

Rural abandonment and landscape evolution in the Central Region of Portugal*

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Introduction

The landscapes of countries such as in Europe, whose territories have long been occupied and used by groups of humans in different stages of development and organization, are essentially a product of history, as Georges Bertrand (1978) said. Even when, under specific circumstances, human communities cease to occupy parts of that territory and abandon it to nature, the result of its evolution can never be identified as what would have been the virgin landscape. The changes of morphology, the transformation of the soil, the introduction of new species, some of which could be seen as invaders, or at least with great adaptability, the existing infrastructures, etc, are marks which will hardly disappear from those landscapes.

The level of human intervention in the Portuguese rural landscapes and, in this specific case, in the Central Region¹ (Fig. 1), increased until the middle of the 20th century, when it began to decrease significantly following the profound demographic changes in the last decades. The diversity of the socio-economic dynamics that took place in the different sub-regions had distinct effects on those landscapes. The present paper will try to highlight these changes on the basis of some important indicators, though in an inevitably incomplete way.

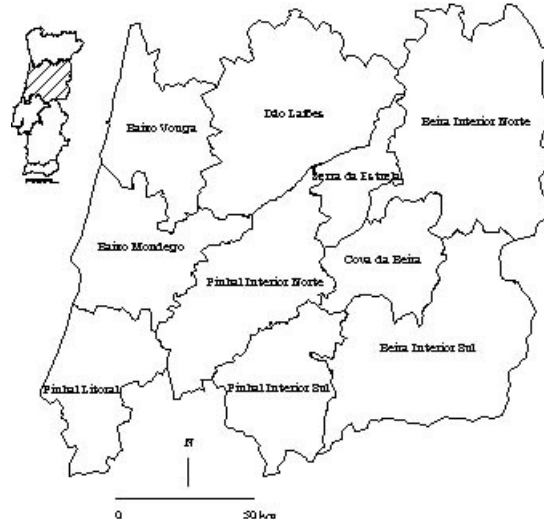


Figure 1 The Central Region of Portugal and its Sub-regions

The socio-economic data is based on the analysis of official Portuguese statistics on the Central Region, particularly on the population censuses of 1970, 1981, 1991 and 2001, and on the agriculture censuses of 1968, 1979, 1989 and 1999. A comparative analysis of aerial photo-

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¹ In terms of agriculture and forest the Central Region is subdivided in Região Agrária da Beira Litoral (Baixo Vouga, Baixo Mondego, Pinhal Litoral, Dão-Lafões e Pinhal Interior Norte) e Região Agrária da Beira Interior (Pinhal Interior Sul, Serra da Estrela, Beira Interior Norte, Beira Interior Sul e Cova da Beira).

graphs taken in 1958 and 1995 in some sample areas, which should represent the broadest possible diversity of the whole region, was made to detect and illustrate the changes in terms of land use.

Before the analysis of these changes, however, a look at a number of social and economic indicators will help to understand the changes that have occurred and the perspectives, in terms of the landscape, for this region.

Some noticeable socio-economic changes

Sectors of activity

In 2001 the service sector was the largest in the region (Fig. 2), and here Baixo Mondego stands out (probably because of Coimbra, a service city), but also due to the fact that industry is not significant in some other inland cities. In Baixo Vouga and Pinhal Litoral, on the contrary, the industrial sector is almost as important as the service sector. Obviously the primary sector, which is essentially confined to agro-forestry, is occupied by a small percentage of the population – only 5% in coastal sub-regions, 10% in inland sub-regions, such as Beira Interior Sul, Beira Interior Norte and Dão-Lafões.

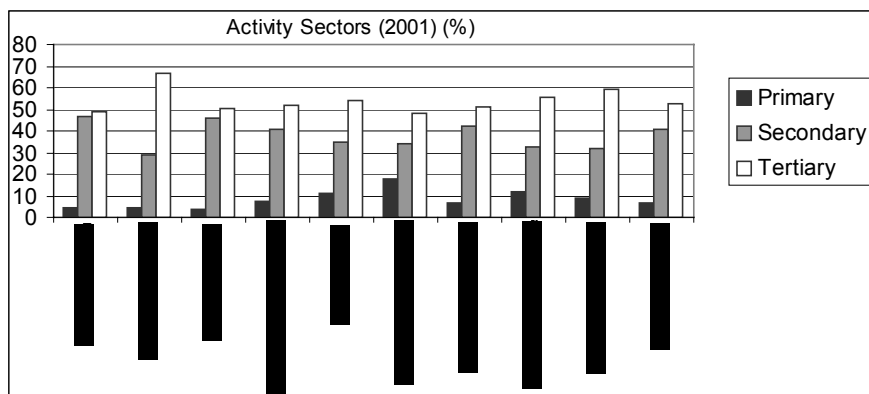


Figure 2 Activity sectors in 2001 (Source: INE)

