one councillor, none were able to provide lists or other forms of identifying data, and much of what was reported to us was anecdotal and

Table 1
Types of business activities in the LME sample.

Type of business	No. of cases
Accommodation units (B&Bs; short-term self-catering rentals, guesthouses, rural hotels)	16
Café/restaurant catering mainly to tourists	8
Motorhome park/campsite	4
Vineyard + accommodation	2
Retreat (=accommodation + on-site activities)	2
Bicycle rental/tours/cycling holidays	2
Outside catering (for events, parties etc)	1
Walking tours in rural surroundings	1
Motorised buggy tours	1

vague. These stakeholders were therefore unable to provide much in the way of profiling migrant entrepreneurs or their businesses, beyond rather generic representations which, moreover, seemed to conflate and confuse different groups of migrants, travellers, and second-home tourists.

Some of the other stakeholders, however, were better positioned to provide more specific portrayals of LMEs and their impacts local areas. In general, there seems to be a recognition that there is a new profile emerging, which contrasts with the more established 'closed' communities of lifestyle migrants that were rooted in international retirement migration. Nowadays, many migrant-entrepreneurs are seen as being younger, of many different nationalities, with high levels of education. Although they are often happy to settle in less developed, peripheral rural areas, they are better integrated in wider communities and often play an active role in the local community. They are considered to want to preserve and enhance the local heritage and traditions, as well as bringing new visions, ideas and products to the territory. They are thought to be oriented towards sustainable practices and to feel a strong connection with the land, often engaging in small, sustainable agricultural projects that are connected with tourism. In general, they are deemed to be well-accepted by local communities, despite the language barrier due to their lack of Portuguese and even though, in some cases, their values and practices might be considered 'alternative' and therefore distinct from local customs.

5.3. Challenges identified by LMEs

Notwithstanding the generally positive outlook of all the stakeholders interviewed regarding tourism-related lifestyle entrepreneurship in rural areas of the Algarve, a variety of challenges and issues were raised by the LME participants. These challenges were grouped according to the different but intertwined levels - micro, meso and macro - which are often considered when theorising and analysing migration processes (Castles and Miller, 2003). In this multi-level model of migration, the macro-level is where the structures and contexts that have created the social, economic, environmental, political, geographical and historical conditions for migration flows are located. The challenges which arise at the macro-level are therefore beyond the individual control of migrants or other stakeholders at local level. At the micro-level, we find the individual agency of migrants, informed by values, beliefs, expectations, social identities and so forth. It is here that the individual challenges perceived or faced by lifestyle migrant entrepreneurs which, to some extent, might hinder the success of their business operations can be detected. The 'crucial' meso-level (Faist, 2000) serves as an interface between the micro-level and the macro-level, facilitating or obstructing migration processes. At the meso-level, therefore, the challenges relating to or emanating from intermediaries, institutions and organisations, social networks, etc. at the local and regional geographical level are located. The following sections explore the challenges identified by the LMEs at these different levels.

5.3.1. Micro-level challenges

Perhaps unsurprisingly, given the fact that the majority of entrepreneurs had no previous experience of working in the tourism sector or of running their own business, many interviewees recounted the initial challenges due to their lack of knowledge about their chosen business activity, and the steep learning curve, which one described as "a leap of faith", that they weren't always prepared for. For these entrepreneurs, the solution was simply to "learn as you go along". This sometimes led to financial loss in the initial stages, but was often recounted as a useful lesson to learn:

So learning by doing this ... trial and error, trial and error. I made a lot of mistakes at the beginning and lost a lot of money. But if you lose a lot of money, then you never make the same mistake again. (LME.12)

Sam, who moved from the art world in a large city to run a vegan grocery and café which caters almost entirely to tourists and travellers, told us:

Initially, I did a lot of things wrong. Like a *lot* of things wrong. Complete lack of knowledge from the beginning. I didn't know what I was doing (...) I didn't do a market a market study. Zero. So there were things around I wasn't aware of. I didn't do my homework! (LME.28).

This lack of knowledge and the “just figure it out” approach he took at the beginning led to many fines by the Municipal Council as he was unaware of “the rules and stuff”. This in turn led to a tense relationship with the Council and the feeling that he was being unjustly persecuted for being an ‘outsider’ and for trying to do something ‘very different’.

Another challenge for some participants arose from being unaware that basic infrastructures in a relatively remote part of the Algarve would be quite different from what had been taken for granted in a previous urban life. Alistair moved from London to completely renovate an abandoned rural settlement and turn it into a self-contained wellness retreat centre. He was well into the rebuilding project before he realised that there wasn't sufficient water from the borehole to fill the swimming pool:

I mean, being naive from London, I just assumed when you turn the tap on things work. Nope, that's very naive and ignorant, I hadn't done my due diligence that things don't work like that here, that we weren't even connected to the mains water [supply]. (LME.04).

Like other interviewees, he had also been unaware of the problems involved in contracting sufficient electrical power for a modernised building with under-floor heating, air-conditioning, and many electrical appliances.

On the other hand, whilst many participants told stories highlighting how their business activities had followed quite naturally from their own lifestyle orientations or previous personal travelling experiences, some found challenges arising from a conflict between their lifestyle interests and values and the reality of running a business. Peter described how he left a career in ICT to move to the Algarve where he started a business offering cycling tours and holidays. Although he initially enjoyed the amount of time he spent outdoors, he found that:

actually it has backfired on me, because the more successful we are, the more time I spend in front of my computer, which is what I was trying to get away from. So it's actually failed miserably! Really, I thought I was being clever coming here and doing this, but it's not really worked at all in that respect! (LME.17)

Others commented on how they had not been prepared for the amount of hard physical work and demands involved in running a business, even at a small scale. One solution to this type of problem was, in some cases, to change the direction of the business, or to restrict the opening hours or even to close for extended periods to ensure a better work-life balance.

