



Article

Peer-to-Peer Accommodation in Rural Areas of Catalonia: Defining Typologies of Rural Municipalities

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Abstract: This paper presents findings relating to the territorial processes underlying the distribution and location of P2P accommodation in rural parts of Catalonia by establishing a system for classifying rural municipalities based on the volume and growth rate of the supply of this tourist accommodation, its share of the total supply of tourist accommodation, the pressure on the local population, and the function of this supply of accommodation in the regional tourism context. According to the findings, there are three distinct types of rural municipality: (a) Rural municipalities where the volume and growth of the supply of this accommodation are striking, these municipalities are located in the coastal hinterland and in high mountain areas, both of which enjoy high levels of tourism. This supply of accommodation plays a key role in the expansion of the areas of influence of well-established tourist destinations, (b) rural municipalities where this supply of accommodation presents an average volume and growth rate, located in inland areas of Catalonia and in high mountain regions with non-mass tourism development models specializing in rural tourism. This supply is helping boost tourism by expanding and diversifying the range of accommodation, and (c) rural municipalities where no tourist accommodation was available before the arrival of P2P accommodation. These are municipalities in inland areas with a strong agricultural presence, where P2P accommodation is paving the way for tourism.

Keywords: p2p; tourist accommodation; rural areas; intermediary platform; Catalonia

1. Introduction

New information and communication technologies, internet and social platforms are revolutionizing the way we produce and consume goods and services of all kinds. The “Tourism 2.0” revolution, for example, incorporates digital brokerage platforms for the purchase and management of holidays, at the same time as new producers of tourist goods and services are able to enter the market thanks to the marketing facilities afforded by these tools [1–3]. Platforms such as Airbnb, HomeAway, FlipKey, Knok, and HouseTrip, which specialize in holiday rentals, today arrange the majority of holiday accommodation exchanges between private individuals, a practice that previously was organized on an informal basis between family and friends.

In Spain, the phenomenon of holiday rentals has been around for decades: These properties have long formed part of the country’s tourist landscape. What has changed is that the internet and the various brokerage platforms have allowed an unregulated type of holiday accommodation to flourish, rentals which until now were marketed largely through word of mouth. With the advent of Airbnb and other platforms, the renting of these properties has become much easier, resulting in a marked increase in the volume of this new supply [4–6]. Faced by the boom of the Airbnb phenomenon, the public

authorities, who are responsible for managing the tourist accommodation supply, have introduced regulations to control the sector. In the case of Catalonia, our study area, in 2012, the Government passed Decree 159/2012 on tourist accommodation and dwellings for tourist use (VUTs) to regulate the holiday rental market. According to these regulations, a tourist dwelling is one that is offered in its entirety by its owners, directly or indirectly, to third parties, in exchange for a price, for periods of time equal to or less than 31 days. The VUTs (the abbreviation for the Spanish term *viviendas de uso turístico*, that is, tourist dwellings) have become a new category of accommodation, operating alongside pre-existing categories: Hotels, campsites, rural tourism homes, and apartments. Their regulation allows the authorities to bring a constantly growing supply under control, guarantee minimum quality services and apply tax measures, a levy on stays in VUTs, which must be fed back into the region and the tourist sector. However, the actual supply of holiday rentals continues to be higher than the regulated supply, as a part of this accommodation is unregulated [7].

From a geographical perspective, the VUTs or tourist dwellings (henceforth used interchangeably) tend to be located in zones where the potential or captive demand is highest and the number of tourists is greatest: City centers and coastal resorts. According to Adamiak et al. [8], the highest level of supply in Spain can be found in urban and coastal municipalities with a wide range of conventional accommodation and a high number of second homes, and where the internationalization of tourism demand is strong. Due to the high spatial concentration of holiday rentals in certain areas of the city, historical centers, and the coast, the interest of both the media and scholars tends to focus on these two areas [9–11]. However, in fact, the phenomenon of holiday rentals has extended throughout the territory, including rural areas [8,12]. As in other countries [13–16], in Spain, the number of tourist dwellings in rural areas has grown each year since the economic crisis of 2008 and the brokerage platforms have echoed this growth. Although rural communities are smaller than their urban counterparts, they are undergoing significant growth. For example, Airbnb reports that in the case of Spain, the number of owners of rural dwellings advertising their property on its platform rose by 63% between 2016 and 2017 and the number of guests staying in them grew by 110% during this same period [17].

Within the framework of a wider study on the extent and repercussions of P2P accommodation in rural parts of Spain, this communication presents findings relating to the territorial processes underlying the distribution and location of VUTS in rural parts of Catalonia and analyses the functions of this supply of accommodation in the regional tourism context. After this brief introduction, the research objective is contextualized through an examination of the scientific literature, the materials and methodological approach are presented, and the main results are summarized. Finally, the conclusions are described, and future areas of research are highlighted.

2. Literature Review

The study of the distribution and spatial location of this type of tourist accommodation and its functions has focused mainly on specific urban areas [10,18–21]. Other territorial scales have been addressed to a lesser extent in studies that focus on an entire country [8,15,22,23] or a regional area comprised of several countries [24,25]. Rural areas have not been studied specifically. Instead, they have always been examined in a broader context that includes urban and suburban areas, which tend to have a high volume of this type of tourist accommodation, particularly in urban areas. This situation has obscured the patterns of spatial distribution in rural areas and minimized the functional importance of the processes that occur in relation to P2P accommodation.

