

What is happening in Rural Marginal areas in Europe?

- Alcoutim, an example in Southern Portugal

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Introduction

The concept of rural marginal areas in Europe has been largely discussed since the middle of the eighties, when it became clear that agricultural production in Europe was surpassing the market demand and that the necessary production tended to concentrate in the areas where it was most profitable, leading other areas to other uses. There is still no common definition and eventually it is impossible to have one: the process of marginalisation can vary between reduction of some activities to total withdrawal of all agricultural use, or even to total abandonment; and it can also vary in scale, from field or parcel to regional marginalisation. How the process develops is dependent on how the economic, social, cultural and political forces relate to each other (Bethe and Bolsius, 1995; Baldock *et al*, 1996).

This concept has been used with different meanings, and in different contexts, scientifically and technical or political (Pinto-Correia and Munk Sørensen, 1995). A general classification of rural marginal areas in Europe is thus difficult to achieve, but there are nevertheless areas, which clearly present marginal characteristics, both concerning agriculture and the socio-economic pattern, being the two aspects most often coincident.

The area of Alcoutim is one of these areas: located in the north-eastern part of the Algarve, in Southern Portugal, it is a peripheral area, far from urban centres and the most dynamic areas of the coast. Since the sixties, the area registers an accentuated depopulation trend, strengthening the lack of economic dynamism and leading to changing in land use, often to the abandonment of the land.

This paper intends to present and discuss the causes and consequences of the land use changes occurring in the area, based in the information from a case-study located in the municipality of Alcoutim. This study has been developed under an European research project regarding Belgium, Denmark and Portugal, "Monitoring and Managing Changes in Rural Marginal Areas: a comparative research" (Lourenço *et al*, 1997).

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Methodological approach

In this study, a comparative analysis has been made of the processes of change in the rural areas with problems of marginalisation, in the North, the Centre and the Mediterranean region of the European Union. Since farmers and landowners are the main users of the land, those who take decisions concerning the land, they are the main actors in the changes occurring (Anosike and Coughenour, 1990; Jacobsen *et al*, 1994; Marsden *et al*, 1993). Therefore, this study is based in the statement that, in order to understand and foresee trends in land use changes, it is necessary to understand the farmers and landowners' decision making and the complexity of factors affecting them. The analysis of the changes occurring in land use and in the landscape has been combined with a detailed analysis of the farmers and the farm unit, both the factors connected with the family and succession, as well as the farm structure, factors connected with the socio-economic context and the agricultural policies (Lourenço *et al*, 1997).

The analysis has been based in case studies, different areas selected within the regions considered: Western Jutland in Denmark, Wallonia in Belgium and Alentejo and Algarve, in Portugal. The choice of the regions to be considered as well as the delimitation of the case studies resulted from the articulation of geographic and socio-economic criteria. The aim was to consider regions that, in terms of the analysis of indexes shown in official statistics, presented demographic, economic and socio-economic characteristics that revealed a process of marginalisation. The case studies should be representative of the greatest possible diversity within the region considered, and they should be large enough to include within their limits 50 or more farm units.

Within the case studies, the land use and the landscape evolution during the last decades has been analysed, and the actual trends of change have been identified. No detailed analysis of ecological consequences of change has been made, but all changes in the landscape structure and in the land cover types (type of use and species associations) have been registered. Changes in farm structure and exploitation pattern have also been identified. Furthermore, all farm units have been considered, and all farmers interviewed in a first phase (concerning him and his family, the farm unit, the production system, and his perspectives and attitudes), being some of them interviewed again in a second phase (concerning policy impacts and the use of different policy measures). According to the information collected, a farm typology has been constructed, and afterwards analysed in combination with the changes occurring in the land use and in the farm structure.