As the majority of entrepreneurs interviewed admitted to having a very low level of Portuguese, it would be expected that the language barrier would lead to challenging situations in the setting up and running of businesses. This was certainly the case for some of the participants, and even more so for those for whom English is not their native language (since English is certainly the *lingua franca* in the Algarve in situations when Portuguese is not spoken). Although many attempted to get around this by seeking help through friends and acquaintances or by hiring professional services to mediate, especially in ‘official’ scenarios, the language barrier inevitably led to increased frustrations when dealing with the major challenges reported, which were those at the meso-level.

5.3.2. Meso-level challenges

The most recurrent problem faced by LMEs is the level and

complexity of Portuguese bureaucracy and the difficulties encountered in legal processes, e.g. for obtaining planning permission and business licences. Although for many, lack of knowledge of the local language hindered the communication process, it is also noteworthy that some of the Portuguese nationals interviewed also referred to bureaucratic and legal issues. More often, the problems at this level seem to be related to the lack of clear and consistent information on procedures and the perceived lack of specialised, technical support and staff in local government offices or from professionals who were being paid for their services (namely architects, lawyers, engineers and accountants). Indeed, the problems encountered with these professionals seemed to irk the entrepreneurs at least as much as the bureaucratic issues.

Hayley, who bought land in the hills of the eastern Algarve to set up a motorhome park, told us about the difficulties she faced in project management:

Umm finding professionals is not easy. Finding committed and competent professionals is even harder (.) between architects, engineers, electrical engineers, civil, structural [engineers], you name it, to actually try and find that individual who can be part of a team and actually, you know, devotes time to the project I think maybe it's because they thought mine was too small. So it was very, very frustrating. (LME.07)

Besides the feeling that ‘small’ projects were often sidelined, one of the main reasons offered to explain this difficulty was the remoteness of the location – or at least, the perceived remoteness on the part of the professionals. In fact, the majority of the entrepreneurs did not consider that they were in ‘remote’ locations, often citing the relatively short distance or driving time to the nearest big town: “I mean, I'm only what? 40 km from [nearest big town] ... it's a half an hour drive up a pretty decent highway!” (LME.07). Gina expressed a similar difficulty and also commented on the detrimental effect this was having on the development of tourism in rural areas:

certain professions like plumbers, they have a lot of work in the big towns and they don't want to come out too far to work. “Ah you're in [name of village]? I can't manage that”. (...) So yes, the tourism demand is growing here, but the supply is behind. No one wants to come here to work, not the plumbers, or electricians, or suppliers, and it's probably the same in other places. (LM.05)

A number of the entrepreneurs commented on how this difficulty in obtaining skilled tradesmen meant that they learnt to do a range of things themselves. Penny, who runs a guesthouse in a small village, explained “I end up doing it all myself! That's how I learnt to be a *canalizador* [plumber] because I couldn't find anybody to do it!” (LME.08). Another problem was finding people to work to an expected standard. When asked if it had been easy to find skilled workers for his substantial renovation project, Milo told us:

Absolutely not. I mean, in the beginning, it was also a question of budget, but we're still doing most of the things ourselves (...) because, yeah, it's very hard to find someone who does the things to the standard that I expect or want. (LME.033).

Others, however, did not find it so easy to learn new skills and found the constant worry over trying to find people and then waiting for considerable lengths of time for them to show up led to stress and anxiety. One participant lamented how the difficulty in securing professionals to do urgent maintenance or repair work had led to negative reviews from guests. Some could not understand why the local council didn't provide a comprehensive list of people who can provide frequently needed services, along with basic ‘how to’ information for newcomers who want to set up a small business enterprise:

because everyone, any new person who comes to any town, the first thing is they go to the *Câmara* [Council offices] to get advice or information (...) everything starts from there. And if they give you that

sort of easy transition then everything works out nicely. It could be so much easier for everyone. (LME.01)

Others complained about how much conflicting information they were given by local officials, as well as by professionals such as lawyers and accountants, which was seen as being largely responsible for the long delays in obtaining the paperwork and other legal aspects necessary for setting up a business. This was a sentiment expressed by many of the interviewees, who often were at a complete loss to understand how the processes of obtaining planning permission or licences to operate could be so complex, passing through so many different departments at both regional and national level, and as a result, how long it took to get a response:

It's fundamental issues with too many laws, it's too complicated. And the laws that are there are not adhered to, or they're adhered to only on one side. So if the Agriculture Department reply to us, we have two weeks to reply. If we're not replying, they send our application back to the Council and say "Sorry, the application's a no". Yet they can spend months [before answering]! However long they like, with no recourse ... you can't run a business like this, it's just, it's just impossible. (LME.23)

Some interviewees shared their sense of frustration and even despair in the face of bureaucratic issues that seemed incomprehensible, interminable, and even insurmountable, and were aggravated by a perceived lack of support and direct help:

the planning system here does not help you. In a sense, there's nobody to hold your hand and walk you through the process. So the biggest problem I had was that we put the application in and it's basically going into a black hole and you have no idea (LME.04)

Several participants also mentioned that they had been advised by professional facilitators to get their business up and running without waiting for all the paperwork to be completed, as this was 'common practice' in the Algarve. However, most of them found this to be against the way they wanted to do things, and preferred to battle on with the legal processes, and do "everything by the book", despite this meaning many months or even years of lost business.