In the last decades this sector has seen a sharp decrease throughout the region. In 1970 this region, just like most of the country, was essentially rural, having an average of about 60%, and always higher than 42%, of the active population working on this sector. Three decades after, the average is below 10% (Fig. 3).

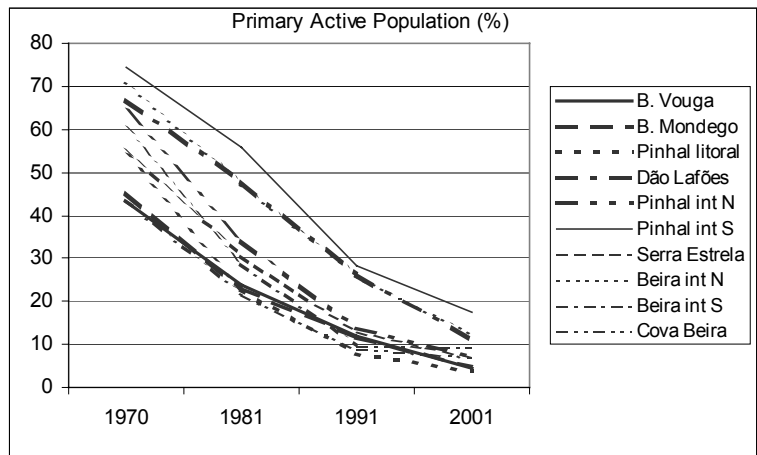


Figure 3 Evolution of Primary active population. (Source: INE)

Resident population variation

The resident population is essentially concentrated on the region's coastal strip (the *litoral*), as can be seen by the population density of the sub-regions (above 144 inhabitants/km² in the coastal sub-regions, but only slightly above 20 inhabitants/km² further inland), i.e., it varies by a factor 10 from the coast to the inland part (Fig. 4). This discrepancy has intensified in recent years, since from 1991 to 2001 there was a population decline inland and growth along the coast (Fig. 5).

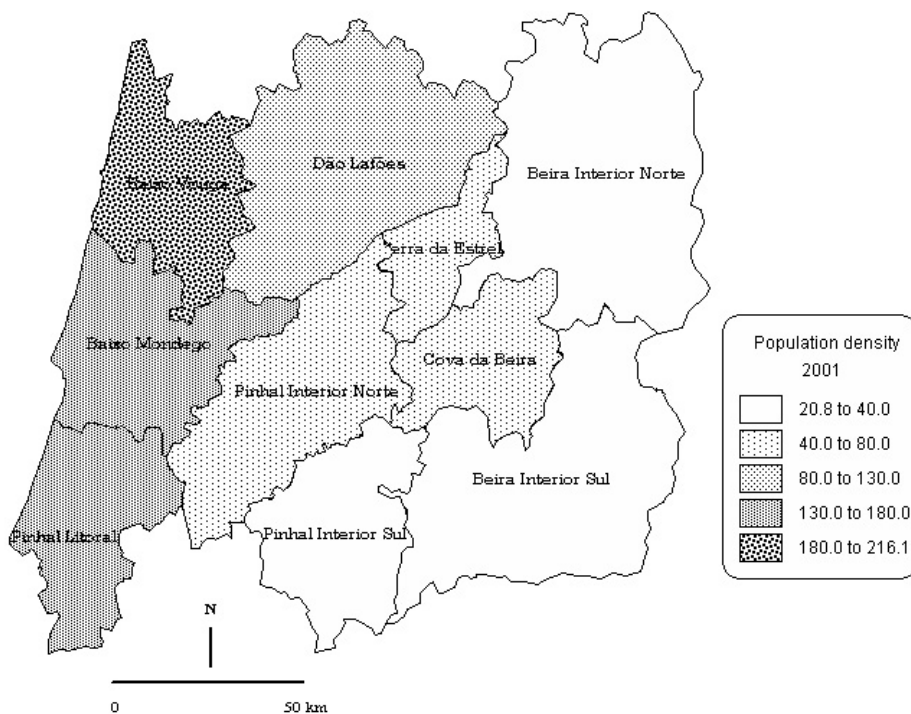


Figure 4 Population density in 2001. (Source: INE)

