

A Glimpse at Impacts and Resilience in the Parish of Cernache do Bonjardim, Portugal

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Abstract

The object of study here is the parish of Cernache do Bonjardim in central Portugal and in accordance with the territorial boundaries in effect until 2013. The motivation for producing this article is that the results of the 2021 census are due for publication and may enable the building of relationships between these data and the resilience of the community in this parish. Based on the resilience of rural communities' concept, and through analysis of statistical data, we aim to understand how the variations in population and accommodation influence the different parameters of community resilience. The relevance of this work derives from its object of study and the actuality of the data. The starting data are those provided by the national institutions for the last three censuses. As there were administrative changes and impacts on the community in the last decade, there was the need to process the data to be able to analyse the studied parish in isolation. The findings demonstrate how the negative trends have continued over the last two decades, exacerbating the problems of desertification and population ageing. Therefore, the problems affecting the resilience of this community have also remained the same. As expected, the community of the parish studied proved to be resilient, despite all the setbacks and impacts suffered, as reflected in the various works developed both on this topic and on this community.

Keywords: Impacts; Resilience; Cernache do Bonjardim; Portugal

Citation

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Una aproximación a los impactos y la resiliencia en la feligresía de Cernache do Bonjardim, Portugal

Resumen

El objeto de estudio de este trabajo es la feligresía de Cernache do Bonjardim, ubicada en el centro de Portugal y según los límites territoriales definidos hasta 2013. La motivación para la realización de este artículo se debe a que los resultados de los censos de 2021 están comenzando a salir y es posible construir relaciones entre estos datos y la resiliencia de la comunidad de esta feligresía. Partiendo del concepto de resiliencia de las comunidades rurales, y a través del análisis de los datos estadísticos, se pretende comprender cómo influye la variación de población y alojamiento en los diferentes parámetros de la resiliencia comunitaria. La novedad de este trabajo es el objeto de estudio y la actualidad de los datos obtenidos. Los datos de partida son los proporcionados por las instituciones nacionales para los últimos tres censos. Como hubo cambios administrativos y la comunidad sufrió impactos en la última década, hubo la necesidad de trabajar los datos para poderse analizar la feligresía estudiada tomada aisladamente. Este trabajo muestra que las tendencias han continuado durante las últimas dos décadas, lo que ha exacerbado el problema de la desertificación y el envejecimiento de la población. Por lo tanto, los problemas que afectan la resiliencia de esta comunidad también se han mantenido. Como era de esperar, la comunidad de la feligresía estudiada demostró ser resiliente, a pesar de todos los contratiempos e impactos que sufrió, como lo demuestran los diversos trabajos que se han desarrollado sobre este tema y sobre esta comunidad.

Palabras clave: Impactos; Resiliencia; Cernache do Bonjardim; Portugal

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1. Introduction

1.1 Framework

The parish of Cernache do Bonjardim is in the interior-central region of mainland Portugal, in the western section of the municipality of Sertã and the district of Castelo Branco (Figure 1). Its western and northern boundaries are defined by the Zêzere river, one of the largest entirely Portuguese rivers, and to the south by its tributary, the Sertã. The Zêzere river, with its hydroelectric dams, influences the territory of this parish, which is limited upstream by the Bouçã dam and downstream by the Castelo do Bode dam. This latter dam and its reservoir represent the key factor for the alterations experienced to the main watercourses of this territory (Gonçalves, 2016; Gonçalves *et al.*, 2019).

Figure 1. Location of the Cernache do Bonjardim parish in Portugal



Source: Own elaboration, based on Cernache do Bonjardim, Nesperal and Palhais, [s.d].

The territory under study consists mainly of mountainous areas but, despite being an essentially rural parish with self-consumption agriculture, the forestry sector also plays a prominent role in the region's economy (*ibidem*).

This community displays the constraints and trends of communities and rural areas located in the interior (Gonçalves, 2016):

- An increasingly ageing population, with the consequent depopulation.
- Distance from the major centres, with different economic and social dynamics and lacking the same employment opportunities.
- Lower incomes than those obtained in urban areas, partly also due to the lower levels of qualifications.
- The progressive disappearance of agriculture.
- Poor exploitation of endogenous resources.
- Lack of an efficient planning and development model.
- Ineffective accessibility and progressive disappearance of infrastructures.

We must therefore understand the *rural zone* as a region with a low population density and without any large urban centre (Gonçalves, 2016; Natário *et al.*, 2010). According to the Cork Declaration (A Declaração de Cork, 1996), rural areas hold greater representation and importance than that normally attributed to them, and public spending should correspondingly be better balanced to provide or maintain necessary infrastructures in terms of education, health, and communications in these areas.

There is a dichotomy that generates an unstable balance: if, on the one hand, there is a need for the existence (or non-disappearance) of infrastructures in these areas, on the other hand, it proves difficult to justify and implement such infrastructures due to the limited number of end-users. This then generates a snowball effect, because the lack of infrastructure does not retain young people, causing a further decrease in inhabitants; and, as there is an insufficient number of inhabitants, then there is no justification for carrying out certain specific projects in this region.