Alice became caught up in a "nightmare" of bureaucracy, being given misleading and conflicting information and having to wait so long for her licence to open a campsite that eventually she was victim to "a change in rules" that meant she was unable to obtain it and had given up on her project when we spoke to her. Once again, the major blame was placed on the professional intermediaries:

By April, when I got the final word, I was already so sick of all the bureaucracy and the hassle. And the negativity. It's mostly the negativity, not just from the *Câmaras*, they're just following law. And I understand that, although I don't necessarily think the laws are correct. (...) It's when you've got architects and project engineers and lawyers that have absolutely zero interest in trying to help you make it work legally. That is just so depressing. (LME.02)

There was a fairly strong idea among the migrant entrepreneurs that not all *Câmaras* are equal in terms of facilitating official procedures. Sylvie, who has run a rural guesthouse and restaurant for many years, complained that her local Council was one of the 'tough' ones, who were generally more of a hindrance than a help to entrepreneurs, mentioning several of her friends and acquaintances who had found bureaucratic processes to be so difficult that they had given up. As for her own experiences in dealing with the municipal council, they had also been rather fraught:

Yeah sometimes you have to scream. Sometimes I've left there crying. So sometimes you just give up and you don't get all the paperwork until you really need it. Then you say, okay, I'm ready for the fight. And you get your arms and you go there again and you say here I am now, I want to start again. (LME.10)

Katrina, who was in the process of selling her (initially successful) business for a number of reasons, including the impact of the Covid-19 pandemic and a clash with her lifestyle orientations, also felt as if she was constantly struggling with shifting legal aspects:

I feel like I've never been in a country whose laws change as regularly as they do here (...) which makes it difficult because you never really know where you stand, and it's really difficult to plan, when you aren't sure what's around the corner. (LME.35)

Many entrepreneurs compared their experiences with Portuguese bureaucracy to what they knew in other countries. Milo, who has built up a successful business from scratch, said:

Oh, the seven years were just one massive bureaucratic obstacle! I'm from Germany and there, people always complain that the bureaucracy is crazy and there are so many rules and laws for every single detail and stuff. And I agree, but I find I don't mind it because it actually works. In Portugal, I always have the feeling you go with a simple question to the *Câmara* and you don't leave with an answer, you leave with three more questions. And, yeah, sometimes you're just running back and forth, and you get stuck somewhere in the process, because then there's a missing link, and then there's no more progress. (LME.33)

However, for Milo and for the majority of the migrant entrepreneurs in the study, these challenges are merely part and parcel of setting up a business in a foreign country and although in many cases the problems encountered at this level had led to extremely frustrating situations, for the most part they did not result in giving up on the project or closing the business.

Many of the businesses in this study found the issue of finding employees quite challenging, and some participants felt quite frustrated by the fact that they were creating jobs that they had such difficulties in filling. One of the main reasons given was that they were unable to recruit suitably qualified staff from the local community, and so were reliant on 'outsiders'. This then brought two main problems. Firstly, in some areas, particularly in the western Algarve where surfers and young travellers gravitate during the summer months, there are people who are willing to work for a season but who then move on. For Gina, finding the right people for the jobs created remains "our main challenge". She explains why she thinks it is difficult to attract qualified and specialised staff to such a small place:

because they have to take on a different lifestyle, with a different quality of life than they can have in the city. For me, it's better [here], but I understand that for others it could be difficult. All the public infrastructure that you find in a city, here it doesn't exist. (LME.05)

The other main issue, she adds, is the lack of available and affordable housing. Most places that are available for renting are being used as short-term tourism rentals, especially in the summer months. Katrina, with a business located in the neighbouring municipality, was of the same opinion, and further claimed that the "accommodation crisis here isn't really acknowledged by the *Câmara*". Also dependent on finding staff among the young northern Europeans who gravitate to the area initially as tourists and then seek a casual job to enable a longer stay, she noticed that most of them "were living in a tent or a caravan" and then moving on after a few months. On the other side of the Algarve, in Alcoutim, Daniel also lamented the lack of people in the local community who could fill any job they created, for which he offered the explanation that young people looking for a job tend to leave the area: "In the last five years, [the municipality] has lost several hundred people" (LME.06), thus confirming that at least some of the Algarve's rural areas can be characterised as "lagging" (Dinis, 2021) in the sense that the continuous exodus leaves them sparsely populated with an extremely high ageing index and therefore with a very limited pool of human resources.

5.3.3. Macro-level challenges

The challenges identified by LME interviewees which arose from a more global context were principally related to the Covid-19 pandemic and to climate change. Bearing in mind that the interviews were carried out in the second half of 2022, immediately following the Covid-19 pandemic and the resulting lockdowns and restrictions on travel and tourism, it could be expected that the pandemic would have caused many challenges for the entrepreneurs interviewed. Unsurprisingly, some did refer to the financial losses incurred by mandatory closures and by the fluctuations in clients due to constantly changing rules and restrictions. Some were able to survive financially by taking on ‘second jobs’ which they could do remotely; others took on additional loans. Amongst the larger businesses, there was a clear concern to keep on staff and not have to fire workers, and some complained about the lack of government support in that respect.

However, it was interesting that for many of the interviewees, the pandemic period presented opportunities rather than threats. For some, it gave “time to breathe” and to relax. One explained:

what Covid did for me was forced me to stop. I didn't have the anxiety of bookings, which was healthy. Didn't have to worry about whether we're going to fill up the spaces. So that was beneficial to my health (...) all I had to worry about was painting chairs and cracks, which actually was incredibly therapeutic. (LME.04)

Likewise, Gertie recalled that although at first “I was kind of desperate”, she quickly changed her thinking:

And then I thought, What the heck? You never, ever will have a sabbatical in your life. So just take it as sabbatical. And so it was ... I never before had lived so much outdoors, and in the garden. And I had all the kitchen for myself. I could cook for the family. (LME.09)

Others realised the opportunity for making changes in the direction of their business. One restaurant owner decided, during a “break” in the lockdowns, to concentrate on daytime business instead of opening in the evenings. The result of this was to create a “kind of community spot” where people could reconnect after forced isolation, and the business continued to function in this way thereafter. It was also remarked upon that during the pandemic period, there had been a notable increase in foreign residents in some rural areas and that this would doubtless have socio-economic impacts on the development of those areas. Finally, some participants noted the quick recovery of their business activities immediately after the final lifting of travel restrictions, since sparsely populated rural spaces in Portugal became highly sought-after destinations for a much wider tourism market (Nijhoff and Torkington, 2023; Silva, 2022).