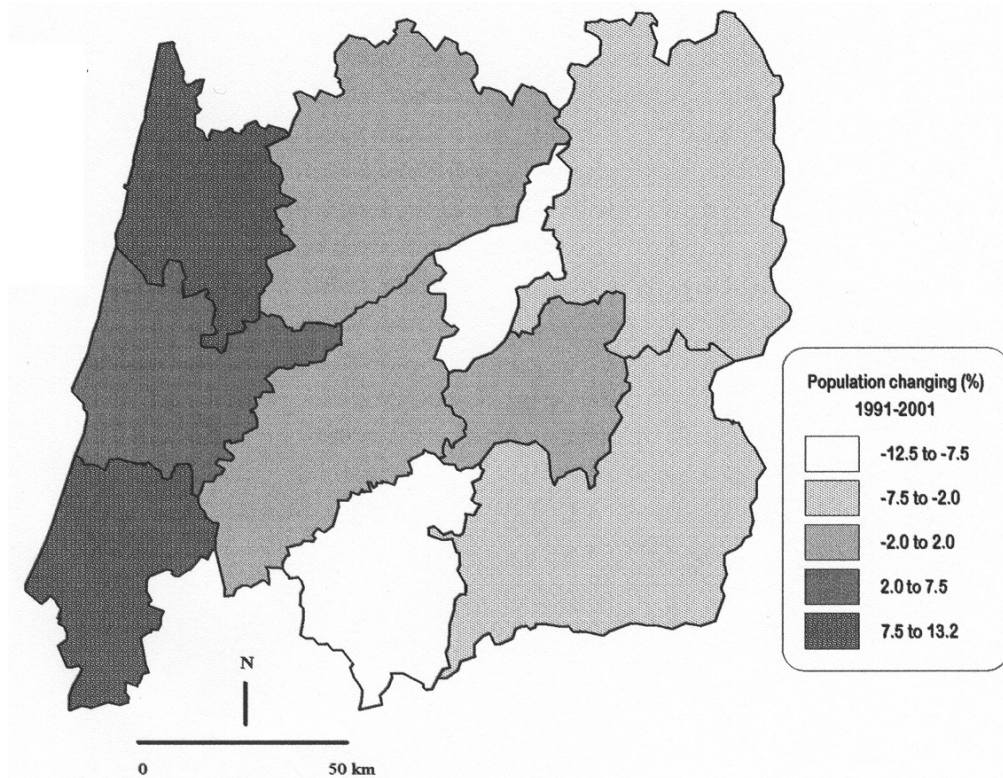


Figure 5 Population change between 1991 and 2001. (Source: INE).

One of the demographic processes that helps understand this discrepancy is inter-municipal migration. In Beira Interior (inland) emigration is, normally, higher than immigration, whereas in Beira Litoral (coast), with the exception of Baixo Mondego, immigration is higher than emigration (Fig. 6). At present, the arrival of foreign immigrants is counteracting the migratory deficit in the sub-regions where this movement is taking place; however, as these immigrants are settling in the coastal area, they are increasing the population differences that already existed.