In urban areas, the spatial distribution of holiday rentals indicates that there is a center-suburb pattern [10,26–28]. Holiday rentals are mainly located in the center, very close to the main tourist attractions. From this central point, they spread out gradually like a drop of oil to places that are not relevant from a tourist perspective but have good transport connections with the main places of interest in the destination. In this context, P2P accommodation competes strongly with the hotel industry in central areas [1,10], but is less problematic in the suburbs. In short, the literature describes the existence of central areas where there is a very high volume of holiday rentals that compete fiercely

with traditional tourist accommodation and the residential market and drive out the local population. It also describes the existence of suburban areas where there are fewer holiday rentals, competition with traditional tourist accommodation hardly exists (as this type of supply is complementary to that of central areas) and the conflict between residential and holiday rental is less intense. Suburban neighborhoods and districts form expansion areas in tourist destinations where explosive tourism growth has disturbed the balance between tourism supply and demand [1,29].

Studies that consider the spatial distribution of P2P at a country or regional scale indicate that rural areas are late adopters of this trend, as the volume of this type of supply is comparatively less than that found in urban areas. However, the year-on-year growth rate is greater in rural areas, with dynamics that accelerate as the result of the state of maturity and/or collapse experienced by this form of accommodation in urban areas [12,15,25,30,31]. It is difficult to determine how rural areas have adopted the P2P phenomenon and to establish types of rural areas in relation to P2P because: (a) There are many types of rural areas with highly varied territorial dynamics (high mountain compared to mid-mountain, inland or coastal hinterland, to mention a few), (b) tourism in rural areas is more scattered than tourism in cities, which is generally concentrated, and (c) the forms of tourism are highly varied in rural areas, which results in a wide range of models of tourism development (for example, intensive mass tourism associated with the snow and winter in high mountain areas compared to alternative tourism, such as agrotourism or nature tourism, which is more respectful and sustainable in relation to economic tradition, the environment and the culture of these territories), compared to the greater uniformity in urban tourism practices. This complexity, together with the late introduction of the P2P phenomenon in rural areas, could explain why few studies have been carried out to date. Many of the studies have concluded that the distribution of P2P accommodation in rural areas is related to the prior presence of conventional tourism accommodation (in most cases, hotels), a large stock of second homes or underused real estate assets and notable demand [15,16]. However, these general patterns (resulting from joint studies of urban, suburban, and rural areas) are called into question by in-depth studies on specific rural areas. For example, Gómez-Martín et al. [12] note, for high-mountain areas of the western Catalan Pyrenees associated with snow and winter tourism, that holiday rentals are present in 96% of the municipalities in the region. They can be found in towns that did not have any type of tourism supply until the arrival of this form of tourist accommodation and were not involved in this economic activity or affected by the real estate boom as they lack a ski resort and are not within a ski resort's area of influence.

Due to the lack of knowledge that we have of rural areas in relation to the P2P phenomenon, they should be included in current and future studies. In this context, the aim of the present study is to contribute to expanding knowledge in relation to territorial processes of distribution and location of holiday rentals in the rural areas of a region that accounts for a high proportion of tourism in Europe.

3. Materials and Methods

Catalonia is Spain's leading tourist destination and ranks among the top five in Europe. Against this backdrop, this study examines the supply of VUTs at the municipal level, taking as its unit of analysis Catalonia's rural municipalities delimited by their demographic size: Considering only those with 2000 or fewer inhabitants (Spain's National Statistics Institute considers the rural area is constituted of those municipalities with 2000 or fewer inhabitants). Thus, in 2018, there were a total of 595 rural municipalities, representing 62.8% of the region's municipalities.

Our study considers VUTs in rural municipalities and, consequently, works with data on all the regulated supply included in the official register (Tourism Register of Catalonia). This differentiates it from most studies in this field, which tend to be based on holiday rentals data that are either included in the sector's platforms (Airbnb or HomeAway) and captured by various web-scraping techniques or provided by suppliers of information about holiday accommodation, such as AirDNA. In these last two cases, the information includes both regulated and illegal rentals. This difference in our study

could limit comparisons with the few studies undertaken to date on rural areas. However, the accuracy, stability, and reliability of the information obtained through the official register support our choice.

This research uses a quantitative approach based on the analysis (through territorial interpretation, descriptive statistics, and mapping) of data from a number of official sources that, when triangulated, complement each other and offer information on the intensity and concentration of VUTs (Table 1). In this regard, quantitative data on tourism, urban planning, and economic and fiscal-related matters from the official lists of the Tourism Register of Catalonia, the Catalan Tax Agency, the National Statistics Institute and the Statistical Institute of Catalonia were used for all rural municipalities in Catalonia. The following factors were considered in the parameters used to define the types of rural municipalities: (a) The volume and growth rate of this supply of tourist accommodation, (b) its proportion of the total accommodation supply, (c) the pressure on the local population for accommodation bed places, and (d) the function of this accommodation supply in the regional context of tourism.

