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СЕЛСКИТЕ РЕГИОНИ В СЕВЕРОЗАПАДНА ПОРТУГАЛИЯ: НЯКОИ СТРАТЕГИИ ЗА СЪЖИВЯВАНЕТО ИМ

The Rural Areas in NW Portugal: Some Strategies for their Revitalization

Although over 90% of the Portuguese territory is said to be rural, or predominantly rural, the main stress lies in its landscape diversity and problems resulting from it. Thus demographic decline and the abandoned farmsteads, has to be emphasized, are factors that consequently impact on environmental, economic and social aspects.

Following the amendments to the CAP (Common Agricultural Policy), ratified in 2003, and the guidelines contained in the "National Strategic Reference Framework 2007–2013" (NRSF), what strategies likely to revitalize these rural areas are being implemented in Portugal? In view of the socio-cultural and technical profile of the farmer, and of the inadequate land use structure of the farmsteads, how do we go about implementing those guidelines? What are the challenges in the fertile areas such as those in Ribeira Lima (NW Portugal)? How do we conserve and, at the same time, stimulate these territories in a sustainable way?

There are many propositions, but in this specific case study the choice fell on the inclusion of a significant part of its rural area within the REDE NATURA. Was this the best option?

Introduction

Although more than 90% of the Portuguese territory is said to be rural, or predominantly rural, it is characterized by landscape diversity, in which tradition and modernity combine in many and varied ways to form a miscellaneous backdrop. In fact, although in 1999, date of the last agricultural census, the average size of farmsteads in Portugal was 10,4 ha, the territorial asymmetries increased, revealing a southern area with marked edaphic and water problems, and farmsteads normally exceeding 100 ha in average size, whilst the north, particularly in the northern-western area, was characterized by extremely small-sized, family-type holdings¹. This was the result of several elements, particularly

those found in nature and especially those caused by the long-lasting influence of man in these areas.

This is particularly true when we restrict the area to be studied to NW Portugal, or even the Lima valley (Fig. 1). Ribeira Lima is a typical geomorphologic area, equivalent to one of the “cradles” of Tourism in Rural Areas (TRA) in Portugal, on account of the numerous manor houses set in an environment where biodiversity, rurality, tradition, culture and a receptive social structure are combined in a perfect match.

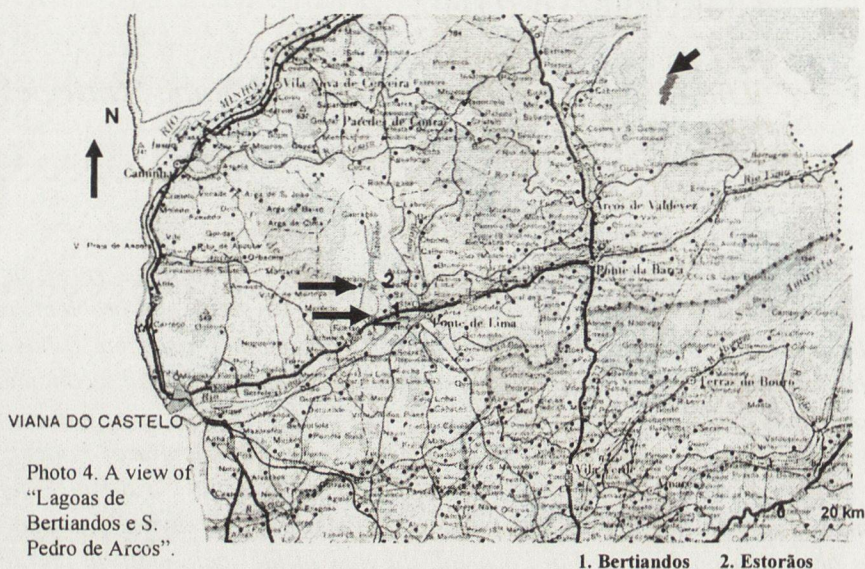


Fig. 1. The Lima Valley and the two parishes under study

Surrounded by unforgettable landscapes, the Lima valley is portrayed as a bucolic area with a wide array of greens that extends beyond a family and traditional type of agriculture, harbouring many problems. In this context, demographic decline and the abandonment of farmsteads are imperative factors that consequently impact on environmental, economic and social aspects.

In view of the variety of different problems in the Lima valley, we must also draw attention to the following specifications: what are the key justifiers, especially those of anthropic nature, particularly the prominence of historical and legal aspects? In a dynamic approach, what investments likely to minimize the existing problems were implemented over different periods? What initiatives were implemented towards sustainable development, without neglecting preservation?

These are some of the issues for which we will attempt to provide concise answers.

1. NW Portugal and Ribeira Lima: problems of rurality

The Lima valley is an extremely attractive area in the NW of Portugal, yet rather complex and diversified, revealing geomorphologic diversities. This is where we find a combination of fertile alluvial plains, that have long been used by farmers, with mountainous areas bordering them (Photos 1, 2), home to slopes and edaphic inadequacies that favour the presence of woodland and scrub; in uplands above 850 metres, herbaceous-type skeletal soils prevail, feeding the large herds of goats and sheep.

Livestock and forestry sustain the local economic structure, seconded only by small local family activities, for instance small businesses and handicrafts, and the occasional average or large sized companies which, in fact, are found on the coast (Medeiros 2006). This scenario is interrupted only by tourist investments in the form of Tourism in Rural Areas (TRA).



Source: Câmara Municipal de Ponte de Lima, 2007

Photo 1. A perspective of the Lima Valley.



Source: Câmara Municipal de Ponte de Lima, 2007

Photo 2. One of the alluvial plains of the Lima.