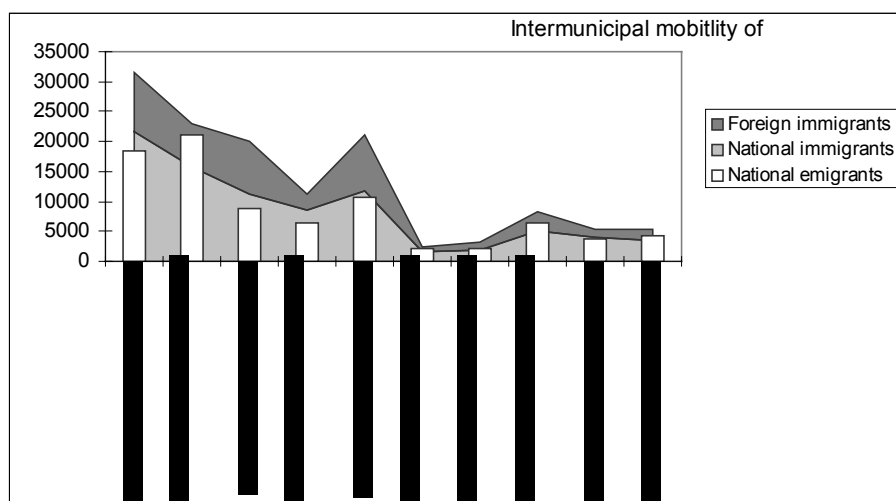


Figure 6 Intermunicipal mobility of population. (Source: INE)

Population aging

The population has been aging throughout the region, but this phenomenon is more noticeable inland where the elderly largely outweigh the other age groups. This can be illustrated by comparing the age pyramids of Baixo Vouga (which represents the coastal sub-regions) and Beira Interior Sul (representing the other sub-regions). In the former, young adults are still predominant, whereas in the second, the age groups over 60 prevail (Fig. 7).

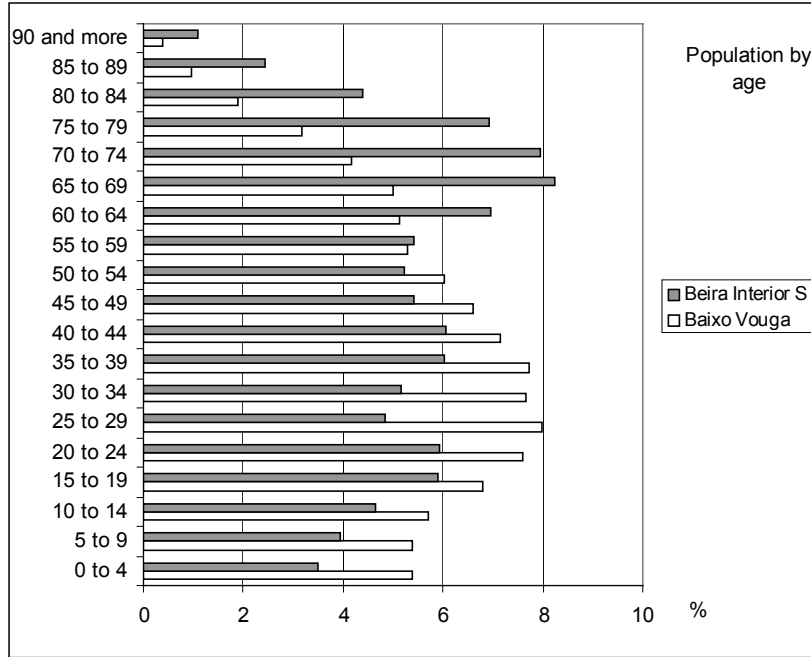


Figure 7 Population by age in Baixo Vouga and Beira Interior Sul. (Source: INE)

The relation between the number of young people (< 15 y.) and the elderly (> 64 y.) is another indicator of the aging process. Only in Baixo Vouga and Pinhal Litoral the younger population still exceeds the older. In the other regions, the number of old people is, in some cases, overwhelming. This aging process has been increasing in the past few decades, and there seems to be no sign of inversion (Fig. 8).

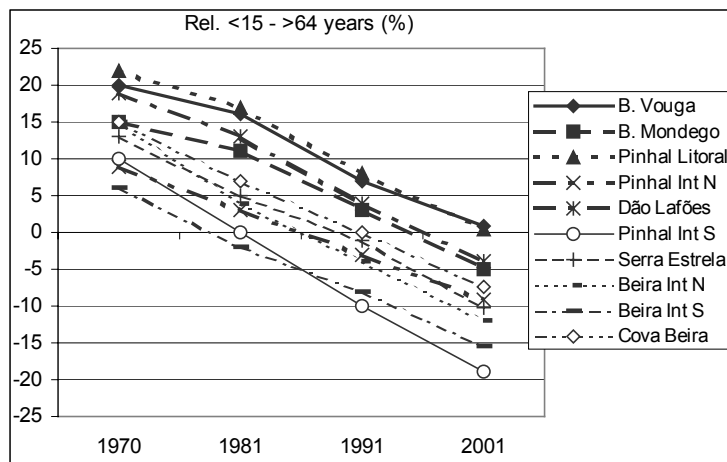


Figure 8 Relation between the young people and the elderly. (Fonte: INE)

Agricultural population

The most negative features of the general population trend becomes manifest among the agricultural population. A look at the age structure of single farmers (who are a majority) shows that in most sub-regions the group of over 65 years old dominates. In Beira Litoral and Pinhal Interior Sul, they represent more than 50%. Only Baixo Mondego, Baixo Vouga and Dão-Lafões display a balance among the three age groups over 40 (Fig. 9).