As a result, the exodus to large cities will increase, with the consequent degradation of urban environment, the decrease in young people and a rising percentage of elderly inhabitants, jeopardizing population renewal, and reinforcing the tendency for these communities to disappear in forthcoming years, with some communities facing this terminal phase in their existence (Gonçalves, 2016). Cernache do Bonjardim represents one example of this type of area.

This desertification and the abandoning of agriculture advances a progressive disarticulation in land usage, with the fields gradually invaded by the forest. Among other aspects, this generates environmental problems due to the greater likelihood of forest fires. Indeed, the increase in the number of forest fires, has further weakened these rural communities, drastically reducing their sources of income, for example from forest exploitation and pastoralism, as well as the locally prevailing biodiversity, tourism and increasing soil erosion (*ibidem*). The French writer Jean Giono had already perceived this problem when writing *The Man Who Planted Trees* in 1953 in which he set out simply, just how persistence and selflessness can make the world a better place.

In addition to the already mentioned issues, rural abandonment causes other types of problems related to the degradation of the landscape, such as, and for example, the loss of territorial identity, topophilia and terraphilia causing, among other aspects, problems around self-esteem, self-recognition and hope for a better future (*ibidem*). Resilience is required to overcome all these impacts, thus, the community must react, reorganize, and adapt to the impacts they experience, whether negative or positive.

The parish under study has already demonstrated its resilient capacities, when, in the early 1950s, the filling of the Castelo do Bode dam reservoir changed the *modus vivendi* and the landscape of this parish. At that time, its inhabitants showed how they could reorganize themselves and survived these impacts, even though this became another driver of emigration, both to cities nationally and internationally (*ibidem*).

The innate resilience of this community results mainly from its persistence and the sense of belonging and pride, which makes most people remain in this territory, whatever the setbacks they have to face (Gonçalves *et al.*, 2021). Interestingly, while in the 1950s the parish was threatened by water, in 2017 it was threatened by the Pedrógão Grande Forest fire, designated the *Pedrógão Forest Fire* (*ibidem*), when the resilience of this community was once again put to the test.

Taking the parish of Cernache do Bonjardim, Portugal as its object of study defined according to CAOP2011 (the Portuguese Organizational Administrative Charter of 2011), we here seek both to identify the impacts this community experienced throughout the 20th and 21st centuries and to account for its resilience.

1.2 Previous works on the resilience of this community

To undertake this study, we carried out bibliographic research of content directly focused both on the territory under study and on the topics, we wish to address here. The bibliography correspondingly identified is very scarce, which explains why the reference section is not very extensive.

The main works found (Gonçalves, 2016; Gonçalves *et al.*, 2019, 2017, 2021) address the intersection between the territory under study, its resilience and, in some cases, its heritage. In general, what these authors call a *portrait of resilience* is applied according to a method proposed by Colussi (2000) based on which SWOT analysis and advanced SWOT analysis approaches were applied.

This method for assessing the resilience of rural communities, such as Cernache do Bonjardim, is practical and easy to deploy, having returned good results in Canada, where it was first proposed, and in the United States (*ibidem*).

The method consists of several phases or steps (*ibidem*):

- a) Understand the concept of resilience.
- b) Assess community resilience.
- c) Document the results by drawing up a *portrait* with the aim of defining local priorities to invest more optimally in community resources.
- d) Set up a *Community Economic Development Plan* (CED).

According to Colussi (2000) resilience may be defined as “the ability to take intentional action to enhance the personal and collective capacity of its citizens and institutions to respond to, and influence the course of social and economic change” (Colussi, 2000, p. 2–11) and: “a resilient community is one that takes intentional action to enhance the personal and collective capacity of its citizens and institutions to respond to and influence the course of social and economic change” (Colussi, 2000, p. 1–5). Both definitions define the approach and point of view of the proposed method.

Assessing community resilience requires the drafting of that terms the *Community Portrait* (CP), which is the “description of a community from the perspective of resilience” (Colussi, 2000, p. 1–21), based on surveys and the analysis of several factors.

The CED plan is based on the community's economy and resources and aims to set priorities for the community and strengthen resilience through identifying strengths and weaknesses and implementing measures that make the community more resilient and prosperous. Prosperity is understood here as generating greater well-being for people in the community and not necessarily generating more financial resources (Colussi, 2000). The next phase involves implementing the results reported on the ground (*ibidem*) through practicing participatory and active governance.

This method seeks to analyse what it defines as the *key functions for the local economy* (*ibidem*):

- 1) Access to equity capital.
- 2) Access to credit.
- 3) Building human resource capacity.
- 4) Capacities for research, planning and advocacy.
- 5) Infrastructure.

These five functions aim to boost the vitality of the local and regional economy. They provide the tools to capture and analyse the strengths and weaknesses of the community. The importance of each characteristic varies from community to community, with some gaining more importance than others at different times (*ibidem*).

To obtain the data to analyse the five key functions listed above, the CED must be defined in keeping with the CP. This approach then takes place across two levels: the first level considers four *dimensions of resilience*, which are expressed in terms of the twenty-three more detailed *characteristics* that resilient communities display, that constitute the second level. Both are based on a state or action that ideally exists in the most resilient communities; even though no community fully fits all the proposed characteristics (*ibidem*).