As for climate change, the challenges reported refer mostly to the future operation of the businesses, although interviewees in areas that had been affected by devastating wildfires also equated that to the rising temperatures and prolonged droughts that the region has suffered in recent times. Some interviewees, particularly those who are involved with agricultural practices, are already thinking about how to make adaptations. Ricard, who produces natural wines from his vineyards, is experimenting with ways of protecting his grapes from ‘sunburn’, but also realises that his particular varieties of grapes may not be able to cope with further temperature increases. Others are worried about water shortages and the effects of the heat on their own and their animals’ health:

if things don't change, for the better, especially when it comes to temperature, we have no choice but to leave. Because it's our health at stake. And the animals, there's only so much they can cope with heat-wise. (LME.06)

6. Discussion and conclusions

The asymmetrical development of the Algarve has long been evident.

Carmo and Santos (2011), basing their study on the National Population Census of 2001, underscored the contrast between the main regional urban centres along the southern coast, with their concentration of resources, economic vitality and greater population dynamics and the desertification of the ‘lagging’ inland areas with their corresponding lack of economic activities, support services and infrastructures. Public political interventions have been unable to reduce the negative migratory flux (CCDR Algarve - Comissão de Coordenação e Desenvolvimento Regional do Algarve, 2015). However, data from the 2021 population census suggests that inward migration, particularly by foreign nationals who might be considered as lifestyle migrants, might be a starting point for this.

Overall, this exploratory research project has found evidence to endorse the claim that tourism-related LME activity in sparsely populated rural areas can be a driver of effective, sustainable regeneration and development and may help to reverse some of the long-standing socio-economic problems in these areas. The entrepreneurs we spoke to provided plenty of empirical evidence of successful and appropriate tourism-related business activities, grounded in sensitive and sustainable practices that make use of and enhance local resources, both physical and cultural. Many of them have created new job opportunities. However, the focus of this article has been on the challenges they encountered. At the individual, micro level, these were generally incorporated into their post-migration narratives as setbacks that were overcome and assimilated as part of a learning process. Of course, the majority of LMEs we spoke to were looking at these challenges with hindsight and from the perspective of relatively successful outcomes, but nevertheless, it shows something of a pattern of resilience based on a creative, proactive entrepreneurial mindset which other studies have also found to be typical (e.g. Carson and Carson, 2018; Fadda, 2020; van Rooij and Margaryan, 2019). Additionally, the accumulated capital of these migrants, both economic and social – including the bridging capital evident in the often extensive extra-local networks of LMEs (Carson and Carson, 2018) – certainly helps to mitigate these micro-level challenges.

The more global challenges, whether in the past (the Covid-19 pandemic) or looming in the future (climate change) were not particularly foregrounded in their stories and do not seem to have much of an impact on their migration processes. Indeed, as relatively privileged migrants, their social and economic status and capital, as well as the socio-spatial context of their migrant lives, can be relied on in most cases to counter such challenges and, if necessary, to relocate and ‘move on’ (McGarrigle, 2022). As found in other studies of lifestyle migrations, the possibility of future, onward mobility is often flagged, even in the stories of those who profess to be committed to staying (Kordel and Weidinger, 2019).

The most frequent and exasperating problems faced are at the meso-level of their migration process, that is, at the interface of their individual stories and the structural contexts in which they operate. The challenges which they feel most hindered the smooth setting up and running of their businesses were those which arose from dealing with ‘intermediaries’ in these processes, particularly regarding the notorious Portuguese bureaucracy, thus reflecting the findings of Morén-Alegret et al. (2018: 262), who note that one of the main challenges to “local [economic] sustainability” in Iberian rural areas is bureaucracy, especially in the (southern) Portuguese case, something also observed in Bello et al.'s (2022) study of ‘neo-rural’ entrepreneurs in Portugal. Studies in other parts of Europe have noted similar challenges: Eimermann and Kordel's (2018) study of a rural location in Slovenia linked bureaucratic obstacles to the previous socialist regime as well as being an indicator of the lack of experience in dealing with foreign entrepreneurs in a somewhat peripheral location, whereas in some rural areas of Sweden the meso-level challenges faced by LMEs are put down to the fact that local authorities have not developed a mindset of promoting tourism (Eimermann, 2016; Eimermann et al., 2019).

In the case of the rural Algarve, although these challenges are

sometimes due to the language barrier, more often they were related to the lack of clear information and communication the perceived lack of specialised support and staff in local government offices and from professionals who were being paid for their services (architects, lawyers, accountants). Again, this lack of support can be related to some degree to the peripherality of the areas under study and has also been reported in similar studies (e.g. [Mendoza et al., 2020](#); [Van Rooij and Margaryan, 2019](#)). This finding was also backed up by the interviews with other stakeholders (principally the representatives of local rural development associations), who recognised the need for a greater level of cooperation and communication among all concerned, in order to both support new and ongoing projects as well as to stop illegal and unlicensed activities from being carried out. The challenges faced at the local and/or regional level ranged from constraints and limitations imposed by territorial planning laws and management, lack of basic infrastructure, to practical issues such as the recruitment and maintaining of staff. This is aggravated by the lack of available and affordable housing for employees, although it could also be argued that the in-migration of relatively wealthy lifestyle entrepreneurs is, in itself, contributing greatly to the housing crisis. Interestingly, few of these challenges were reported or addressed in our interviews with representatives of local governance who, in the main, seemed unsure of the extent to which the rural LME phenomenon was growing in their territories and had very little idea of who these migrant entrepreneurs are and what they are doing.