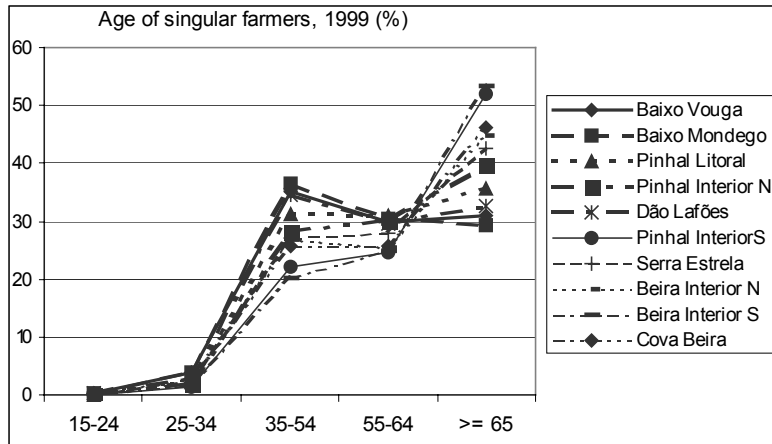


Figure 9 The age of single farmers. (Source: INE)

Another negative aspect is the very low literacy rate. Most of these farmers only attended primary school and some of them are even illiterate (almost 40% in Beira Interior) (Fig. 10).

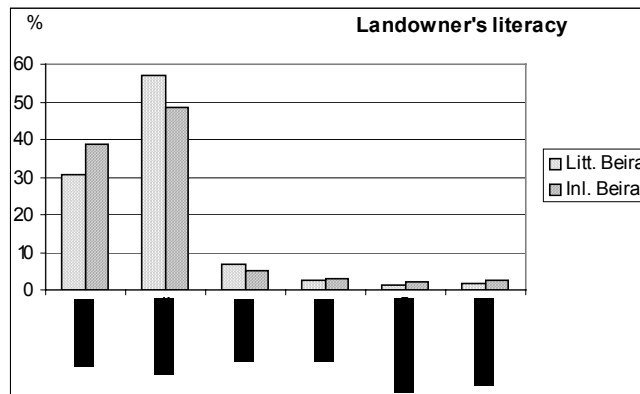


Figure 10 Landowner's literacy in coastal and inland Beiras. (Source: INE).

Their technical knowledge is therefore essentially empirical. They have learnt the farming techniques from older people, and very few have studied agriculture at the secondary or higher levels (Fig. 11).

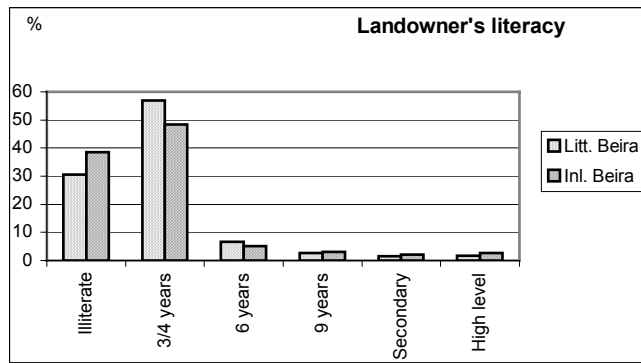


Figure 11 Agricultural technical knowledge. (Source: INE)

Changes in land use

Decrease of the cultivated area

An expected consequence of the rural population decrease was the abandonment of most cultivated lands. However, in 1989, in some of the inland sub-regions, there was actually an increase, probably due to Portugal's recent entry into the EU and the fact that some of the subsequent subsidies went to agriculture. In 1999, however, the decrease was back (Fig. 12).