The four interrelated and interdependent dimensions reflect the reality that the different parts of a community are all interlinked. They are the following (*ibidem*):

- 1) People in the community: attitudes and behaviours.
- 2) Organizations in the community: attitudes and behaviours.
- 3) Resources in the community: awareness and use.
- 4) Community process: strategic thinking, participation, and action.

The first dimension serves to explore the attitudes and behaviours related to leadership, initiative, education, and optimism. The second reflects how the community works to provide leadership and the resources needed to carry out its projects and how existing organizations in the community work to inform, involve the public and what levels of mutual collaboration they have ongoing. The third dimension identifies the balance existing between the internal and external dependence of the community. The fourth and final dimension analyses local planning processes, participating in and implementing the CED (*ibidem*). Thus, the first three dimensions describe the nature and variety of resources available in the community and which it makes recourse to for its development; the fourth dimension describes the approaches and structures available in the community to productively organize and deploy its resources (*ibidem*).

The twenty-three community characteristics referenced above are the specific factors examined in each community to assess its level of resilience and its capacity to develop the PC (*ibidem*). These characteristics are interrelated, just as there are relationships ongoing among the dimensions of resilience and community characteristics (Colussi, 2000; Gonçalves, 2016).

Based on the method, this study generally concludes that (Gonçalves, 2016; Gonçalves *et al.*, 2017):

- In relation to the people in the community, we find there is a high level of pride and sense of belonging; education is not valued; many people remain in the community even when affected by unemployment, and with some of those who leave returning; people have a do-it-yourself attitude; they unite for a common good; they are not always involved in the decision-making processes.
- In relation to community organizations, there is some organizational capacity; there is a lack of services related to accessing the funding for this area; insufficient access to infrastructures and with some tending to disappear; organizations collaborate with each other and generally conflicts are well managed.
- In relation to community resources, many people generate self-employment but there is no policy to encourage local ownership; there is no community strategy to help struggling companies; in more positive terms, there is diversity in the economic activities of the five largest employers.
- In relation to the community process, it appears that, in practice, there is no economic plan for community development; there is a gap between the community and the elected authorities; economic development and social service agencies collaborate positively with each other.

Based on this *portrait of the community's resilience*, we may state that the Cernache parish-community is entrepreneurial, displays the will to *want to do* and a huge sense of belonging to the community, which helps it overcome the many vicissitudes encountered. We may therefore add that the Cernache parish community is resilient, managing to reduce the negative aspects and maintain the positive (Gonçalves *et al.*, 2017).

Having carried out this *portrait of community resilience*, we were able to attain several conclusions and prepare the SWOT analysis, which allowed for the analysis and better understanding of the community of Cernache do Bonjardim (Gonçalves, 2016; Gonçalves *et al.*, 2019, 2021). From this analysis it was concluded that the internal factors present a positive balance, while the external factors present a negative balance, having identified more threats than opportunities.

In order to compare not only the internal and external factors of the SWOT analysis, we also undertook advanced SWOT analysis (Gonçalves *et al.*, 2019, 2021), which interwove these factors, defining leverages (comparing strengths with opportunities); vulnerabilities (comparing strengths with threats); constraints (comparing weaknesses with opportunities) and problems (comparing weaknesses with threats) and assigning weightings to each factor listed. As a general summary, it was concluded that there were almost as many leverages as there are problems and, although there are a lot of vulnerabilities, the constraints are relatively few. This analysis, therefore, generally concludes that (*ibidem*):

- In relation to the leverages, the strongest aspects are the attractiveness of this community for outsiders; the diversity of employment; the high level of pride prevailing in the population; and with most of the main employers coming from the community.
- In relation to vulnerabilities, the reduced number of children under the age of 14, thus population ageing; properties belonging to the local population are not valued; companies at risk of closure are not identified; the market segments most in need of intervention are not known.
- In relation to constraints, the community does not realize whether it can influence the most important decisions; the community does not value education; there is poor accessibility, as well as difficulties in accessing knowledge and new market opportunities.
- In relation to problems, unemployment and population ageing are the main problems identified; there is no economic plan for the community thereby making it impossible to concentrate resources and efforts towards a common goal.

Despite these scenarios, this parish is very vulnerable, facing external threats but, despite these weaknesses, some of the opportunities arising are being capitalised upon (Gonçalves *et al.*, 2019).

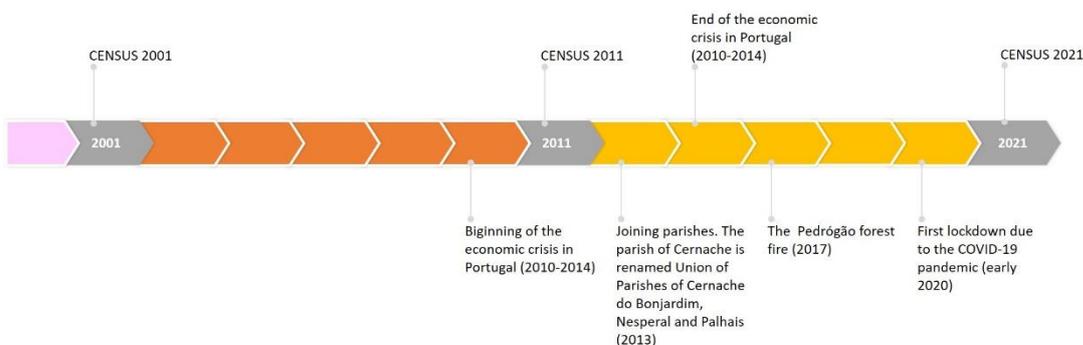
1.3 *The events and impacts that influenced the community and territory of the parish under study*