Table 1. Triangulated information for the research.

Variable	Data	Source
Supply of tourist accommodation	Conventional establishments and places for tourist accommodation at municipal scale: Hotel Camping Rural accommodations Apartments	Statistical Institute of Catalonia, based on the Department of Labour, Social Affairs and Family
Supply of tourist accommodation	Establishments and places in tourist dwellings at municipal scale: VUTs	Tourism Register of Catalonia
Tourist tax	Tax on stays in tourist establishments at municipal scale. Tax on stays in tourist establishments by type of tourist accommodation.	Catalan Tax Agency
Complementary tourism offerings and tourism products	Tourist map of Catalonia. Tourism geographic information system that provides data on the spatial distribution and location of complementary tourism offerings and tourism products.	Catalunya Turisme
Residential building statistics	Data on the construction of dwellings at municipal scale: Dwelling started Social housing dwelling	Dep. of Territory and Sustainability; Secretary of Housing and Urban Improvement
Census of buildings	Number and geographic distribution of existing buildings and their characteristics at municipal scale. Private dwelling by type: Main residence Second home Empty dwelling	National Statistics Institute
Municipal Register of Inhabitants	Number of inhabitants at municipal scale	Statistical Institute of Catalonia; National Statistics Institute
Work and economic activity	Number of people who are registered for the general social security scheme by sectors of activity, at municipal scale. Number of people who are registered for the special social security scheme for self-employed people by sectors of activity, at municipal scale.	Department of Labour, Social Affairs and Family

Source: Created by the authors.

4. Results

In the mid-2000s, holiday rentals emerged with some considerable force in Catalonia. Since 2012, the year in which holiday homes were first regulated in Catalonia, the growth in the supply of VUTs has been exponential: Rising from 24,123 dwellings with a capacity (bed-places) for 132,675 people in 2013, to 47,242 dwellings with a capacity for 259,831, and reaching 75,000 dwellings and a capacity for 412,000 people in 2018. At present, 86.6% of these tourist dwellings are located in coastal municipalities and in the city of Barcelona, coinciding with the region's main tourist destinations. However, if we look beyond Barcelona and the beaches of the Mediterranean, the VUTs extend throughout the rest of Catalonia's towns and villages. Moreover, although the VUTs located in rural municipalities represent just 6.6% of the total supply, it should be borne in mind that, between 2015 and 2018, the growth of VUTs in relative terms was higher in the rural municipalities than in the coastal municipalities and in the city of Barcelona as a whole: the rural municipalities have doubled their supply in just three years from 2361 dwellings in 2015 to 4910 in 2018 (Table 2). Moreover, the tourist function rate of the VUTs, the ratio between their capacity (measured in the total number of tourist beds) and the resident population, is higher in the rural municipalities than in the other non-coastal urban municipalities, while the weight of these dwellings in relation to the total stock of houses and its population is greater.

Table 2. Evolution of the supply of VUTs (2015–2018) and the tourist function rate in Catalonia by type of municipality.

Type of Municipality	Evolution of the Supply of VUTs (2015–2018)				Growth (%)	VUT Tourist Function Rate, 2018
	2015		2018			
	Dwellings	Bed-Places	Dwellings	Bed-Places		
Barcelona	9931	54,621	9747	53,609	−1.9	3.3
Coastal municipalities	33,040	181,720	55,031	302,671	66.6	18.6
Rural municipalities	2361	12,986	4910	27,005	108.0	8.6
Rest of municipalities	1910	10,505	5065	27,858	165.2	0.7
Catalonia	47,242	259,831	74,753	411,142	58.2	5.5

Source: Created by the authors using data from Registre d'Habitatges d'ús turístic de la Generalitat de Catalunya and Instituto Nacional de Estadística.

Moreover, this growth in supply has been accompanied by an intense process of expansion throughout the region. Between 2015 and 2018, the total number of rural municipalities with a supply of rural dwellings rose from 328 to 446, VUTs establishing themselves as the tourist accommodation type with a presence in the greatest number of rural municipalities, specifically in 82.1% of the municipalities. There are four primary reasons that account for the rapid growth and expansion of VUTs in rural areas: (a) The commercialization of non-primary dwellings for tourist uses, a process that has received an additional impetus in the age of digital platforms, (b) the need to meet the expectations of a growing sector of demand in times of increased economic austerity, a sector seeking alternative types of accommodation and a tourist experience based on the authenticity of the local world, (c) the need to correct the shortfall in other types of tourist accommodation in rural areas, and (d) the ease and speed with which this type of supply can be created and commercialized by means of brokerage platforms.

Within the geographical context of the study area, i.e., Catalonia's rural municipalities, the varying presence of tourist dwellings in a specific rural area is directly related to the degree and type of tourist development in the zone. Thus, while the supply of VUTs is increasing in most rural municipalities, this growth is most pronounced in rural areas near the Mediterranean coast (hinterland) and in the high mountain areas of the Pyrenees, especially those linked to snow and winter tourism (Table 3 and Figure 1). The rural municipalities with the greatest supply are located in the northeast of the region (hinterland of the Costa Brava) and in the main winter tourist destinations of the Pyrenees (Cerdanya and Val d'Aran). In all cases, these are major tourist zones, influenced strongly by the massive consumption of specific resources, namely, sun, sand, and snow.