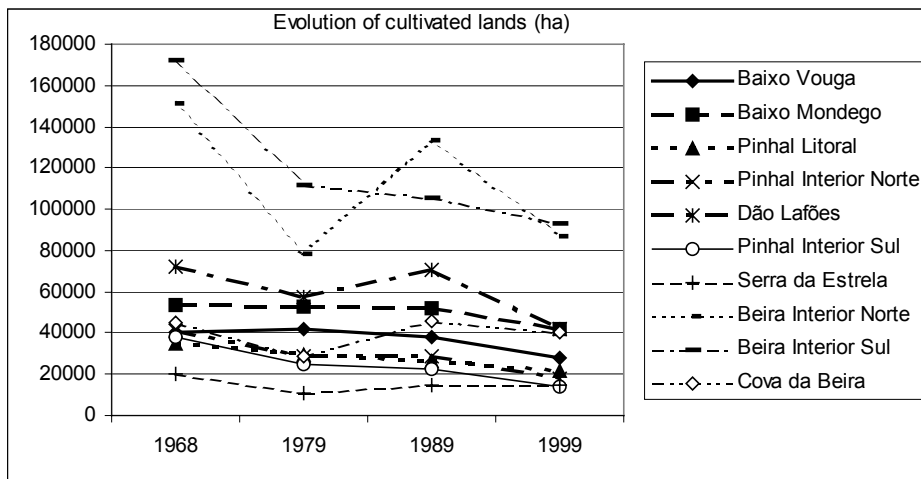


Figure 12 Evolution of cultivated lands in Central Region. (Source: INE)

Increase in meadowlands and permanent pastures

As a response to the lack of labour in the fields and the inability of the vegetable production to be competitive, the remaining farmers have moved into extensive livestock breeding, increasing the number of meadows and permanent pastures (Fig. 13). The lack of manpower forces farmers to confine their livestock to those fields by building fences.

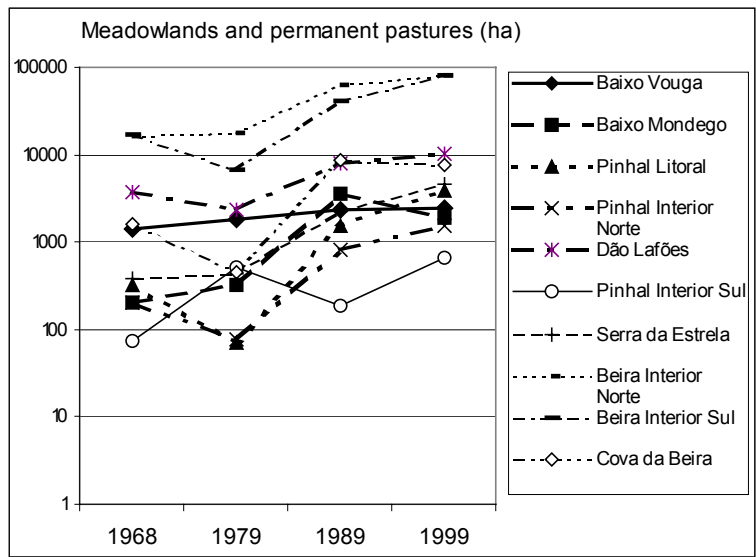


Figure 13 Meadowlands and permanent pastures in Central Region. (Source: INE)

Forests and fires

Absentee landowners with non-agricultural jobs, in particular, have used their former farmland for forestation, often with species of high-quality wood.

All over the region, but especially in areas with large forests areas, such as in the mountains, forest fires have been changing both the landscape and the regional economy, due to their frequency and intensity (Fig. 14). Studies carried out from 1980 to 2003 have shown an increase of burnt areas, despite the improvement of firefighting means and the tendency for the diminution of fires.