Despite the many problems, the agriculture and livestock sector still control the regional economic structure, although as we move from the coastal to the landlocked areas, their peculiarities change for the worse (Figueiredo 2001). This sector is characterized by having a family-based structure, low productivity, and is supported mostly by an older population with empirical training due to the very inadequate existing land use structure. Indeed, we need only analyze some of the statistics submitted by the National Statistics Institute (INE), based on the 1989 and 1999 Agricultural Census, to confirm that the situation is disheartening, wasting away extremely fertile soils², for example, in the alluvial plains of the Lima River and its main effluents.

To understand and contextualize this topic better, the approach should be at a more global scale, for example, the NW of the country, and gradually downsize it to the local scale, here represented by the Bertandos and Estorãos parishes. The method we chose, privileging the local scale, will place the area under study into a perspective of revitalization, mostly in terms of land use structure and the socio-cultural and technical profile of the farmer, the two indicators that interfere most in the area under study.

1.1. The impact of the inadequate land use structure on the regional economic structure

To understand the problems mentioned above, we need only analyze some basic indicators, for instance, the average size of farmsteads and large number of small holdings and scattered plots. The timeframe in this study covers the period until the end of the 1990s.

Indeed, in 1989, the average size of farmsteads in NW Portugal was of about 2.7 ha (Table 1, annexed), which is particularly small and of great concern when a profitable and sustainable framework is expected. Nonetheless, the scenario was of even greater concern, as more than 75% of farmsteads were under 1 ha, and in the more frail cases, about 50% were under 0.5 ha. This average size concealed asymmetries, with the result that these extremely small holdings were clustered within the urban centres or in more peripheral inland areas. The only exceptions were in municipalities with vast extensions of waste land, or in those where some sort of specialized investments were made, such as in vineyards or livestock. As discussed, in evaluating the framework noted above we can not ignore the existence of the historical-legal factor, although it is combined with other natural, economic and social factors (Pina 1989).

On the other hand, all these variables were found in the Lima valley, further magnified when moving closer to Spain. The average size of farmsteads in Ponte de Lima was 2.19 ha (Rec. Agrícola 1989, INE).

If this was a major obstacle to productivity in farmsteads, the situation was, in fact, of even greater concern, as confirmed when we analyze the extent of holdings and the scattered plots. Indeed, the area considered was attained only at the expense of a high number of dispersed plots, the average number in NW Portugal being 6.1 plots per farmstead, but reaching almost 7 to 8 plots in the Lima valley. As such, the average size of plots was in most cases less than 0.5 ha, for instance in Ponte de Lima (Table 1, annexed). Average sizes over 1.3 ha were an exception and tallied with municipalities that had invested in woodland and wasteland.

During the 1980s, there were many insufficiencies in rural areas in NW Portugal, and hence in Ribeira Lima. Nevertheless, ten years later, the first studies revealed that the situation had deteriorated, with a significant drop in the number of farmsteads, that is, more than 35% had disappeared, sometimes 50% in the areas in which the division of farmstead land was more intensified, or when they were found in more rough terrain (Table 2, annexed). The exceptions were found in the municipalities with better land structures, and those that had introduced visible restructuring work and invested in technological and technical innovations, making the best of community funds set up to this end³.

Therefore, abandonments increased considerably, although in 1999 the average size of remaining farmsteads increased to about 3.5 ha, maintaining or even increasing the extent of land division, as in the inland and peripheral municipalities, including those of Ribeira Lima. Consequently, the average size of plots was still frail, under 0.5 ha in many municipalities, despite their edaphic and climate potential.

In short, although NW Portugal, especially Ribeira Lima, boasts an attractive, potential landscape, farmsteads continue to be abandoned, thus wasting extremely fertile soils.

1.2. The social structure supporting the farming activity: some indicators

In view of the land structure described, it is hardly surprising that although in 1989, 45% to 65% of the resident population was still considered to be a farming population, for instance, in Ribeira Lima, the numbers dropped to between 25% and 35% along the coastal area, suffering from urban expansion, and in the border regions, which were more affected by the abandonment trend. Nonetheless, the numbers of farming population was lower close to the large urban centres, and less than 10% in the municipalities of the Porto metropolitan area. This trend revealed geomorphologic and land issues, and the existence of recent access ways facilitating the larger daily and seasonal flows towards the coastal areas, leaving behind an adverse farming sector, because in order to survive, people had to resort to multiple activities and other sources of income. The Lima valley was therefore in one of the most problematic areas.

Ten years later, in 1999 (Rec. Agrícola de 1999, INE), there was a clear decline in the farming population, reaching 50% or even more, especially in the municipalities with a higher rate of urban settlements. The work alternatives available to a population with an extensive cultural and technical profile allowed them to move to other sectors of activity, or, structure permitting, they could be engaged in multiple activities, with agriculture as a second option.

In the more peripheral areas, even though the farming population was significant, even the highest figures seldom exceeded 35%, revealing a family-based type of farming, traditional and with many problems.

Given this framework, it is hardly surprising that there were barely any permanent paid workers in 1989, a factor which worsened in the subsequent decade, persisting only in the more specialized vineyard and livestock areas, namely in dairy farming. The situation was so frail that even the temporary workers were able to work only occasionally, for an average 40 days per year and per farmstead. This figure dropped further in 1999. The rural areas were persistently abandoned, despite their potential and attractiveness.