Table 3. Evolution of the supply of VUTs (2015–2018) and the VUT tourist function rate in the rural municipalities of Catalonia according to area of location.

Location of Rural Municipalities	Evolution of the Supply of VUTs (2015–2018)				Growth (%)	VUT Tourist Function Rate, 2018
	2015		2018			
	Dwellings	Bed-Places	Dwellings	Bed-Places		
Coastal hinterland	777	4274	1676	9218	115.7	7.3
Inland	280	1540	517	2843.5	84.6	2.5
Pyrenees	618	3399	1248	6864	101.9	11.7
Pyrenees with alpine ski resort	686	3773	1469	8079.5	114.1	117.4
Rural municipalities	2361	12,986	4910	27,005	108.0	8.6

Source: Created by the authors using data from *Registre d’Habitatges d’ús turístic de la Generalitat de Catalunya* and *Instituto Nacional de Estadística*.

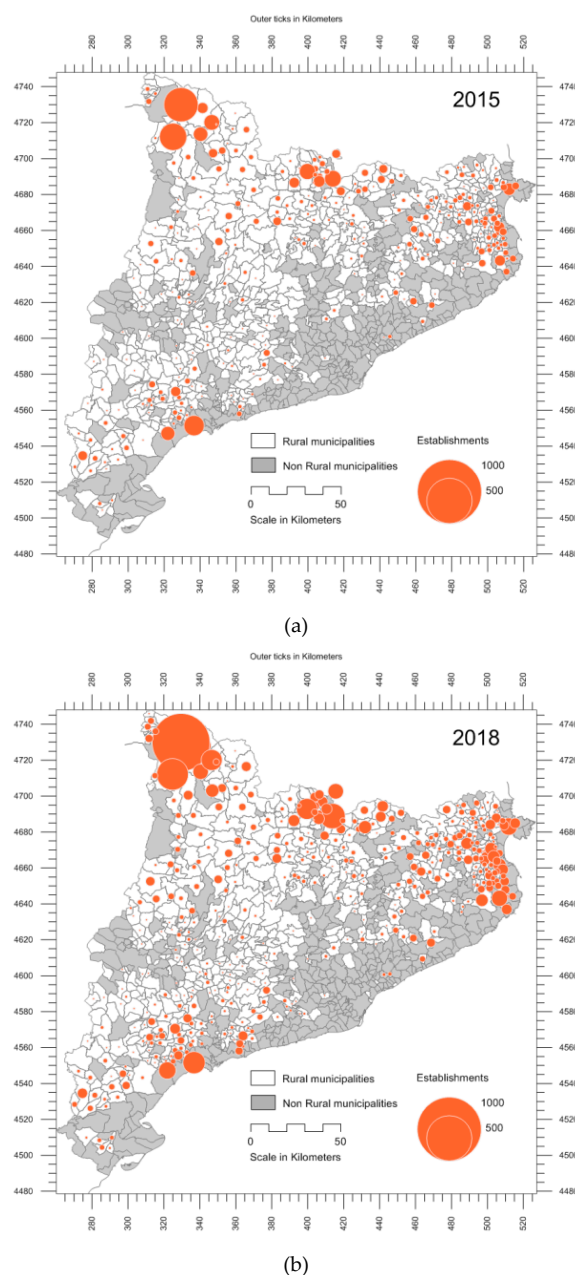


Figure 1. Evolution of VUTs in Catalonia’s rural municipalities: (a) 2015; (b) 2018. Source: Maps created by the authors using data from *Registre d’Habitatges d’ús turístic de la Generalitat de Catalunya* and cartographic databases from the Cartographic and Geological Institute of Catalonia.

The strong rate of growth experienced by VUTs means that their relative weight within the whole supply of tourist accommodation is increasing. Thus, in 2018, VUTs represented 26.4% of the total supply of beds available in rural municipalities, while this percentage was much higher, around 40%, in the rural municipalities of the coastal hinterland and the Pyrenees with alpine ski resorts. Moreover, the VUTs constitute the main type of accommodation supply in terms of capacity in 35% of the rural municipalities. The rural municipalities with this profile are located mainly in areas near the coast, where the tourist dynamics of the Mediterranean coast directly impact on the neighboring rural space, here, the high capacity provided by VUTs is a response to the strategy to attract seasonal holidaymakers seeking the sun, and rural areas in the western part of the region, where the high percentage of non-primary dwellings and the absence of other types of accommodation boost the role of VUTs within the whole accommodation supply of the municipality (Figure 2). The process of regional expansion of holiday rentals means that more and more rural municipalities can offer the visitor an accommodation service. Between 2015 and 2018, the number of municipalities in which 100% of the accommodation supply is constituted by VUTs also grew considerably (standing at 15% of rural municipalities in 2018). In most cases, these municipalities lie in inland Catalonia and have a highly marked agrarian character with little tourist presence (Figure 3). These are rural areas with a structural deficit as far as the provision of tourist accommodation is concerned, a shortage that the VUTs have partially resolved. In these rural areas, VUTs constitute the main tourist accommodation infrastructure and fulfill similar functions to those of rural tourism homes.