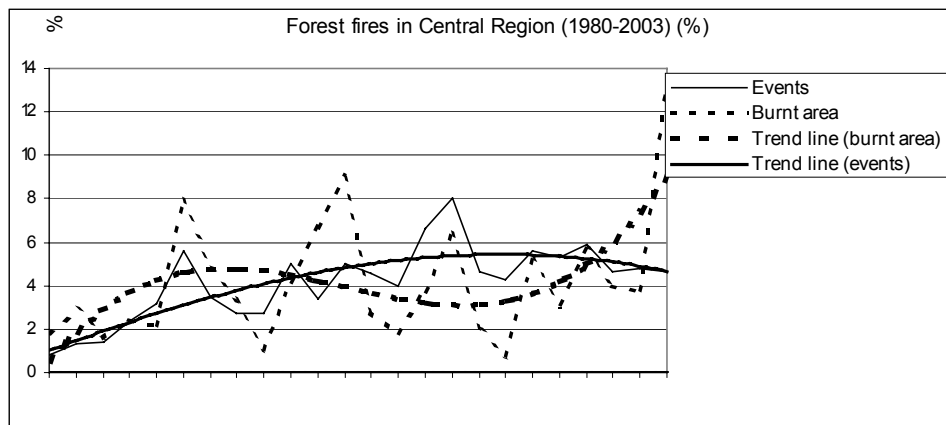


Figure 14 Evolution of forest fires in Central Region. (Source: DGF)

In little more than two decades, in some sub-regions the burnt area is either equal to or has surpassed the area of its total land surface, as has been the case of Serra da Estrela (Fig. 15). Just like this region, other mountainous sub-regions present the highest percentages of burnt areas.

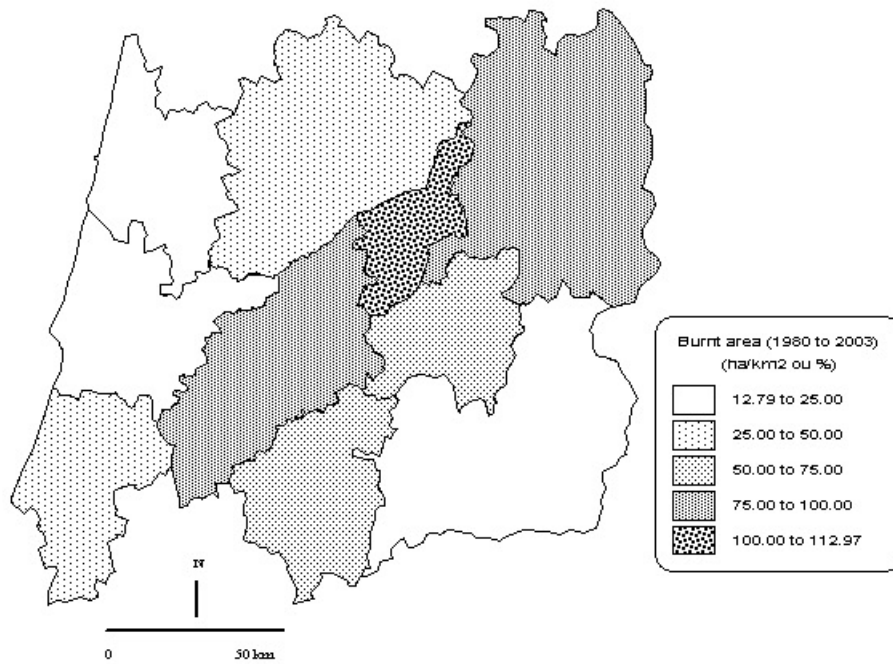


Figure 15 Burnt area in Central Region (1980-2003). (Source: DGF)