In sum, our study concludes that despite the challenges encountered, the LMEs we spoke to revealed a high level of commitment to staying in the place they had chosen to settle in to forge out their lives and their livelihoods. At the same time, local governance and other stakeholders consulted seem generally willing, albeit to different degrees and with different levels of awareness, to embrace and foster lifestyle migration entrepreneurship as a means of regenerating peripheral rural areas. However, this potential is hindered by a lack of networking, support and cooperation among all the stakeholders involved which, after all, is a fundamental requisite for any form of sustainable development.

As a vehicle for sustainable rural development, rural tourism requires concerted, collaborative efforts by all stakeholders with a view to gaining synergies from complementarity ([Mitchell and Hall, 2005](#)), as well as strategic planning and leadership. Previous literature has flagged the need to go beyond business-oriented approaches to rural tourism planning, towards a more inclusive, community-based model of governance ([Haven-Tang and Jones, 2012](#); [McGehee et al., 2015](#)). However, the small-scale and often disparate nature of rural tourism enterprises can make it difficult to co-operate and form networks because of a lack of time, resources, or local knowledge ([Haven-Tang and Jones, 2012](#)), particularly if the business owners are 'outsiders' who may not even speak the local language. Furthermore, in many cases, the lifestyle-oriented entrepreneurial activities that make up the rural tourism supply side are not driven by economic or growth-based objectives ([Jaafar et al., 2015](#)), which previous research has suggested to be the case in the Algarve ([Nijhoff and Torkington, 2023](#)). As [Carson and Carson \(2018, p. 231\)](#) note, the contributions of LMEs to rural economies is questionable due to their small-scale nature and limited multiplier effects, especially if they are more focused on their own lifestyle goals than on business growth and development. All this often leads to a sector that is fragmented in nature, both economically and geographically, with a subsequent lack of control over supporting infrastructures that are often lagging or in decline, and no clear approach to destination management ([Lane and Kastenholz, 2015](#)).

Like the majority of studies taking a qualitative approach, the findings emerging from the data are highly contextualised and thus make it difficult to draw any generalised conclusions. However, the growing number of studies on LME activities in different geographical locations mean that it is becoming possible to identify common patterns and therefore, ultimately, to propose solutions to problems identified. The contributions and outcomes of the present study are thus essentially practical in nature, in that they lend support to a better and deeper

understanding of the challenges faced and, ultimately, the measures needed to overcome them. The findings could therefore form a basis for providing information for current and potential migrant-entrepreneurs as well as for local governance and policy-making agendas. This study could also be complemented by a more extensive and detailed survey of the LME activities in the region, perhaps including other types of activities that are not directly related to tourism but nevertheless contribute to the changing demographics and economic fabric of the rural Algarve. It is also hoped that this exploratory study will provide the framework for future, comparative research in other rural areas.

CRedit authorship contribution statement

Kate Torkington: Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization. **Marco Eimmermann:** Writing – original draft, Supervision, Methodology, Conceptualization. **Filipa Perdigão Ribeiro:** Writing – review & editing, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Susana Conceição:** Investigation, Formal analysis, Data curation.

Funding

This research was funded by the Portuguese Foundation for Science and Technology (FCT). DOI: 10.54499/EXPL/GES-OUT/1395/2021.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Kate Torkington reports financial support was provided by Foundation for Science and Technology. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The data that has been used is confidential.

References

- [Almeida, A.M., 2017. Rural development and rural tourism: an institutional approach. Eur. J. Appl. Bus. Manag. 3 \(1\), 101–117.](#)
- [Ateljevic, I., Doorne, S., 2000. Staying within the fence': lifestyle entrepreneurship in tourism. J. Sustain. Tourism 8 \(5\), 378–392.](#)
- [Bello, U.B.D., Marques, C., Sacramento, O., Galvão, A., 2022. Neo-rural small entrepreneurs' motivations and challenges in Portugal's low density regions. J. Enterprising Commun. People Places Glob. Econ. 16 \(6\), 900–923.](#)
- [Benson, M., 2010. The context and trajectory of lifestyle migration. Eur. Soc. 12 \(1\), 45–64. <https://doi.org/10.1080/14616690802592605>.](#)
- [Bichler, B.F., Kallmuenzer, A., Peters, M., 2020. Entrepreneurial ecosystems in hospitality: the relevance of entrepreneurs' quality of life. J. Hospit. Tourism Manag. 44, 152–161.](#)
- [Bohlin, M., Brandt, D., Elbe, J., 2016. Tourism as a vehicle for regional development in peripheral areas—myth or reality? A longitudinal case study of Swedish regions. Eur. Plan. Stud. 24 \(10\), 1788–1805.](#)
- [Bosworth, G., 2010. Commercial counterurbanisation: an emerging force in rural economic development. Environ. Plann. 42 \(4\), 966–981.](#)
- [Bosworth, G., Bat Finke, H., 2020. Commercial Counterurbanisation: a driving force in rural economic development. Environ. Plann. 52 \(3\), 654–674.](#)
- [Brandt Broegaard, R., 2022. Rural destination development contributions by outdoor tourism actors: a Bornholm case study. Tour. Geogr. 24 \(4–5\), 794–814. <https://doi.org/10.1080/14616688.2020.1795708>.](#)
- [Bredvdol, R., Skälén, P., 2016. Lifestyle entrepreneurs and their identity construction: a study of the tourism industry. Tour. Manag. 56, 96–105.](#)
- [Butler, R., Hall, C.M., Jenkins, J.M. \(Eds.\), 1998. Tourism and Recreation in Rural Areas. Wiley.](#)
- [Carneiro, M.J., Lima, J., Silva, A.L., 2015. Landscape and the rural tourism experience: identifying key elements, addressing potential, and implications for the future. J. Sustain. Tourism 23 \(8–9\), 1217–1235.](#)
- [Cawley, M., Gillmor, D., 2008. 'Culture economy', 'integrated tourism' and 'sustainable rural development': evidence from Western Ireland. In: Robinson, G.M. \(Ed.\), Sustainable Rural Systems. Ashgate, pp. 145–160.](#)