In general terms, the strong growth of VUTs in relation to the rest of rural accommodation types (2015–2018) causes that rural municipalities with at less 40% of VUTs among the total accommodation modalities rise from 37.9% to 47.3% in this reference time lapse. In that sense, those VUTs, as a new modality, are diminishing the structural lack of accommodation of a lot of rural municipalities. On the other side of the coin, that increase of VUTs could be a stop brake to the development of other kinds of accommodation (hotels and rural guest houses).

In contrast, in central and northern Catalonia (Pyrenees), where the presence of other types of tourist accommodation is much higher, the relative weight of VUTs within the whole of the supply falls considerably. In the Pyrenees, for example, the tourism accommodation subsector is highly diversified: Hotels, campsites, and rural tourism homes, and in central Catalonia, there is a significant supply of rural tourism accommodation.

In terms of the relationship between the capacity of VUTs and the resident population, the tourist function rate of VUTs in rural municipalities is higher than that in the mountain municipalities where much of the economy revolves around tourism (Figure 4). At present, in many rural municipalities in the Pyrenees and the Costa Brava hinterland, the ratio is 200 VUT beds or more per 1000 inhabitants, although in those municipalities with alpine ski resorts, the ratios are even higher, exceeding an average of 1000 VUT beds per 1000 inhabitants. In the Pyrenees, the phenomenon of holiday rentals has grown rapidly since 2011–2012, and some new housing development projects in their entirety have been transformed into VUTs [12]. The transformation of high-mountain rural areas into zones of leisure has served to boost the building of new houses, and in some municipalities in the Pyrenees the number of holiday rentals is highly inflated. In contrast, on the inland plains of central and western Catalonia, the ratio of the VUT supply in relation to the resident population is much lower, with rates below 5%.