At the same time, the population that stayed behind in these areas had an inadequate profile, for example, the farm workers (Table 3, annexed), mostly an older bracket with a low level of education and very basic technical training. In fact, if in 1989 21% to 30% of the farmers were over 65, more visible in the inland municipalities, in 1999 the situation deteriorated, as the population grew older, and in some cases doubled the number of those over 65. Since then, figures over 30% were quite common, reaching 40% in the more frail areas, while the number of illiterate people totalled more than 32% in the inland municipalities. Nevertheless, the more favourable results were rarely under 15%.

As such, although training and the level of education had increased, the asymmetries heightened since the improvement was felt the most in the coastal municipalities and close to the Porto metropolitan area, and less in the inland areas, with poor accessibility, extensive areas of forest and a very inadequate land use structure.

These brief introductory notes confirming the existence of many problems in the NW region must, however, be complemented with a more detailed study of the Lima

area, which has already undergone strategic intervention actions in different periods of time. Such is the case of Bertíandos, Estorãos and neighbouring parishes. We will start by analyzing the Bertíandos parish.

2. Bertíandos: a parish with a troubled farming sector

2.1. Some notes on the physical framework

Located in Ponte de Lima municipality, this parish is about 3 km from the seat of the council and 20 Km from the district capital, Viana do Castelo. It is provided with good road accesses and public transportation services.

In terms of topography, Bertíandos is in a flat-land area, with altitudes varying between 4 and 22 metres, with most of the farming land at less than 10 m in altitude. The inhabitants conquered the thick humic cambisols (Pina 1989) in an area crossed by several streams (Estorãos River and Rib^a Longa, among others), and watered their lands. They were also affected by seasonal floods, a situation that improved with the introduction of regulating dams upstream of the Lima River. In view of these characteristics, Bertíandos became a multi-potential area that could generate excellent farming production levels. Yet, this did not happen, and we simply had to question why this was the case.

2.2. The economic and social structure in Bertíandos – some indicators

To answer the previous question, we must go back to the 1970s, when a traditional livestock sector prevailed in farmsteads that scarcely exceeded 1 ha in size, dispersed over 4 to 15 plots! There were only two holdings, of a business type, over 10 ha, and this was taken advantage of by introducing new crops, such as hybrid maize and vineyards ("Vinho Verde", literally, Green wine).

In fact, the land use structure in Bertíandos was extremely inadequate, with holdings less than 1,500 m² (Pina 1989), and only a few exceeded 0.5 ha in size (Fig. 2). This situation deteriorated with the subsequent generations as the result of several factors, in particular the historical-legal factor. Indeed, as Bertíandos followed an age-old property ownership custom⁴ that survived until the second half of the 19th century, and as this type of ownership in Bertíandos covered about 85% of the forestry area in the parish, this led to the concentration of land and the continuous parcelling of land for leaseholds, as the landlord of Bertíandos was an absentee one.



Fig. 2. The land use structure in Bertandos at the 1980's.

Source: own inquire

When this right of succession to property was abolished in the 19th century, and inheritance of property was legally passed down among all heirs, it brought on a great social equality system but, as the predictable parcelling of land to the next generations was not protected, the land structure deteriorated progressively, and very small holdings increased in number. If to this situation we add the subdivision of land as the result of leaseholds, then we have the reasons that underlie the current situation. We must add, however, that, after the political revolution in 1974, the impact of leaseholds was reduced, since a significant part of the land that was previously leased was then transferred to whomever had had the right to use the property before, whereas the parcelling of land increased due to the transfer of property passed down by inheritance.

Furthermore, since the 1980s, the population declined and the younger generations invested more in activities other than farming. Consequently, fields were abandoned, and the remaining farming sector was left in the hands of an elderly population, with a low level of education. Nonetheless, the young population bracket already had some sort of training, even if other than in the farming sector, and moved to tertiary activities in Ponte de Lima or Viana do Castelo, making the best of the good access routes and the public transport system available. The parish now acquired a new function: a residential one.

The abandonment of agriculture was a fact, given that out of the 73 farmsteads still active in 1989, the numbers were down to 51 ten years later. In turn, whilst in 1989 the

population linked to the farming sector totalled 330 farmers, there were only 188 (a 43 % drop) ten years later, mostly elderly. It is symptomatic that none of the farmers had 4 years of schooling and 12 were illiterate. Furthermore, training acquired was mostly practical, and only 8 farmers depended on farming income alone (Rec. Agrícola de 1999, INE).

Of course, if we ignore the already mentioned two business farmsteads, we are left with other farms in which it was not financially feasible to invest in permanent paid workers, and the numbers of working days were cut to a minimum, particularly for women. Mechanization was insignificant, as there was only one tractor rented out to plough the lands that had not yet been abandoned. In short, the situation in Bertíandós at the beginning of the third Millennium reveals many problems, where the abandonment of the farmsteads has been on the rise.

How can these problems be minimized? What strategies can be implemented to stop the abandonment of such fertile soils, with no water issues? One of the ways was to be found in a neighbouring parish, Estorãos, in the 1960s.

3. Estorãos: the first case of land consolidation in the country

3.1. Some notes on its physical characteristics

Located in Ponte de Lima council, NW of Bertíandós, its location is hardly advantageous as it lies about 7 km from the seat of the council and 22 km from Viana do Castelo. Nevertheless, it is serviced by public transports.

It has varied topographic and edaphic features, with altitudes varying between 5 and about 770 metres, with two distinct geomorphologies: *Meia de Baixo*, covering the pasture land in Estorãos, varying from 5 to 20 metres, enclosed by the most populated locations found at an altitude of 20 to 50 metres, and *Meia de Cima*, a settlement above the 50 metre mark, with steep slopes especially above the 300 m line. At the same time, land occupation was varied, with traditional maize and beans planted in the fertile soils in *Meia de Baixo*, and, in the fields adjacent to the houses, the vineyard, olive-tree and vegetables (Pina 1989). In turn, climbing above the 500 metre mark, the skeletal soils offered barren grounds and extensive pasture land, combined with granite outcrops, with grazing being the main activity (Photo 3).