- Carmo, R.M., Santos, S., 2011. Os perfis territoriais do Algarve: análise sociodemográfica. *Finisterra* XLVI (91), 67–85.
- Carson, D., Carson, D., 2018. International lifestyle immigrants and their contributions to rural tourism: experiences from Sweden's far north. *J. Rural Stud.* 64, 230–240.
- Carson, D.A., Carson, D.B., Eimermann, M., 2018. International winter tourism entrepreneurs in northern Sweden: understanding migration, lifestyle and business motivations. *Scand. J. Hospit. Tourism* 18 (2), 183–198.
- Carson, D.A., Eimermann, M., 2023. Does lifestyle tourism entrepreneurship help or hinder migrant inclusion in rural communities? Experiences from Sweden's sparsely populated North. Presentation at the 31st Nordic Symposium on Tourism and Hospitality Research. Available at: <https://www.diva-portal.org/smash/get/diva2:1803516/FULLTEXT01.pdf#page=480>.
- Castles, S., Miller, M.J., 2003. *The Age of Migration*, third ed. Palgrave Macmillan.
- CCDR Algarve - Comissão de Coordenação e Desenvolvimento Regional do Algarve, 2015. *Algarve 2014-2020. Diagnóstico e estratégia. Territórios de Baixa Densidade*.
- Cunha, C., Kastenholz, E., Carneiro, M., 2020. Entrepreneurs in rural tourism: do lifestyle motivations contribute to management practices that enhance sustainable entrepreneurial ecosystems? *J. Hospit. Tourism Manag.* 44, 215–226.
- Dias, Á., Patuleia, M., 2021. Commentary: attitudes of local population of tourism development impacts: evidence from Czechia. *Front. Psychol.* 12, 727287.
- Dinis, A., 2021. Tourism, immigrants and lifestyle entrepreneurship: the (In)coming of people as a key factor for sustainability of low-density territories—a case study in Portugal. In: Marques, R.M. (Ed.), *The Impact of Tourist Activities on Low-Density Territories*. Springer, pp. 149–182.
- Duarte, P., 2010. Evolution of rural tourism in Portugal: a 25 years analysis. *E-Review Tourism Res.* 8 (3), 41–56.
- Eimermann, M., 2016. Two sides of the same coin: Dutch rural tourism entrepreneurs and countryside capital in Sweden. *Rural Soc.* 25 (1), 55–73. <https://doi.org/10.1080/10371656.2016.1152033>.
- Eimermann, M., Kordel, S., 2018. International lifestyle migrant entrepreneurs in two New Immigration Destinations: understanding their evolving mix of embeddedness. *J. Rural Stud.* 64, 241–252.
- Eimermann, M., Tomozeiu, D., Carson, D.A., 2020. Lifestyle migrants and intercultural communication in Swedish villages. In: Lundmark, L., Carson, D.B., Eimermann, M. (Eds.), *Dipping in to the North*. Springer, Cham.
- Eimermann, M., Tillberg Mattsson, K., Carson, D.A., 2019. International tourism entrepreneurs in Swedish peripheries: compliance and collision with public tourism strategies. *Regional Science, Policy and Practice* 11 (3), 479–492.
- ESPON, 2018. *Fighting Rural Depopulation in Southern Europe*. ESPON EGTC. Available at: https://www.espon.eu/sites/default/files/attachments/af-espon_spain_02052018-en.pdf.
- European Commission (EC), 2021. A long-term vision for the EU's rural areas - towards stronger, connected, resilient and prosperous rural areas by 2040. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0345>.
- Fadda, N., 2020. Entrepreneurial behaviours and managerial approach of lifestyle entrepreneurs in surf tourism: An exploratory study. *J. Sport Tourism* 24 (1), 53–77. <https://doi.org/10.1080/14775085.2020.1726801>.
- Faist, T., 2000. *The Volume and Dynamics of International Migration*. Oxford University Press.
- Fonseca, M.L., Esteves, A., Moreno, L., 2021. Migration and the reconfiguration of rural places: the accommodation of difference in Odemira, Portugal. *Popul. Space Place* 27 (8), e2445. <https://doi.org/10.1002/psp.2445>.
- Gunn, C.A., 1994. *Tourism Planning: Basics, Concepts and Cases*. Taylor & Francis.
- Hall, C.M., 2005. *Tourism: Rethinking the Social Science of Mobility*. Prentice Hall.
- Hall, D., 2004. Rural tourism development in southeastern Europe: transition and the search for sustainability. *Int. J. Tourism Res.* 6 (3), 165–176, 2004.
- Hall, C.M., Williams, A.M. (Eds.), 2002. *Tourism and Migration: New Relationships between Production and Consumption*, 65. The GeoJournal Library, Dordrecht. Kluwer Academic Publishers.
- Hallak, R., Lee, C., 2023. *Managing Tourism Enterprises: Start-Up, Growth and Resilience*. CABI.
- Haven-Tang, C., Jones, E., 2012. Local leadership for rural tourism development: a case study of Adventa, Monmouthshire, UK. *Tour. Manag. Perspect.* 4, 28–35.
- Higgins-Desbiolles, F., 2020. Socialising tourism for social and ecological justice after COVID-19. *Tour. Geogr.* 22 (3), 610–623.
- Hoggart, K., Paniagua, A., 2001. What rural restructuring? *J. Rural Stud.* 17, 41–62.
- INE, 2019. *Statistical Yearbook of Algarve Region*. INE – Instituto Nacional de Estatística.
- Irvine, W., Anderson, A.R., 2004. Small tourist firms in rural areas: agility, vulnerability and survival in the face of crisis. *Int. J. Entrepreneurial Behav. Res.* 10 (4), 229–246, 2004.
- Iversen, I., Jacobsen, J.K.S., 2016. Migrant tourism entrepreneurs in rural Norway. *Scand. J. Hospit. Tourism* 16 (4), 484–499. <https://doi.org/10.1080/15022250.2015.1113887>.
- Jaafar, M., Mostafa Rasoolimanesh, S., Lonik, K.A.T., 2015. Tourism growth and entrepreneurship: empirical analysis of development of rural highlands. *Tour. Manag. Perspect.* 14, 17–24.
- Jepson, D., Sharpley, R., 2015. More than sense of place? Exploring the emotional dimension of rural tourism experiences. *J. Sustain. Tourism* 23 (8–9), 1157–1178.
- Jenkins, J., Hall, C.M., Troughton, M., 1998. The restructuring of rural economies: rural tourism and recreation as a government response. In: Butler, R., Hall, C.M., Jenkins, J. (Eds.), *Tourism and Recreation in Rural Areas*. John Wiley and Sons, pp. 43–67.
- Kordel, S., 2016. Selling ruralities: how tourist entrepreneurs' commodity traditional and alternative ways of conceiving the countryside. *Rural Soc.* 25 (3), 204–221. <https://doi.org/10.1080/10371656.2016.1255475>.