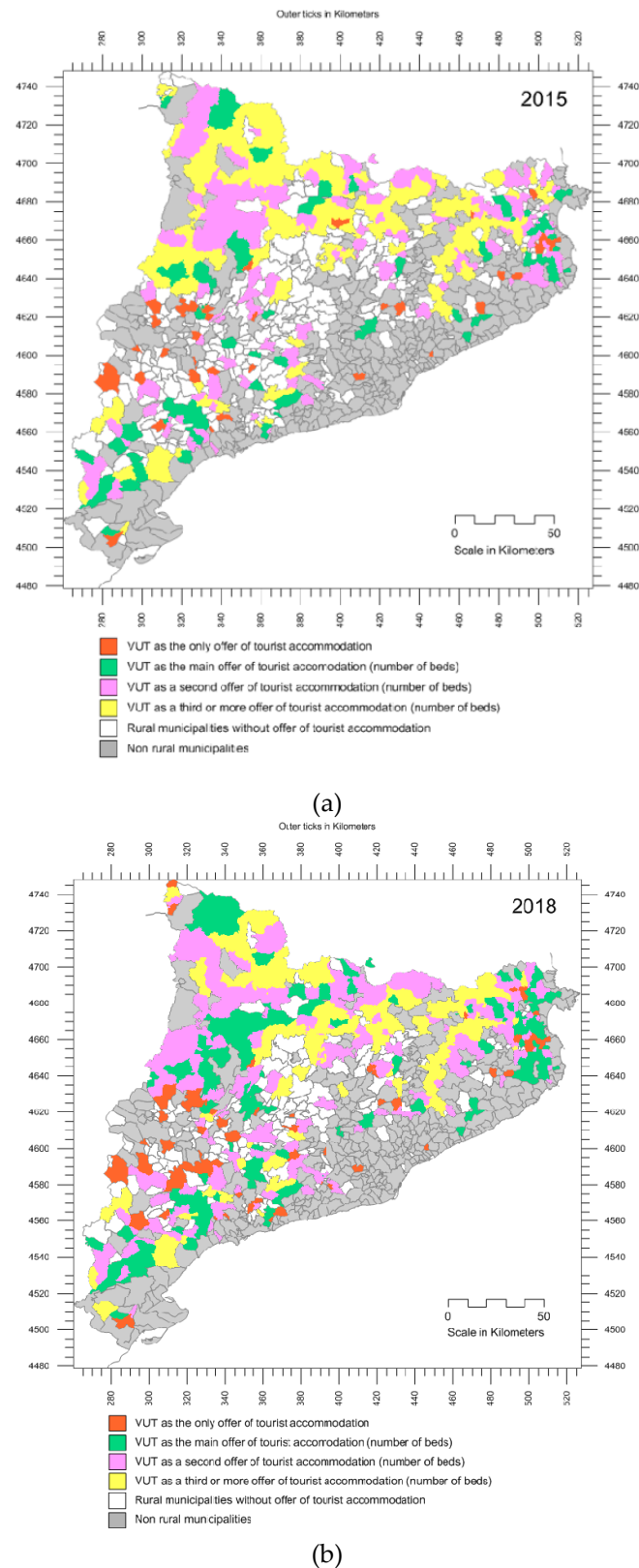
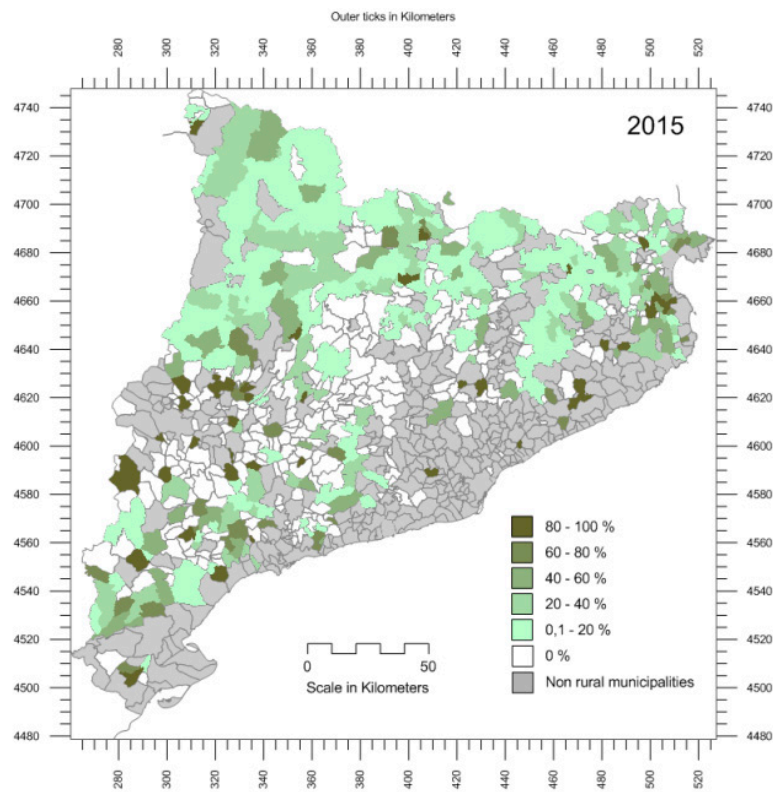
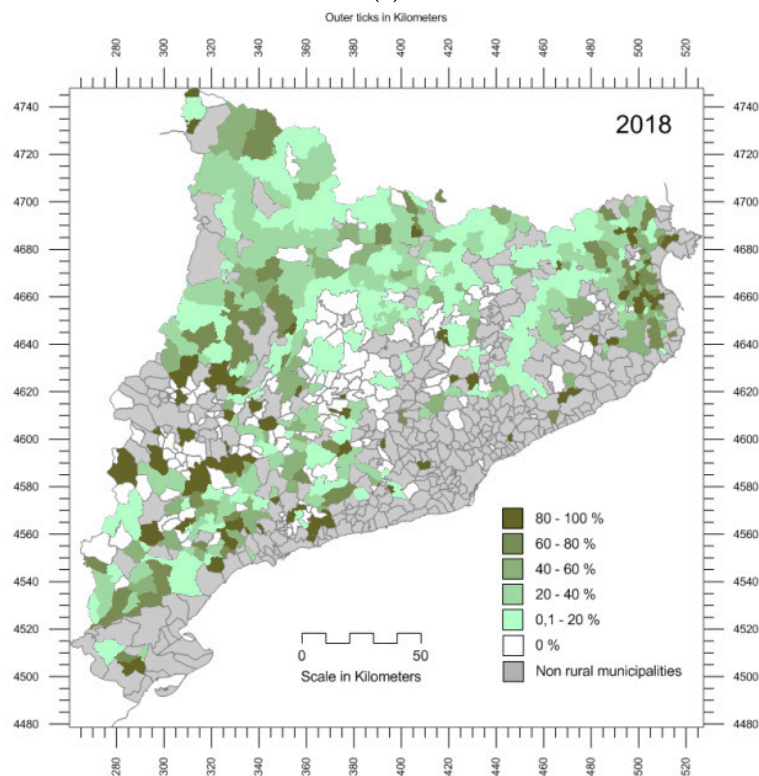


Figure 2. Evolution of the position of VUTs (number of beds) in relation to all other types of accommodation in the rural municipalities of Catalonia: (a) 2015; (b) 2018. Source: Maps created by the authors using data from *Registre d’Habitatges d’ús turístic de la Generalitat de Catalunya*, Catalonia’s Statistics Institute, and cartographic databases from the Cartographic and Geological Institute of Catalonia.