Photo 3 – A view of Meia de Cima, Estorãos.

We must add that, given the frailty of the local economic structure, the social and economic problems tended to increase, since the local economic structure was based on traditional, low productivity livestock, where surplus products were difficult to distribute. These frailties had to be overcome, and the first investment was made in the first years of the 1960s.

3.2. “Estorãos Perimeter”

As the situation of the land use structure in Estorãos was the same as in Bertandós, and both parishes were crossed by Estorãos River and were practically next to one another, several mechanisms were set in motion during the 1960s that led to the first case of land consolidation (or reallocation of land) in Portugal (Campos 1962).

When the investment in land restructuring, combined with the construction of roadways and a network of irrigation canals, was found to allow some of the striking inadequacies affecting the population of Estorãos and adjacent parishes to be overcome (Sá, S. Pedro de Arcos, Moreira do Lima), land restructuring, or land consolidation, was implemented. This test would be extended to all areas in an identical situation (Ministério da Economia, 1961/62).

Reallocation, or land consolidation, was needed since the economic structure was governed by extremely small farmsteads that combined arable land with the untilled land at greater altitudes (Ministério da Economia, 1965), and the land use structure was also very frail, as most of these farmsteads were under 2 ha in size and were scattered into several plots. Notice, for example, the characteristics of one of the farmsteads in Cerquido: formed by 27 plots, scattered over 10 different locations, each with an average size of about 396 m² (Pina 1989). As such, the productivity of independent farmsteads was hardly enough to ensure the survival of the family households, and this is why mortgages increased and people emigrated. The land was therefore reallocated, since the soil in *Meia de Baixo* was also deep and fertile, able to be irrigated, although not in the best of conditions⁵.

In accordance with Law 2116, of 1962 (Campos 1962), the “Perimeter” of the land to be reallocated was outlined, based on natural boundaries (unless the owners agreed to it, properties with improvements or houses were excluded from the perimeter), covering an area of 105 hectares (Ministério da Economia, 1965). This was published in newspapers and official sites, administrative and legal bodies were formed to coordinate all stages of implementation, all holdings were classified, and their legal situation assessed. In a subsequent phase, errors having been corrected, the “Perimeter” and lands were re-adjusted. However, farmers did not immediately agree to this action, and conflicts soon arose. To bring resistance to a halt and win over the population, some pilot-experiments were implemented, namely the adoption of more productive species, such as hybrid maize. The results were most promising.

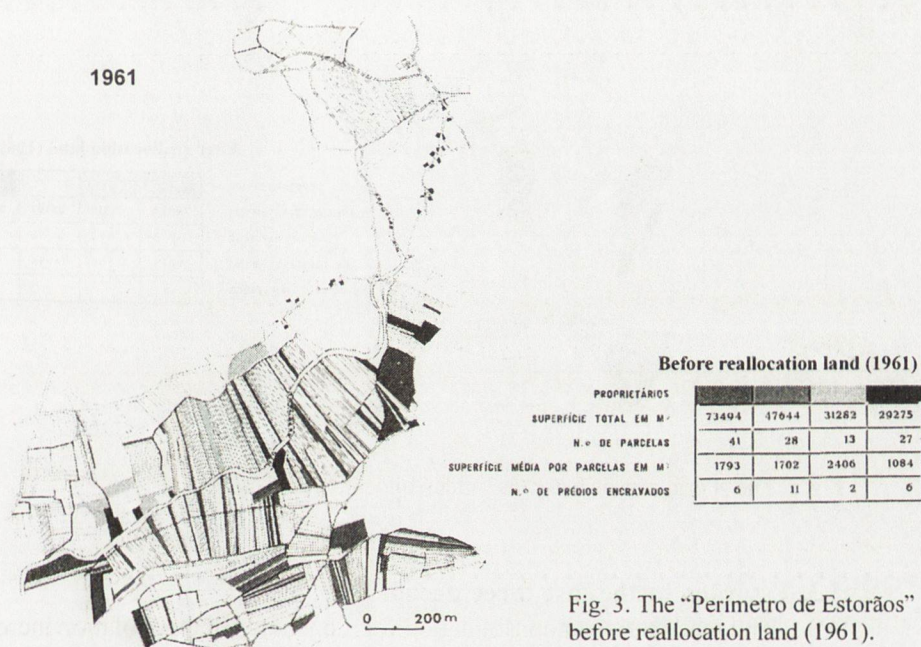


Fig. 3. The “Perímetro de Estorãos” before reallocation land (1961).

The first land reallocation experiment in Portugal was completed and, although the area covered by the “Perimeter” totalled only 5% of the farming land in Estorãos and involved less than 13% of landowners, the results were quite significant. In effect, before reallocation, 57% of the rural holdings were under 1000 m² (Figs. 3, 4), whereas after reallocation there were only 19.4% holdings with such a small size; on the other hand, in the period before reallocation only 5 farmsteads exceeded 1 hectare in size, whereas after reallocation they totalled 14. Furthermore, before reallocation most of the landowners involved owned 4 to 40 plots within the “Perimeter”, whereas after reallocation the maximum number was of 6 and limited to one single case – the owner of the largest

property totalling 7.4 ha; on the other hand, 78.6% of landowners had their land concentrated in one place only (Pina 1989). At the same time, rights of passage (walkways, water, etc.) were abolished, and several improvements made: irrigation network, electricity, public passages, a Cooperative that promoted several technical courses and literacy programmes. In short, the results were extremely positive, covering economic, social and technical aspects alike.