- Kordel, S., Weidinger, T., 2019. Onward (im)mobilities: Conceptual reflections and empirical findings from lifestyle migration research and refugee studies. *DIE ERDE – J. Geogr. Soc. Berlin* 150 (1), 1–16.
- Koster, R.L., Carson, D.A. (Eds.), 2019. *Perspectives on Rural Tourism Geographies: Case Studies from Developed Nations on the Exotic, the Fringe and the Boring Bits in between*. Springer.
- Labrianidis, L., 2004. Introduction. In: Labrianidis, L. (Ed.), *The Future of Europe's Rural Peripheries*. Ashgate, pp. 1–27.
- Lane, B., 2009. Rural tourism: an overview. In: Jamal, T., Robinson, M. (Eds.), *The Sage Handbook of Tourism Studies*. Sage Publications, pp. 350–366.
- Lane, B., Kastenholz, E., 2015. Rural Tourism: the evolution of practice and research approaches - towards a new generation concept? *J. Sustain. Tourism* 23 (8–9), 1133–1156.
- Lewis, J.B., 2001. Self-developed rural tourism: a method of sustainable tourism development. In: McCool, S.F., Moisey, R.N. (Eds.), *Tourism, Recreation and Sustainability: Linking Culture and the Environment*. CABI Publishing, pp. 177–194.
- Lundberg, C., Fredman, P., 2012. Success factors and constraints among nature-based tourism entrepreneurs. *Curr. Issues Tourism* 15 (7), 649–671.
- Lundmark, L., 2006. *Restructuring and employment change in sparsely populated areas*. GERUM Kulturgeografi 2006. Umeå University, Sweden, 2 (Doctoral Dissertation).
- Lundmark, L., Edmarsson, M., Karlsson, S., 2014. International migration, self-employment and restructuring through tourism in sparsely populated areas. *Scand. J. Hospit. Tourism* 14 (4), 422–440. <https://doi.org/10.1080/15022250.2014.967995>.
- McGarrigle, J., 2022. Lifestyle migration. In: Scholten, P. (Ed.), *Introduction to Migration Studies: An Interactive Guide to the Literatures on Migration and Diversity*. Springer, pp. 169–177.
- McGehee, N.G., Knollenberg, W., Komorowski, A., 2015. The central role of leadership in rural tourism development: a theoretical framework and case studies. *J. Sustain. Tourism* 23 (8–9), 1277–1297.
- Mendoza, C., Morén-Alegret, R., McAreavey, R., 2020. (Lifestyle) immigrant entrepreneurs in Spanish small villages: rethinking international immigration in Alt Empordà, Catalonia. *Belgeo (online)*.
- Mitchell, M., Hall, D., 2005. Rural tourism as sustainable business: key themes and issues. In: Hall, D., Kirkpatrick, I., Mitchell, M. (Eds.), *Rural Tourism and Sustainable Business*. Channel View Publications, pp. 3–14.
- Mitchell, C., Shannon, M., 2018. Establishing the routes to rural in-migrant proprietorship in a Canadian tourism region: A mobilities perspective. *Popul. Space and Place* 24 (3), e2095.
- Molera, L., Albaladejo, I.P., 2007. Profiling segments of tourists in rural areas of South-Eastern Spain. *Tour. Manag.* 28 (3), 757–767. <https://doi.org/10.1016/j.tourman.2006.05.006>.
- Möller, P., Amcoff, J., 2018. Tourism's localised population effect in the rural areas of Sweden. *Scand. J. Hospit. Tourism* 18 (1), 39–55. <https://doi.org/10.1080/15022250.2016.1259584>.
- Morén-Alegret, R., Fatorić, S., Wladyka, D., Mas-Palacios, A., Fonseca, M.L., 2018. Challenges in achieving sustainability in Iberian rural areas and small towns: exploring immigrant stakeholders' perceptions in Alentejo, Portugal, and Empordà, Spain. *J. Rural Stud.* 64, 253–266. <https://doi.org/10.1016/j.jrurstud.2018.05.005>.
- Nijhoff, K., Torkington, K., 2023. Clouds in the normally sunny sky? The effects of the Covid-19 pandemic on Dutch lifestyle entrepreneurs in the Algarve. *Geogr. Ann. B Hum. Geogr.* 105 (4), 409–427. <https://doi.org/10.1080/04353684.2022.2112739>.
- OECD, 1994. *Tourism Strategies and Rural Development*. OECD, Paris.
- Paniagua, A., 2002. Urban-rural migration, tourism entrepreneurs and rural restructuring in Spain. *Tour. Geogr.* 4 (4), 349–371.
- Park, J., Zou, S., Soular, J., 2023. Transforming rural communities through tourism development: an examination of empowerment and disempowerment processes. *J. Sustain. Tourism*. <https://doi.org/10.1080/09669582.2023.2178446> (published online, 23 Feb.).
- Rosalina, P.D., Dupre, K., Wang, Y., 2021. Rural tourism: a systematic literature review on definitions and challenges. *J. Hospit. Tourism Manag.* 47, 134–149.
- Seraphin, H., Dosquet, F., 2020. Mountain tourism and second home tourism as post COVID-19 lockdown placebo? *Worldwide Hospitality and Tourism Themes* 12 (4), 485–500. <https://doi.org/10.1108/WHATT-05-2020-0027>.
- Shah, R., 2023. *Rural tourism market. FMI (future market insights) report*. Available at: <https://www.futuremarketinsights.com/reports/rural-tourism-market>.
- Sharpley, R., 2005. Managing the countryside for tourism: a governance perspective. In: Pender, L., Sharpley, R. (Eds.), *The Management of Tourism*. Sage, pp. 175–186.
- Sharpley, R., 2002. Rural tourism and the challenge of tourism diversification: the case of Cyprus. *Tour. Manag.* 23, 233–244.
- Silva, L., 2022. The impact of the COVID-19 pandemic on rural tourism: a case study from Portugal. *Anatolia* 33 (1), 157–159. <https://doi.org/10.1080/13032917.2021.1875015>.
- Silva, L., 2006. *O Turismo em Espaço Rural: Um Estudo da Oferta e dos Promotores*. CIES e-WORKING PAPER N° 16/2006. Available at: https://research.unl.pt/ws/porta/portal/6063443/Silva_2006_CIES_artigo.pdf.
- Slee, B., Farr, H., Snowdon, P., 1995. Soft tourism and rural development in Badenoch and Strathspey. *Scottish Agri. Econ. Rev.* 8, 53–62.
- Slee, B., Farr, H., Snowdon, P., 1997. The economic impact of alternative types of rural tourism. *J. Agric. Econ.* 48 (2), 179–192.
- Snowdon, P., Slee, B., Farr, H., 2000. The economic impacts of different types of tourism in upland and mountain areas of Europe. In: Godde, P., Price, M., Zimmerman, F.M. (Eds.), *Tourism and Development in Mountain Regions*. CABI Publishing, pp. 137–155.