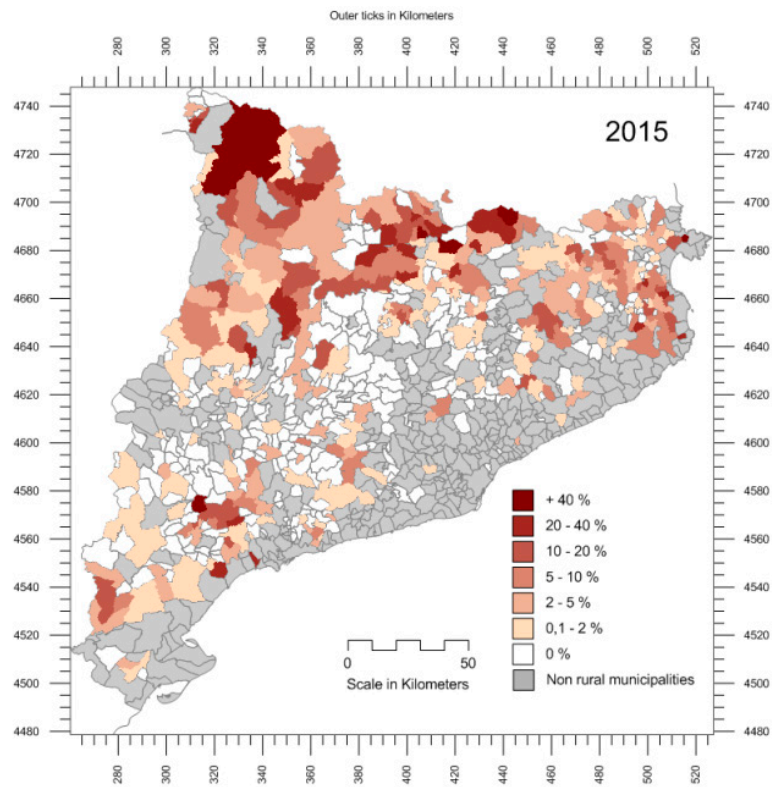


(a)

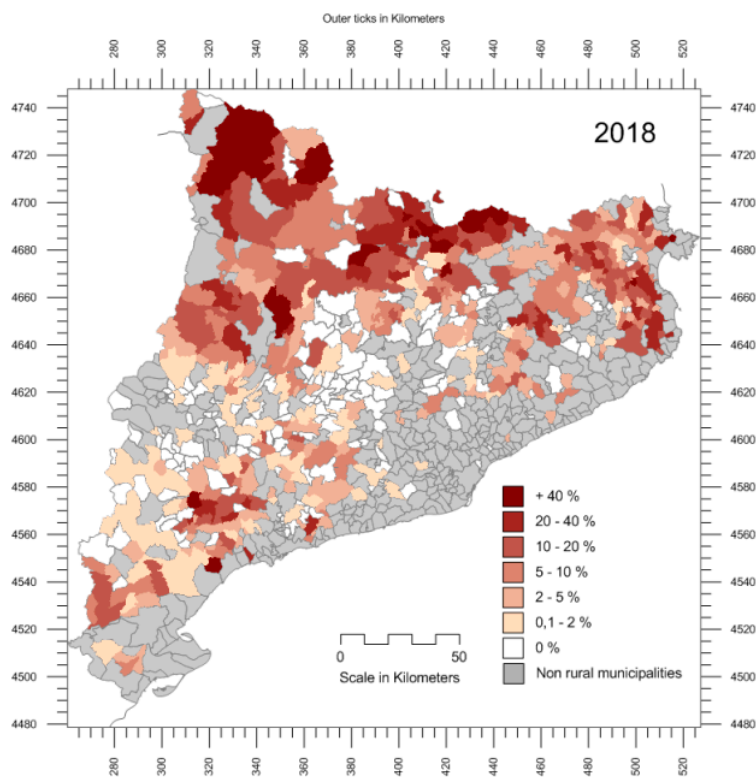


(b)

Figure 3. Evolution of Relative weight of VUTs (number of beds) within the whole supply of accommodation in the rural municipalities of Catalonia: (a) 2015; (b) 2018. Source: Maps created by the authors using data from *Registre d'Habitatges d'ús turístic de la Generalitat de Catalunya*, Catalonia's Statistics Institute, and cartographic databases from the Cartographic and Geological Institute of Catalonia.



(a)



(b)

Figure 4. Evolution of the VUT tourist function rate in the rural municipalities of Catalonia: (a) 2015; (b) 2018. Source: Maps created by the authors using data from *Registre d’Habitatges d’ús turístic de la Generalitat de Catalunya*, Catalonia’s Statistics Institute, and cartographic databases from the Cartographic and Geological Institute of Catalonia.

The evolution of the tourist function rate between 2015 and 2018 shows an increasing general trend in rural municipalities. That increase, from 32 to 79, also implies the growth of specialized municipalities in lodging vacation accommodation (Tourist Function Rate ≥ 20). Pyrenees region, related with ski resorts spaces' influence, and some municipalities near coastal locations are the areas where this growth is higher.

According to the research, there are three types of rural municipality with respect to the geographical concentration of VUTs and their function in the context of Catalonia's tourism development (Table 4).

Table 4. Typologies of rural municipality.

Location of Rural Municipalities	Rural Municipality		Types of Rural Municipality with Supply of VUTs		
	Number	With Supply of VUTs	First Type (%)	Second Type (%)	Third Type (%)
Coastal hinterland	199	170	18.8	66.5	14.7
Inland	253	154	3.9	72.1	24.0
Pyrenees	132	111	20.7	77.5	1.8
Pyrenees with alpine ski resort	11	11	63.6	36.4	0.0
Rural municipalities	595	446	15.2	70.4	14.3

First type (≥ 75 VUT bed-places (2018) $\geq 40\%$ VUT bed-places growth (2015–2018) and ≥ 20 VUT TFT (2018)). Second Type: < 75 VUT bed-places (2018). Third Type: Municipalities with 100% VUT accommodation supply. Source: Created by the authors.