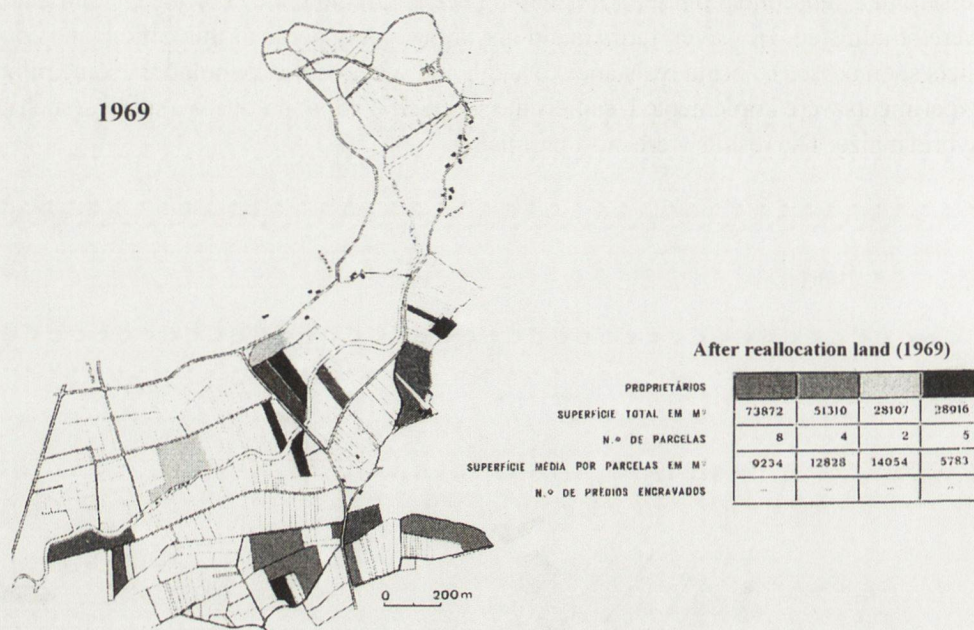


Fig. 4. The "Perímetro de Estorãos" after reallocation land (1969).

3.3. Estorãos in the last three decades

After land reallocation or consolidation was concluded, the population increased and there followed a very promising period. However, when technical and financial supports stopped flowing in, the local situation deteriorated, and the area once again faced a bleak scenario, with more farmsteads being abandoned. In effect, although the land structure was much more attractive in the area that had been consolidated, we were once again back to the land division for new generations, and holdings were once again divided with trellised vines and other partitions. Furthermore, due to the lack of maintenance works, passages and irrigation canals were practically inoperative. In 1989, there were 122 active farmsteads, whereas ten years later, there were only 93, in other words, there was a 24.8% drop. Those that continued working had an independent and frail family-based structure; the livestock sector declined, with 2,000 sheep and goats registered at

the end of the 1970s, whereas in 1999 the number totalled only 446 (Rec. Agrícola 1999, INE).

Similarly, from the 1980s onwards the population of Estorãos also declined, with 970 inhabitants registered in 1970, and only 513 in 2001. Only the number of buildings increased, confirming the strengthening of the residential function of the place among a young and active population that worked in Viana do Castelo or Ponte de Lima. The functional change seen in Bertiandos was repeated in Estorãos.

The farming population also declined, as in 1989 there were still 442 inhabitants, but in 1999 this number had dropped to 288, mostly old people, since in 1999 more than 40% were over 65, and 21% were still illiterate. On the other hand, technical training was basically practical, in view of the characteristics of farmsteads, and only the older people worked on a fulltime basis, although most of their income came from social welfare.

How can these areas be vitalized, minimizing the risk of abandonment and its environmental, economic and social consequences? The resources provided by the CSF III before, and since 2007, based on the “National Strategic Reference Framework 2007-2013”, are many. Nevertheless, most farmers ignore that this support exists, and the lack of associative actions restricts access to them. How can these areas be stimulated and revitalized in a sustainable way?

4. The current scenario: the investment in REDE NATURA and multifunctionality

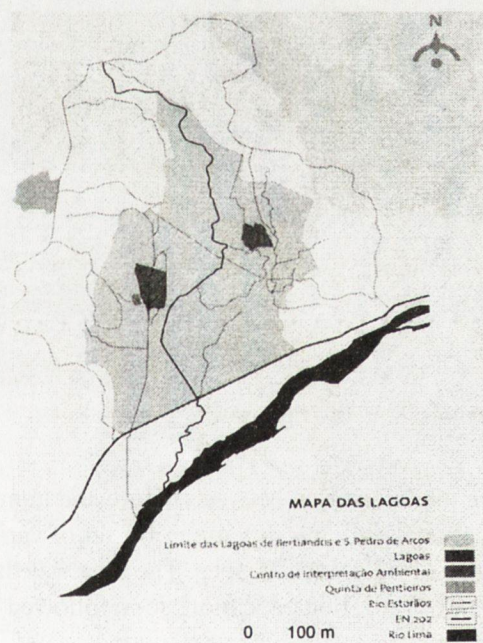


Fig. 5. The “Lagoas de Bertiandos e S. Pedro de Arcos”, 2006.