- Stankov, U., Filimonau, V., Vujčić, M.D., 2020. A mindful shift: an opportunity for mindfulness-driven tourism in a post-pandemic world. *Tour. Geogr.* 22 (3), 1–10. <https://doi.org/10.1080/14616688.2020.1768432>.
- Stockdale, A., Macleod, M., 2013. Pre-retirement age migration to remote rural areas. *J. Rural Stud.* 32, 80–92.
- Svalastog, A.L., Müller, D.K., Jenkins, I. (Eds.), 2022. *Tourism as a Resource-Based Industry: Based on the Work of Sondre Svalastog*. CABI Publishing.
- Thulemark, M., Lundmark, M., Heldt Cassel, S., 2014. Tourism employment and creative in-migrants. In: Carson, D.A., Carson, D.B., Lundmark, L. (Eds.), *Tourism, Mobilities, and Development in Sparsely Populated Areas*. Routledge, pp. 51–69.
- Tomé, A., 2022. Turismo no espaço rural e turismo de habitação 2022. *Travel BI/ Turismo de Portugal*. Available at: <https://travelbi.turismodeportugal.pt/alojamento/turismo-no-espaco-rural-e-turismo-de-habitacao-2022/>.
- Vaishar, A., Šastná, M., 2020. Impact of the COVID-19 pandemic on rural tourism in Czechia Preliminary considerations. *Curr. Issues Tourism* 25 (2), 187–191.
- van der Ploeg, J., Renting, H., Brunori, G., Knickel, K., Mannion, J., Marsden, T., de Roest, K., Sevilla Guzmán, E., Ventura, F., 2000. Rural development: from practice and policies to theory. *Sociol. Rural.* 40 (4), 391–408.
- van Rooij, N., Margaryan, L., 2019. Integration of 'Ideal Migrant': Dutch lifestyle expatriate entrepreneurs in Swedish campgrounds. *Rural Studies* 28 (3), 183–197. <https://doi.org/10.1080/10371656.2020.1718329>.
- Wilson, G.A., 2001. From productivism to post-productivism and back again? Exploring the (un)changed natural and mental landscapes of European agriculture. *Trans. Inst. Br. Geogr.* 26 (1), 77–102.
- Woods, M., 2011. *Rural*. Routledge.
- WTTC (World Travel and Tourism Council), 2020. *To Recovery & Beyond: the future of travel and tourism in the wake of COVID-19*. <https://wttc.org/Initiatives/To-Recovery-Beyond>.
- Xiong, Y., Chang, Y., Lee, T.J., 2020. The rural creative class: an analysis of in-migration tourism entrepreneurship. *Int. J. Tourism Res.* 22 (1), 42–53.
- Zhu, H., Deng, F., 2020. How to influence rural tourism intention by risk knowledge during COVID-19 containment in China: mediating role of risk perception and attitude. *Int. J. Environ. Res. Publ. Health* 17 (10), 1–23. <https://doi.org/10.3390/ijerph17103514>.