The community and territory of the Cernache do Bonjardim parish have experienced several different influences that make their study difficult coupled with several impacts over the last few years that have greatly influenced the community. The events and impacts considered are the following (Figure 2):

1. Impact due to water (1950-51). The construction and filling of the Castelo do Bode dam downstream of the Zêzere River submerged most of the best agricultural terrain, altered the landscape as well as the river fauna. This had a very negative influence on the community's *modus vivendi* (Gonçalves, 2016; Gonçalves *et al.*, 2019, 2021).

2. Impact due to migration, either abroad or to other parts of the country, especially after 1960. Ever since, the total parish population has been decreasing. This generates gradual and slow impacts but with many harmful consequences at all levels.
3. The European economic crisis of 2007-2008, which peaked in Portugal between 2010 and 2014. This crisis, due to the Eurozone's public debt, afflicted Portugal harshly, increasing inequality, reducing basic services and with the government making recourse to the public purse to prop up companies (Estoril-Sol, SGPS, 2013). Nevertheless, bankruptcies were widespread (Correia, 2012), taxation increased, and public sector wages were sharply reduced (INE, 2013). Many of these problems were worsened by capital flight to other countries (Mourato, 2013).
4. The merging of parishes in 2013. The government decided to merge various parishes (DGAI, 2013), renaming them as *Unions of Parishes*. In the case of the Cernache do Bonjardim parish, added to the parishes of Nespéral and Palhais, it became known as the *Union of the Parishes of Cernache do Bonjardim, Nespéral and Palhais*. From that date onwards, all statistical data begins referring to this *Union* (INE, [s.d.]) making it difficult to study the parish of Cernache do Bonjardim in isolation. Even the 2011 census data, collected prior to this date, have been updated and presented in a unified format for the three parishes.
5. The gigantic of Pedrógão Grande Forest fire, the *Pedrógão forest fire*, in 2017. This fire burned through about 50% of the territory of the parish of Cernache but, fortunately, the losses were only material despite the fire having reached very close to villages and threatened many dwellings. This region suffers from forest fires every summer but 2017 was particularly catastrophic (Diário de Notícias, 2017; Gonçalves *et al.*, 2019, 2021; Rádio Renascença, 2017). The wood and agricultural market experienced a collapse. Once again, the population of the Cernache do Bonjardim parish adapted, reacted, fought, reorganized, and survived.
6. First lockdown in early 2020, due to the COVID-19 pandemic (Diário de Notícias, 2020; XXII Governo da República Portuguesa, 2020).

Figure 2. Chronology of events and impacts affecting the Cernache do Bonjardim parish community and territory between 2001 and 2021



Source: Own elaboration.

Figure 2 portrays how the 2011-2021 decade was a period of various harsh impacts, which may influence the situation encapsulated by the 2011 census, although these are only ever very difficult to quantify.

2. Problem definition, materials, and methods

This section sets out to analyse, based on studies previously carried out on the resilience of the parish of Cernache do Bonjardim (Gonçalves, 2016; Gonçalves *et al.*, 2019, 2017, 2021) and on statistical data

collected in the 2001, 2011 and 2021 Censuses (provisional results) obtained from the INE – the National Statistics Institute and PORDATA (INE, [s.d.]; PORDATA, [s.d.]), the impacts that the parish of Cernache do Bonjardim has undergone and their relationship with its resilience.

In addition to the time frames presented in the previous section and in Figure 2, there is also the question of why censuses take place every ten years. To analyse the current situation, we consider only the 2001, 2011 and 2021 censuses, although only provisional data for the latter is available at the time of writing this article.

We sourced the data from the INE and PORDATA portals (INE, [s.d.]; PORDATA, [s.d.]). As mentioned above, following the merger of different parishes into a single parish, the official data from the INE and PORDATA websites began to be expressed at the aggregate parish level, the *Union of Parishes*, which means the data no longer appear expressed separately in terms of the former individual parishes of Cernache, Palhais and Nesperal.

This fact forced us to define an approach to obtain data referring only to the Cernache do Bonjardim parish in keeping with the historical data available. Hence, we attempted to quantify the "weightings" of each of the old parishes in the historical data we had and extrapolate them to the Census data referring to the current *Union of Parishes*.

There was also a need to work with the data obtained this way to enable the reaching of conclusions. However, this may induce certain errors because, between the censuses, the previously existing trend may undergo change and the data may not be exactly those estimated. Nevertheless, it is not thought that these trends have changed substantially as they have already persisted for a long period of time.