As it was likely impossible to overcome the frailties mentioned previously, the focus of investments in the area fell on the multifunctionality of the landscape, with 3 TRA units already in operation in Estorãos. Yet, the key investment was the REDE NATURA, establishing the “Lagoas de Bertíandos e S. Pedro de Arcos” (Fig. 5). This initiative covered part of six adjacent parishes (Bertiandos, S. Pedro de Arcos, Moreira do Lima, Estorãos, Sá and Fontão), with the preservation of numerous traces of human presence from remote times, and remarkable fauna and flora.

Located within the Estorãos river basin, this area lies within the REDE NATURA and covers a total of 350 ha (Photo 4). It was created by Law 19/2000, dated 11 December (Oliveira 2004) and corresponds to a protected area around two lagoons and the margins of Estorãos River, an area subject to flooding, with a predominant indigenous type of vegetation. Since land homogeneity is inexistent, here we have the “tapadas” (forest reserves), where the lagoons are found (one permanently flooded and the other subject to seasonal flooding) and Riparian vegetation which, in turn, is surrounded by grazing land and some shrubs and scattered trees in the “veigas” (pasture grounds by a riverside), used for traditional agriculture.



Photo 4. A view of “Lagoas de Bertíandos e S. Pedro de Arcos”.

This area is, therefore, a place where the interaction between nature and human activity has offered tremendous potential, allowing the preservation of a set of varied *habitats*, with an intense biodiversity and most original landscapes. The area was thus transformed into a place of environmental and vitalization education, soon followed by other initiatives, namely in tourism and catering.

Was this the best option? Whenever abandonment prevails, even in very fertile areas, such as the cases under study, why are they invariably included in REDE NATURA, ignoring other options? In this context, only legal grounds will prevent the Portuguese territory from being transformed mostly into REDE NATURA areas, or similar programmes, while extremely fertile areas are wasted away and farming production is gradually declining. But it must be said that, if no interventions were to be made, abandonment and social and environmental deterioration would settle in these attractive and fertile areas! As such, how can the best advantage be taken from the funds of the National Strategic Reference Framework, consolidated by PRODER? Could this be above all else a question of governance?

ANNEXE

Table 1. Some basic indicators of the land structure at NW of Portugal in 1989

Municipalities	1989					
	SAU			Average size of SAU farmstead (ha)	Average n° plots/farmstead	Average size of plots (ha)
	N° farms	Área (ha)	N° blocos			
N3 - Minho-Lima	28600	87076,71	175641	3,04	6,1	0,50
Arcos de Valdevez	4541	9799,31	25779	2,16	5,7	0,38
Caminha	1131	4096,73	8586	3,62	7,6	0,48
Melgaço	2522	16975,14	13464	6,73	5,3	1,26
Monção	3678	11776,44	25714	3,20	7,0	0,46
Paredes de Coura	1961	8018,88	12221	4,09	6,2	0,66
Ponte da Barca	1711	6256,29	14850	3,66	8,7	0,42
Ponte de Lima	5764	12596,83	26639	2,19	4,6	0,47
Valença	1345	3117,98	10678	2,32	7,9	0,29
Viana do Castelo	4929	10741,49	30675	2,18	6,2	0,35
Vila Nova de Cerveira	1018	3697,62	7035	3,63	6,9	0,53
N3 - Cávado	18031	43718,78	69626	2,42	3,9	0,63
Amares	1508	3513,23	3147	2,33	2,1	1,12
Barcelos	6520	15540,14	24997	2,38	3,8	0,62
Braga	2408	6895,17	4982	2,86	2,1	1,38
Esposende	2390	3725,98	13515	1,56	5,7	0,28
Terras de Bouro	1122	4619,74	7656	4,12	6,8	0,60
Vila Verde	4083	9424,52	15329	2,31	3,8	0,61
N3 - Ave	14597	43108,91	38525	2,95	2,6	1,12
Fafe	2807	6967,32	8319	2,48	3,0	0,84
Guimarães	3224	8954,46	5655	2,78	1,8	1,58
Póvoa de Lanhoso	1868	5528,39	4642	2,96	2,5	1,19
Vieira do Minho	1950	7626,58	7963	3,91	4,1	0,96
Vila Nova de Famalicão	2567	7933,42	6081	3,09	2,4	1,30
Vizela	364	746,84	536	2,05	1,5	1,39
Santo Tirso	1250	3351,94	2806	2,68	2,2	1,19
Trofa	567	1999,96	2523	3,53	4,4	0,79
N3 - Grande Porto	7948	21630,59	28154	2,72	3,5	0,77
Espinho	74	112,11	250	1,52	3,4	0,45
Gondomar	1292	2745,17	4063	2,12	3,1	0,68
Maia	728	2573,47	2625	3,53	3,6	0,98

Matosinhos	469	1662,74	1664	3,55	3,5	1,00
Porto	-	-	-	-	-	-
Póvoa de Varzim	1975	3893,78	7525	1,97	3,8	0,52
Valongo	556	1339,08	1812	2,41	3,3	0,74
Vila do Conde	1431	6757,73	6416	4,72	4,5	1,05
Vila Nova de Gaia	1423	2546,51	3799	1,79	2,7	0,67
N3 - Tâmega	33147	80664,68	99001	2,43	3,0	0,81
Castelo de Paiva	1119	1915,39	2175	1,71	1,9	0,88
Cabeceiras de Basto	2144	9212,22	5733	4,30	2,7	1,61
Celorico de Basto	2705	5126,18	4369	1,90	1,6	1,17
Amarante	3590	7978,3	6762	2,22	1,9	1,18
Baião	2874	5254,92	6616	1,83	2,3	0,79
Felgueiras	2132	4553,54	2919	2,14	1,4	1,56
Lousada	1350	3369,03	2812	2,50	2,1	1,20
Marco de Canaveses	2775	5404,69	4662	1,95	1,7	1,16
Paços de Ferreira	1203	2145,58	2776	1,78	2,3	0,77
Paredes	2307	4540,15	6874	1,97	3,0	0,66
Penafiel	3228	6231,14	8109	1,93	2,5	0,77
Mondim de Basto	1066	6646,04	5296	6,23	5,0	1,25
Ribeira de Pena	1423	3828,28	5146	2,69	3,6	0,74

Fonte: Recenseamento Agrícola de 1989, INE

Table 2. Some basic indicators of the land structure at NW of Portugal in 1999.