Regional examples

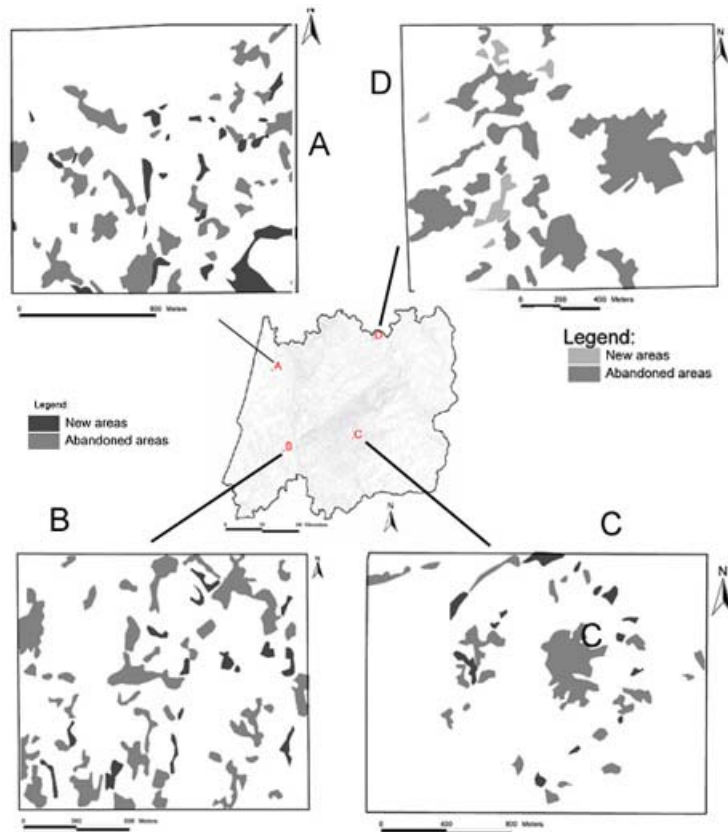


Figure 16 Regional examples chosen for analysis

Mamodeiro

Even though it is located in the more developed coastal strip, near Aveiro, with a high population density and a low unemployment rate, the cultivated area has been significantly reduced. Most of it has been taken over by housing and industry or by forestation.

Alvorge

Due to its location in the limestone hills of the coastal area, this village has been affected by its traditionally non-attractive geographical situation, water being a scarce resource. The significant decrease of people dedicated to agriculture has led to abandonment.

Ribeira de Cima

This is a village in mountains composed essentially of schist. Currently it has just above 100 inhabitants. The cultivated area has decreased and has been replaced by forests or scrubland, usually as a consequence of frequent forest fires. Obviously enough the smallest villages of the region are now deserted.

Pinheiro

This is a typical village of the inland granite plateau, very isolated and with a very old population. It is a good example to demonstrate the highest level of abandonment of cultivated areas, which were taken over by forest and especially by scrubland.

Conclusion

The four sample areas which have been chosen for this study demonstrate that in the Central Region of Portugal fields are widely abandoned. Other regions would have yielded a similar picture.

The indicators presented, and many others could have been chosen, show that this region has undergone great social changes in the past decades. These changes are not only due to the great depopulation of the rural inland zone (which includes all the sub-regions which are not directly on the coast) and the subsequent aging of the population. In the coastal region, the people do not choose agro-forestry as their main activity. If the decrease of the number of farmers, a common phenomenon in developed countries, was compensated by maintaining the cultivated fields, improving the factors of production and thus increasing productivity and income and subsequently the living pattern of the populations, such a radical transformation of the landscape would not occur, nor would the other secondary consequences.

The condition of “landscape gardener”, nowadays attributed to the traditional and the modern farmer, will hardly be developed in the depopulated sub-regions, since the remaining population is not able to invert the current tendency, either because of age or its low literacy. Only an injection of young people can attract people to the fields². But these people must be offered perspectives of economic success and access to education and culture, at least in the nearest cities (which fortunately many of them already can offer with universities and polytechnics). This economic success would also be a contribution to the end of the stereotype that the rural

² It is interesting to see that in most inland cities and towns the resident population is increasing – in the last 20 years Guarda’s population increased 9%, while other cities and towns from the same district decreased 10% in average; in Viseu and Castelo Branco the same happened (Vieira, 2003). This is yet another indicator that people are leaving the fields.

worker is poor and illiterate. This stereotype has been taking many people away from this sector of the economy.

At present, when European agriculture is controlled essentially by countries where it is well developed, and when the Portuguese government abandons agriculture, we can only remotely foresee a change in the general tendency. The consequences, just speaking in terms of the landscape, are too obvious: the abandonment of farmland leads to the increase of uncultivated areas, and these will slowly give way to natural vegetation (with shrubs and later forests), or they are afforested; the combination of forests and scrubland associated with the ever decreasing presence of people increases the risk of forest fires; these will grow in intensity and dimension, just as it happened in the beginning of this century. The rural population will thus lose one of the sources of income in the short or long term (the forests), and those who still felt some enthusiasm will definitely feel discouraged to continue. The landscape will become monotonous, since it loses its diversity and heterogeneity; more and more areas will show clear signs of soil deterioration because of erosion, and we are endangering our future and the future of our children.

Undoubtedly, if things continue the way they are, the Centre Region of Portugal, and especially the inland area, will remain totally marginal, in terms of the European patterns, even though a wide net of infrastructures has been built in the last decades, which has significantly improved accessibility to the whole region. It was thought at the time that these infrastructures would attract new investments, both from national and international sources, capable of bringing it out of its state of lethargy – but we are still waiting for that to happen!

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