3. Results and discussion

3.1 Population

Based on 2001 data referring to the three parishes separately, we were able to independently estimate and assign a weighting to each of the old parishes: Cernache do Bonjardim, Nesperal and Palhais (Table 1).

Table 1. Resident population by age group, by parish, in 2001

Age group (years)	Cernache do Bonjardim (inhabitants)	Nesperal (inhabitants)	Palhais (inhabitants)
0-14	491	46	30
15-24	455	43	10
25-65	1613	162	128
65 and +	725	84	178
Total	3284	335	346
Weighting (%)	82,8	8,5	8,7

Source: Own elaboration based on INE and PORDATA data.

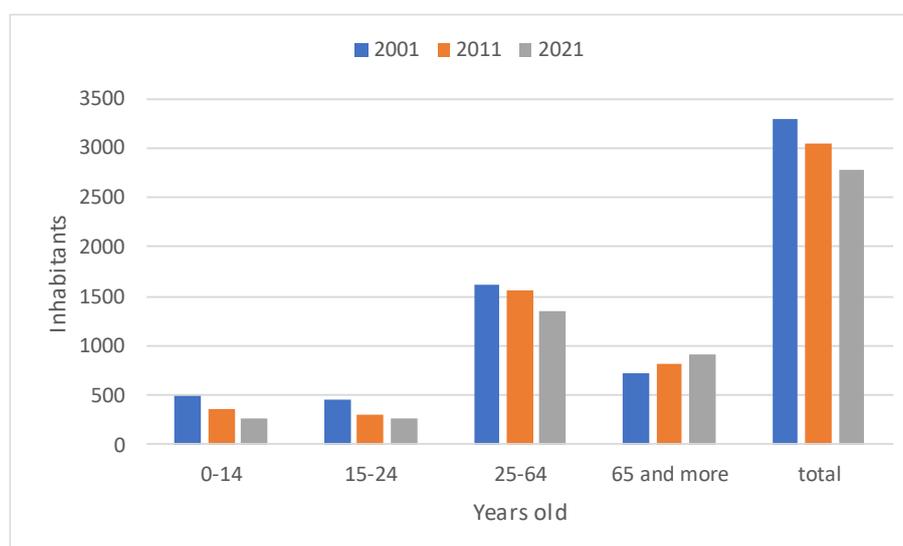
Henceforth, whenever we estimate separate values for the population residing in the parish of Cernache do Bonjardim, we make recourse to these estimated weightings. In this way, we obtained the data presented in Table 2. From this table we can extract two types of graphs (Figure 3 and Figure 4), referring to the resident population by age group and the percentage variation in the resident population by age group.

Table 2. Resident population by age group, for the parish of Cernache do Bonjardim, taken separately

Age group (years)	2001	2011	Variation 2001-2011 (%)	2021	Variation 2011-2021 (%)
0-14	491	367	-25	268	-27
15-24	455	308	-32	258	-16
25-64	1613	1567	-3	1345	-14
65 and +	725	810	12	914	12
Total	3284	3052	-7	2785	-7

Source: Own elaboration based on INE and PORDATA data.

Figure 3. Resident population by age group for the parish of Cernache do Bonjardim, taken separately

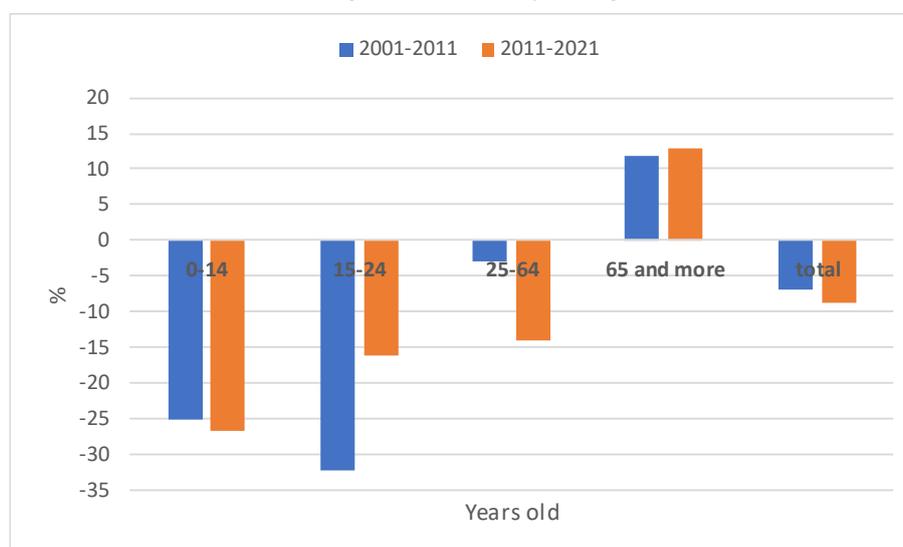


Source: Own elaboration based on INE and PORDATA data.

Figure 3 conveys how the resident population has declined since 2001 across every age group, except for the group aged over 65, which has experienced an increase. These trends have remained constant throughout at least, the last three decades, which portrays the continued ageing of the population, without any population renewal. However, should we analyse the percentage change in the population over these two decades this scenario is perhaps not so negative (Figure 4).