Municipalities	1999					
	SAU			Average size of SAU farmstead (ha)	Average n° plots/farmstead	Average size of plots (ha)
	N° farms	Área (ha)	N° blocos			
N3 - Minho-Lima	16695	68274,97	130038	4,09	7,8	0,53
Arcos de Valdevez	3075	16675,31	21773	5,42	7,1	0,77
Caminha	543	2244,5	5786	4,13	10,7	0,39
Melgaço	1355	6296,32	13567	4,65	10,0	0,46
Monção	2206	7010,3	19171	3,18	8,7	0,37
Paredes de Coura	1151	4370,98	9311	3,80	8,1	0,47
Ponte da Barca	1119	10783,96	14429	9,64	12,9	0,75
Ponte de Lima	3713	10732,47	20542	2,89	5,5	0,52
Valença	774	2087,61	5386	2,70	7,0	0,39
Viana do Castelo	2382	7110,15	17182	2,98	7,2	0,41
Vila Nova de Cerveira	377	963,37	2891	2,56	7,7	0,33
N3 - Cávado	11412	36368,41	53350	3,19	4,7	0,68
Amares	903	2128,08	2297	2,36	2,5	0,93
Barcelos	4011	12234,72	19611	3,05	4,9	0,62
Braga	1739	5049,95	3948	2,90	2,3	1,28
Esposende	1320	2621,73	9420	1,99	7,1	0,28
Terras de Bouro	750	8464,33	6648	11,29	8,9	1,27
Vila Verde	2689	5869,6	11426	2,18	4,2	0,51
N3 - Ave	9112	29021,9	25787	3,19	2,8	1,13
Fafe	2021	4676,67	6832	2,31	3,4	0,68
Guimarães	1773	5486,01	3152	3,09	1,8	1,74
Póvoa de Lanhoso	1050	2790,1	2967	2,66	2,8	0,94
Vieira do Minho	1193	4907,61	4005	4,11	3,4	1,23
Vila Nova de Famalicão	1722	6379,84	4284	3,70	2,5	1,49
Vizela	205	530,85	310	2,59	1,5	1,71

Santo Tirso	813	2659,62	2214	3,27	2,7	1,20
Trofa	335	1591,2	2023	4,75	6,0	0,79
N3 - Grande Porto	4585	16153,51	19187	3,52	4,2	0,84
Espinho	35	53,46	111	1,53	3,2	0,48
Gondomar	778	1562,52	2605	2,01	3,3	0,60
Maia	405	1776,42	1793	4,39	4,4	0,99
Matosinhos	293	1225,84	1526	4,18	5,2	0,80
Porto	-	-	-	-	-	-
Póvoa de Varzim	1309	3386,57	5317	2,59	4,1	0,64
Valongo	304	776,9	1328	2,56	4,4	0,59
Vila do Conde	871	6039,18	5102	6,93	5,9	1,18
Vila Nova de Gaia	590	1332,62	1405	2,26	2,4	0,95
N3 - Tâmega	20483	56562,24	61941	2,76	3,0	0,91
Castelo de Paiva	751	1197,17	1407	1,59	1,9	0,85
Cabeceiras de Basto	1264	5895,55	3469	4,66	2,7	1,70
Celorico de Basto	1779	3652,81	3464	2,05	1,9	1,05
Amarante	2210	5786,95	4985	2,62	2,3	1,16
Baião	1910	3929,93	4685	2,06	2,5	0,84
Felgueiras	1467	3686,99	2724	2,51	1,9	1,35
Lousada	954	2848,95	2042	2,99	2,1	1,40
Marco de Canaveses	1783	4169,61	3060	2,34	1,7	1,36
Paços de Ferreira	605	1367,44	1739	2,26	2,9	0,79
Paredes	1183	2480,29	3767	2,10	3,2	0,66
Penafiel	1900	3920,49	4788	2,06	2,5	0,82
Mondim de Basto	796	5390,42	5057	6,77	6,4	1,07
Ribeira de Pena	873	3215,22	4559	3,68	5,2	0,71

Fonte: Recenseamento Agrícola de 1999, INE

Table 3. Evolution of the profile of the farmers (education and age) at the NW of Portugal (1989-1999).