The first type relates to rural municipalities where the volume and growth of this supply of accommodation are considerable. These are municipalities close to the Mediterranean coast (the coastal hinterland) and high mountain areas (Pyrenees with an alpine ski resort and Pyrenees), both of which present high levels of tourism and mass tourism development models linked to the sun, beaches and skiing. The VUTs in these municipalities form a circle around traditionally popular coastal or mountain destinations, thus favoring the expansion of their areas of influence. This first type of municipalities includes those with a volume of VUT supply that is equal or greater than 75 bed-places that have experienced growth equal or above 40% in the period 2015–2018 and/or have a tourist function rate of 20 or above. In 2018, a total of 68 municipalities were included in this first type, which is 15.2% of the rural municipalities that offer VUT.

The second type, which is the most common and varied of all, includes rural municipalities where the volume and growth of this supply are significant but smaller than the previous type and the supply of VUTs is less than 75 bed-places. This consists mainly of rural municipalities located in inland areas of Catalonia and in mountain regions without any influence from the ski industry, away from the main tourist resorts and linked to non-mass tourism development models. These areas specialize in rural tourism, where VUTs are helping boost tourism by expanding and diversifying the supply of accommodation. This second type of municipalities includes almost 70.4% of the rural municipalities in the region, 314 municipalities, with year-on-year growth rates that are much more varied than the type described above. The tourism function rate oscillates between 2 and 20 in most cases.

The third type consists of municipalities where no tourist accommodation was available before the arrival of VUTs. Most of these are inland municipalities with a strong agricultural presence, traditionally untouched by tourism. VUTs are paving the way for tourism in these areas, thereby contributing to the diversification of production. This third type includes 64 municipalities, 14.3% of the rural Catalan municipalities that offer VUT. Although VUTs comprise 100% of the accommodation supply in these municipalities, in 79.7% of them, the tourism function rate is low or very low (less than 5) and it is only above 20 in three municipalities.

In addition to these three types of rural municipalities with VUTs (446 municipalities), in 2018 there were still 149 Catalan rural municipalities that had no VUT accommodation supply.

5. Conclusions

This contribution tries to widen the knowledge of spatial location and sprawl of P2P accommodation in rural areas. In addition, it pretends to help to understand the functional logics of these processes. Until the date, those items had been studied in a broader context, including urban and suburban spaces, and had not been treated in the specific way that is showed in this paper. Tourist dwellings or VUTs have emerged with some considerable force in rural areas, and that in the case of Catalonia, the process has been enhanced by the prior existence of a large number of non-primary dwellings. VUTs have helped expand and diversify the supply of tourist accommodation in rural areas, a trend that is especially relevant for those municipalities which provided no type of tourist accommodation before, on the understanding that being able to supply accommodation is basic for any tourism development project at the local level.

The supply of VUTs is undergoing greater relative growth in rural areas than in the city of Barcelona and in Catalonia's coastal municipalities. The rapid and dramatic expansion of the P2P phenomenon has resulted in this type of accommodation being present in more than 82% of Catalonia's rural municipalities, thereby complementing or rectifying the shortage of tourist accommodation services in many rural areas. According to the findings, there are three distinct types of rural municipality: (a) Rural municipalities where the volume and growth of the supply of this accommodation are striking, these municipalities are located in the coastal hinterland and in high mountain areas, both of which enjoy high levels of tourism. This supply of accommodation plays a key role in the expansion of the areas of influence of well-established tourist destinations, (b) rural municipalities where this supply of accommodation presents an average volume and growth rate, located in inland areas of Catalonia and in high mountain regions with non-mass tourism development models specializing in rural tourism. This supply is helping boost tourism by expanding and diversifying the range of accommodation, and (c) rural municipalities where no tourist accommodation was available before the arrival of P2P accommodation. These are municipalities in inland areas with a strong agricultural presence, where P2P accommodation is paving the way for tourism.

The research results contribute to increasing knowledge of the territorial processes of distribution and location of the supply of legal holiday rentals in rural areas of a region. The conclusions refer only to the regulated supply, unlike most of the studies on the P2P phenomenon that use data on both the legal and illegal supply. The authors consider that the spatial patterns of distribution and location are not necessarily the same for both legal situations. Therefore, by addressing them separately, we can deepen knowledge of the phenomenon and open future research areas (differentiated patterns of spatial distribution between regulated and unregulated supply of holiday rentals).

The research that was carried out is based on a territorial analysis using a classical approach. A quantitative approach, using as a tool the geostatistics analysis, could be considered as a future research line. This will enable us to detect, with mathematical logic, the places in which there is a concentration, scattering or atypical pattern, as well as significant grouping of municipalities in relation to the supply of regulated holiday rentals in Catalonia. This would support or refute the results of the classical approach. As indicated by various authors [9,23,32,33], this type of technique of mathematical analysis could be very useful to determine whether there are well-defined groups of municipalities that have a similar accommodation supply, and to detect hot and cold spots at a regional scale.

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