As demonstrated in Figure 4, we may conclude that the percentage variation in the age group between 0 and 14 years old rose slightly over these two decades, thus, the decrease in inhabitants in this age group between 2001 and 2011 is smaller than that occurring between 2011 and 2021, which does not provide good news; the variations in the following age group register very marked differences, with inhabitant loss between 2011 and 2021 at a lower level than in the previous decade which, despite everything, represents good news as this age group accounts for young adults in the age group between 25 and 64, on the other hand, this group presents a greater loss in the last decade than in the previous ten years, which is a worrying, dimension as this age group includes adults of a reproductive and active age; with the age group of 65 and over always registering a positive variation, especially high in the last decade. Should we approach the total population, we may point to a loss of inhabitants between 2001 and 2011 that was smaller than between 2011 and 2021, which, in keeping with the population decrease, warns of a deepening negative variation in the resident population.

Figure 4. Percentage variation in the resident population by age group for the parish of Cernache do Bonjardim, taken separately



Source: Own elaboration based on INE and PORDATA data.

The increased variation in the 0-14 age group is believed to relate to the variation in the 25-65 age group; as most parents fall into this last age group and, when migrating take their children with them. This rise in the negative trend in the 25-65 age group may derive from the financial crisis, that forced many people to move to large urban centres to find greater chances of employment; emigration, with this decade seeing an enormous increase in emigration; the issue of forest fires as some of these departures may be due to having lost their residence and having to move to another parish; and the lack of infrastructures such as health services, that may also have pressured people to settle permanently in large urban centres.

On a positive note, the 15–24-year age group did not decrease as sharply as the other age groups.

The 65 and over age group is the only population segment to increase. This, in part, may have to do with the fact that there are recent (post-2010) infrastructures to support the elderly, such as the Home for the Elderly, *Casa da Poesia* (Centro Social São Nuno de Santa Maria, [s.d.]), located in the centre of the village of Cernache do Bonjardim that provides various health and wellness services. Another justification for this trend arises from the retirement age, currently standing at 66 years of age, as following retirement, some retirees may have returned to their region of birth.

Despite this broadly negative scenario, in the last municipal elections (2021), a 27-year-old woman, born in the parish and a university graduate, was elected Parish Council president (Rádio Condestável, 2021). Having a background in social sciences and the energy typical of her age, it is expected she will make changes and instil a new dynamic into the community and favour its involvement in the decisions to be taken. The community elected her by an overwhelming majority, thus conveying the desire for change and the hope for a new community dynamic.

3.2 Housing

Based on 2001 data referring to the three parishes identified above, taken separately, we were able to estimate and assign a weighting to each of them independently: Cernache do Bonjardim, Nesperal and Palhais (Table 3).

Table 3. Classical family housing by occupation and by parish, in 2001

Type of family housing	Cernache do Bonjardim	Nesperal	Palhais
Usual residence	1230	121	132
Secondary residence	826	112	314
Vacant	440	28	6
Total	2496	261	452
Weighting (%)	77,8	8,1	14,1

Source: Own elaboration based on INE and PORDATA data

Henceforth, we shall apply these estimated weightings whenever calculating the family accommodation existing specifically in the parish of Cernache do Bonjardim. In this way, we obtained the data presented in Table 4. From this table we can extract two types of graphs (Figure 5 and Figure 6), referring to classical family accommodation by type of occupation and the percentage variations in classical family accommodation by type of occupation.

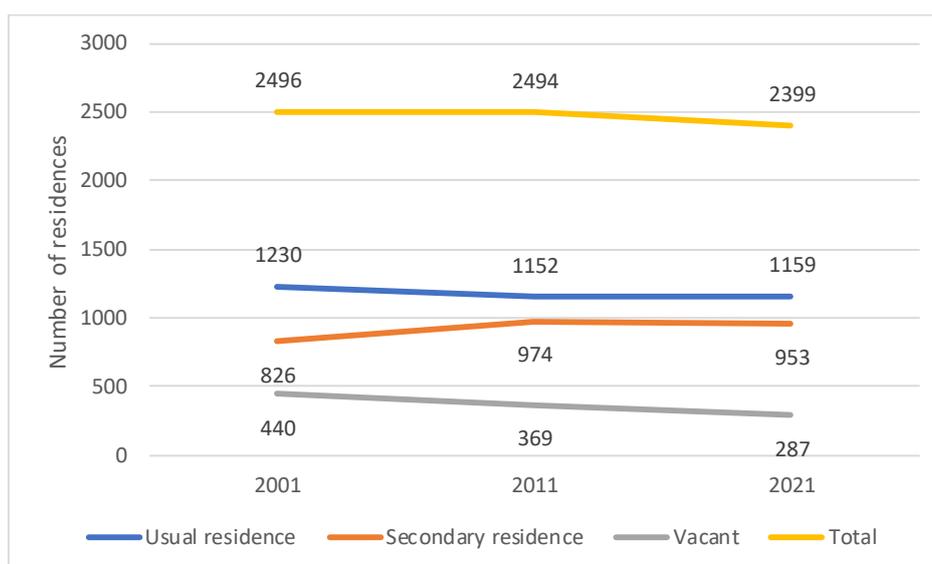
Table 4. Classical family residences by type of occupation calculated separately for the parish of Cernache do Bonjardim

Type of family housing	2001	2011	Variation 2001-2011 (%)	2021	Variation 2011-2021 (%)
Usual residence	1230	1152	-6	1159	1
Secondary residence	826	974	18	953	-2
Vacant	440	369	-16	287	-22
Total	2496	2495	0	2399	-4

Source: Own elaboration based on INE and PORDATA data

Figure 5 conveys how the number of usual residences has increased slightly over the last decade (+7 residences), which means there was some settlement of population in the parish. This contrasts with the decrease in the 2001-2011 decade, which reported a decline in usual residences, which means there was a downturn in the resident population over that period.