Municipalities	Farmers		Farmers >65anos				Farmers illiterate			
	1989		1999		1989		1999		1989	
	N°		N°		N°		N°		N°	
	farmers	farmers	farmers	%	farmers	%	farmers	%	farmers	%
N3 - Minho-Lima	26493	15527	7335	27,7	5303	34,2	6181	23,3	2337	15,1
Arcos de Valdevez	4202	2821	1360	32,4	1105	39,2	1417	33,7	630	22,3
Caminha	1047	498	280	26,7	142	28,5	177	16,9	48	9,6
Melgaço	2240	1252	717	32,0	481	38,4	490	21,9	156	12,5
Monção	3437	2020	914	26,6	693	34,3	682	19,8	199	9,9
Paredes de Coura	1892	1019	540	28,5	377	37,0	616	32,6	288	28,3
Ponte da Barca	1567	1076	447	28,5	352	32,7	483	30,8	212	19,7
Ponte de Lima	5507	3551	1172	21,3	1007	28,4	1156	21,0	460	13,0
Valença	1248	726	341	27,3	241	33,2	232	18,6	89	12,3
Viana do Castelo	4407	2217	1286	29,2	799	36,0	703	16,0	214	9,7
Vila Nova de Cerveira	946	347	278	29,4	106	30,5	225	23,8	41	11,8
N3 - Cávado	17094	11006	4145	24,2	3665	33,3	3235	18,9	1388	12,6
Amares	1344	876	462	34,4	334	38,1	309	23,0	120	13,7
Barcelos	6209	3855	1329	21,4	1188	30,8	881	14,2	338	8,8
Braga	2291	1672	600	26,2	685	41,0	498	21,7	278	16,6
Esposende	2209	1291	542	24,5	395	30,6	313	14,2	100	7,7
Terras de Bouro	1086	688	324	29,8	242	35,2	249	22,9	107	15,6
Vila Verde	3955	2624	888	22,5	821	31,3	985	24,9	445	17,0

N3 - Ave	14093	8817	3613	25,6	3259	37,0	3736	26,5	1595	18,1
Fafe	2714	1988	754	27,8	749	37,7	941	34,7	503	25,3
Guimarães	3140	1690	726	23,1	621	36,7	1043	33,2	403	23,8
Póvoa de Lanhoso	1851	1022	502	27,1	371	36,3	557	30,1	211	20,6
Vieira do Minho	1876	1157	544	29,0	411	35,5	442	23,6	156	13,5
Vila Nova de Famalicão	2420	1662	582	24,0	609	36,6	318	13,1	129	7,8
Vizela	360	195	79	21,9	58	29,7	147	40,8	58	29,7
Santo Tirso	1172	776	309	26,4	353	45,5	246	21,0	118	15,2
Trofa	560	327	117	20,9	87	26,6	42	7,5	17	5,2
N3 - Grande Porto	7506	4349	1734	23,1	1300	29,9	980	13,1	290	6,7
Espinho	73	33	25	34,2	15	45,5	9	12,3	4	12,1
Gondomar	1223	764	358	29,3	316	41,4	182	14,9	64	8,4
Maia	663	389	193	29,1	130	33,4	76	11,5	14	3,6
Matosinhos	451	278	121	26,8	109	39,2	49	10,9	20	7,2
Porto	-	-	-	-	-	-	-	-	-	-
Póvoa de Varzim	1886	1219	231	12,2	218	17,9	223	11,8	83	6,8
Valongo	504	292	94	18,7	95	32,5	72	14,3	20	6,8
Vila do Conde	1383	821	257	18,6	165	20,1	135	9,8	33	4,0
Vila Nova de Gaia	1323	553	455	34,4	252	45,6	234	17,7	52	9,4
N3 - Tâmega	31730	19535	7413	23,4	6647	34,0	9301	29,3	4096	21,0
Castelo de Paiva	1074	739	224	20,9	219	29,6	203	18,9	104	14,1
Cabeceiras de Basto	2082	1230	560	26,9	454	36,9	639	30,7	290	23,6
Celorico de Basto	2594	1705	771	29,7	616	36,1	857	33,0	403	23,6
Amarante	3424	2079	693	20,2	729	35,1	1052	30,7	473	22,8
Baião	2659	1823	702	26,4	673	36,9	898	33,8	410	22,5
Felgueiras	2101	1404	460	21,9	468	33,3	627	29,8	275	19,6
Lousada	1298	930	271	20,9	307	33,0	318	24,5	160	17,2
Marco de Canaveses	2584	1620	529	20,5	571	35,2	770	29,8	399	24,6
Paços de Ferreira	1180	584	298	25,3	242	41,4	285	24,2	90	15,4
Paredes	2151	1139	384	17,9	358	31,4	449	20,9	119	10,4
Penafiel	3163	1766	606	19,2	572	32,4	821	26,0	343	19,4
Mondim de Basto	1068	775	217	20,3	211	27,2	367	34,4	162	20,9
Ribeira de Pena	1385	821	415	30,0	320	39,0	481	34,7	218	26,6

Source: Recenseamentos Agrícolas
de 1989 e 1999, INE

FOOTNOTES

¹ It is usual to find parishes in which over 65% of farmsteads are under a hectare in area, which, despite their size, are further sub-divided into 4 to 10 dispersed plots. Furthermore, access routes are normally inadequate and land is kept mostly due to the sentimental attachment of their owners, as they have inherited it from their ancestors. Nonetheless, abandonment prevails.

² Here the predominant soils are the cambisols - humic, granitic (Carta de Solos de Portugal, 1998), thick, rich in humus, but poor in phosphoric acid and lime. These soils are permeable, easily workable, of the A type, according to the "Esboço da Carta Geral de Ordenamento Agrário" (Draft of the General Agriculture Regional Planning), SROA, and equivalent to soils likely to modernize the agricultural sector and promote high productivity.

³ For example, those registered in the II Community Support Framework (II CSF) or, at a later date, in the III CSF, such as the AGRO, AGRIS, RURIS and VITIS programmes and, post-2007, PRODER.

⁴ A type of ownership or *morgadio*, i.e., the ownership of normally extensive property, belonging to the landlord. It could not be divided nor sold, and would be handed down a family, inherited by the oldest son, favouring the direct line of male descendants.

⁵ Farmers had to use the “poças”, man-made ruddy water holes, found along existing water lines (Pina, 1989).

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