Figure 5. Classical family accommodation by type of occupation calculated separately, for the parish of Cernache do Bonjardim



Source: Own elaboration based on INE and PORDATA data.

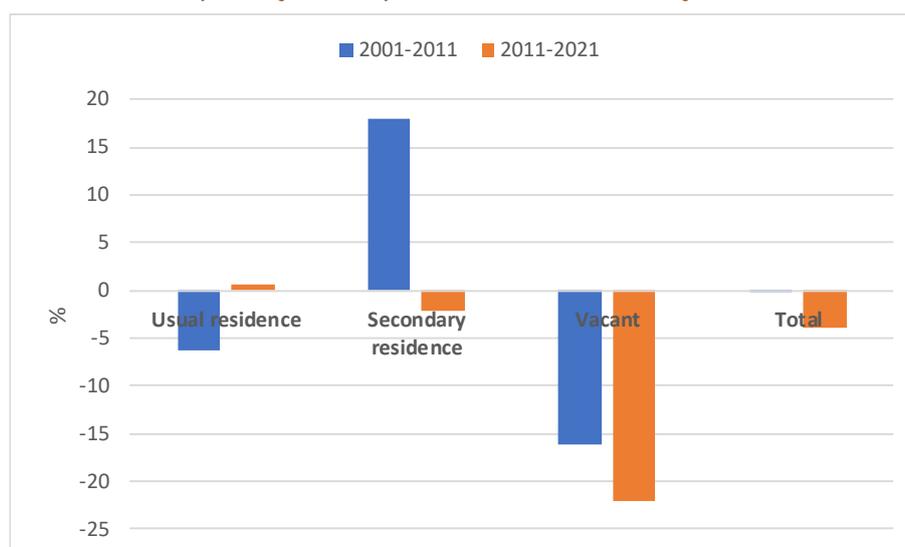
On the other hand, the number of secondary residences increased in the first decade and decreased in the second decade (-21 residences). This may relate to the increase/decrease in the number of usual residences, and there does seem to be a correlation between the two: when the usual residences decreased (2001-2011), secondary homes increased; and when habitual residences rose (2001-2011), secondary residences fell.

Vacant housing returns a declining trend over the two decades. These residences are defined as *accommodation that, at the time of reference, is available on the housing market. The following situations may be considered: for sale, rent, demolition, in a state of deterioration and other reasons* (INE, [s.d.]). Bearing this definition in mind, a possible explanation for the decrease in the number of vacant accommodations may derive from their renovation or the reconstruction of derelict housing, stock in keeping with the increase in demand for houses to rent or buy and even including the demolition of some houses to make way for new housing developments.

Feasible interpretations of the trends discussed above include:

- The economic crisis that hit in the second decade, which led many people having to give up second homes.
- After the *Pedrógão forest fire*, people began to fear living in heavily forested territories such as Cernache do Bonjardim, driving the option to give up such secondary housing. This impact may also have led to an increase in vacant accommodation, as the number of people displaced by the fire likely increased. The fire was worse for those who lived alone or in sparsely populated villages, which is the case in the parish studied, than for those living in more compact villages.
- The pandemic may also have influenced this trend, as there were many people who opted to move to rural areas due to their clean air and low population densities, where they already owned second home. Some of these people may have chosen to turn these dwellings into their usual residences.
- The retirement age reached by one segment of the population and their return to the parish, turning the secondary residences they retained in the parish into their usual residences.

Figure 6. Percentage variations in classical family accommodation by type of occupation, calculated separately for the parish of Cernache do Bonjardim



Source: Own elaboration based on INE and PORDATA data.

According to Figure 6, we may conclude that usual residences swung from a negative percentage performance in the first decade to register a positive percentage change in the second decade. This reflects a reversal in the trend and leading more people to settle in the parish of Cernache do Bonjardim. This trend apparently contradicts trend in the total resident population, which continues to shrink; it is thus thought this trend probably derives from a rise in the more elderly population, who returned to their birthplaces due to the various situations occurring in the last decade (Figure 2).

On the other hand, and conversely, secondary residences dipped from a positive to a negative percentage change, which reflects a declining trend and with the percentage change in the number of vacant dwellings also increasing. This may result from several factors as set out above. In total, the percentage change in family dwellings was negative over the second decade which, as already detailed, included several impacts that may, directly or indirectly, relate to this trend.

4. Final remarks

As demonstrated in Table 2, Figure 3 and Figure 4, the population has been decreasing and identifying the rise in the number of inhabitants leaving this territory over the 2001-2011 and 2011-2021 decades, which is an extremely negative outcome for the region. The exception comes from the 65 years and over age group, which register a constant increase over this period and a sharper variation in the second decade that conveys how population ageing continues to be a matter of concern and requiring an urgent solution.

Table 4, Figure 5 and Figure 6 underpin the conclusion that, although the total number of family dwellings has been sliding, there may be a correlation both with the rise in usual residences over the last decade and the drop in secondary residences, which experienced a substantial decrease in the last three years, and also with vacant properties, which underwent a substantial decrease in the last decade. However, in total there is no compensating factor able to offset the downward trend in the housing total and its consequent negative variation throughout the last decade, which may also indicate that the resident population is decreasing.

To be able to carry out more accurate analyses, it will be necessary to await the final results of the 2021 Census, when we will be able to obtain some details on a smaller scale than the parish. However, the approach performed here is quite enlightening and generates a comprehensive perspective on the trends in population settlement.

This highlights the problems surrounding the continued and very significant population decline, thereby limiting both the future and the resilience of this community. However, despite all the vicissitudes experienced, especially in the 2011-2021 decade, the community of Cernache do Bonjardim continues to demonstrate its resilience, maintaining its capacity to struggle, with perseverance and adapting to the circumstances. The major question remains for just how long may this last. And for how long especially if there is no renewal of the population and most residents are elderly.

The relationships that can be drawn between the data presented and the resilience of this community are, unfortunately, the same as ever with the major trends remaining unchanged. The population continues to shrink, the number of classic family residences also continues to decline, which further deepens the issues around population decline. The ageing of the population jeopardizes community renewal as well as many of the factors enabling its resilience as there does not seem to be any future for this community.

We came across only a few positive factors and these do not attain the strength or the large numbers necessary to compensate for the negative drivers.

“A community is all the more resilient the better it is able to respond, overcome, reorganize itself and survive impacts such as disruptions, crises and catastrophes” (Gonçalves *et al.*, 2019, p. 168) and, correspondingly, the Cernache do Bonjardim parish community has proven it remains resilient.

As already described the demographic issue is extremely worrying as population, ageing threatens the continuity of this community. In this sense and seeking to boost the dynamism of the region, Gonçalves (2016) proposes some measures:

- The construction or reconstruction of low-cost housing developments, as long since proposed by Faria (2007), with the launching of mortgage credit lines aimed specially at young residents in the parish and capitalising on the old and ruined properties existing in the parish as well as revitalizing of some villages that have already disappeared. As a way of dynamizing villages, initiatives of this kind have taken place, such as the Querença Project in the Algarve, Portugal (“Projeto de Querença”, [s.d.]).
- More effective dissemination of the handicrafts, gastronomy, music, customs, cultural heritage, both material and immaterial (which is disappearing), with its consequent recovery and protection, to reaffirm the local identity.
- Enhancement of the natural heritage, with more pedestrian and/or mountain biking tourist circuits, with boat trips and water sports linked to calm waters, such as rowing, certain types of canoeing, nautical modelling, with the organization of national/international competitions and eventually setting up a training centre, thus taking advantage of the Zêzere river, or potentially establishing of a cultural park.
- Promotion of culture and cultural exchanges, with the organization of arts exhibitions, music and theatre festivals. The entire parish might become the scenario for a sculpture exhibition, including some less orthodox spaces, such as the example of the church of Ulm, in Germany, which hosts painting exhibitions.
- Providing accommodation services in private houses, for example a tourism focused version of the British Bed and Breakfast (B&B) type. This type of accommodation provides, as it says, bed and breakfast and may or may not have a shared bathroom. Other meals are optional but are intended to be shared with the owners. This type of accommodation requires little investment on behalf of the owners and can generate significant financial returns.
- The creation of other types of accommodation in properties, completely and fully equipped, with the necessary services for holidaying.
- The setting-up of lodges, with dormitory-type accommodation, with a capacity of between 40 and 60 places, aimed mainly at students and youth groups constitutes another alternative. However, the intention here involves the rehabilitation of farms or manor houses rather than any new construction.
- Hostel type accommodation represents another option for consideration.
- Launching a “tourist ticket”, which consists of access to public transport services, entrance to museums, swimming pools and other similar structures completely free of charge when staying in this area for two or more nights, in keeping with the existing example of the Bregenzer Wald region in Austria.

These are just some suggestions of measures that might drive the dynamism of the parish under study, with many not needing major financial investments are relatively easy to implement and require only creativity and imagination.

Regarding the methodology adopted to assess the resilience of the Cernache do Bonjardim parish community, the major work is done, and the next step involves its updating and implementation. As the parish territory has now become much more extensive due to the merger of the parish with those of Palhais and Nesperal, this correspondingly calls for updating this entire methodology and applying it to the newly established territory. However, this will have to come from the community itself and from those who represent it directly, hence, the Parish Council.

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All the authors have participated in the design and planning of this article. The first author carried out the research and drafted the manuscript. The other authors have revised the wording: the second author mainly the Spanish text and the third author mainly the English text. Likewise, all the authors have participated in the interpretation of results and critical analysis.

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