Marginalisation in Southern Portugal

In Portugal, the analysis was centred in the South, the part of the country with clear and specific Mediterranean characteristics. The Alentejo region has been considered, and a case study has also been selected in the transition to the Algarve region, located in the hilly area of NE Algarve, just by the border with Alentejo. This case study has been considered due to its extreme characteristics of marginal area. In Alentejo, the two case studies selected are in Redondo, in the central eastern part of the region, and Abela, in Santiago do Cacém, close to the littoral (Fig.1).

In Southern Portugal, the climate is clearly Mediterranean, with mild winters and warm and dry summers. The rain is concentrated from November to March, but there are great irregularities in the yearly rainfall, and important downpours can occur in the spring and autumn. The geology is dominated by a huge peneplain, where small ranges of hills rise up (hard rocks), as the Serra de

Grândola, Serra do Cercal and Serra de Ossa. The soils are generally little developed, stony and closely related to the parent rock, with low nutrient content and low water storage capacity.

Fig. 1
Situation of the areas studied



Source: Lourenço et al, 1997.

Alentejo, with a low population density (average 22 hab/km²) is dominated by large and very large holdings (20 to 200 ha and over 200 ha), being the land of each farm unit concentrated in few blocs. The dominant use of the land is an agro-silvo pastoral system, the *montado*, where the open tree cover (mainly holm and cork oaks), in changing densities, is combined with the use of the soil, in a rotation of grazing, cultivation and fallow (Pinto-Correia, 1993). Olive groves, especially in the surrounding of villages and farm buildings, are also frequent, and here the under cover is mostly used for grazing.

These systems have been adapted to the natural restrictions without severe or permanent deterioration of the integrated ecosystem; domesticated plants and animals have partially replaced their natural competitors, and their biological productivity is channelled into economic goods with none or very low inputs of chemical fertilisers and pesticides (Naveh and Lieberman, 1994). According to Bignal and McCracken (1996), these low intensity farmland types include more than 50% of the most valued biomes in Europe. The *montado* combines different Mediterranean vegetation species in changing densities and associations, supporting a high diversity of wild fauna (Bernaldez, 1991;

Palma *et al*, 1985). As associated activities, the *montado* is interesting for the development of hunting, honey production, or tourism, being highly appreciated for its scenic value (Bernaldez and Gallardo, 1989).

Despite their high value, these traditional Mediterranean land use systems are actually under stress, undergoing extensification and abandonment, or intensification, due to a combination of economic, socio-cultural and demographic reasons (Naveh and Lieberman, 1994).

In Southern Portugal, the first contributions to the decay of the *montado* were registered decades ago: in the late 30s started a long protectionist wheat campaign which resulted in the expansion of cereal cultivation in Alentejo; soils of too low quality have been cultivated, resulting in their exhaustion and accelerated erosion. The tree density has often been reduced, in order to facilitate cultivation. The African swine fever, which spread in Portugal during the sixties, was also damaging for the *montado*, since the most common livestock in these systems was an indigenous pig breed, the Iberian black pig. In the last decades, essays of intensification and the increased mechanisation of the soil work have failed to improve production, and have further eroded the soils and damaged the tree cover, impeding at the same time the natural regeneration of the oaks (Balabanian, 1984; Pinto-Correia, 1993). During the 70s and 80s large plantations of Eucalyptus have replaced areas of *montado*, a fast growth species used for timber production.

In the study areas considered in Alentejo, the area of Redondo (8966 ha) and the one of Abela (2413 ha), the land use is composed mainly of cork and holm oaks *montados*, but also of open fields, olive groves and vineyards. In Abela, the tree cover occupies a relatively larger area than in Redondo (80,5% in Abela and 75% in Redondo); in this last area, there are more open fields (13% of the total), as well as more vines (3,3%) and more olive groves (8,1%). Vegetable gardens appear on both areas, around the villages and some farm buildings (Lourenço *et al*, 1997).

Since the sixties, the major land use change on both areas has been the reduction of the area of cultures, on rotation with pastures and fallow. There is an extensification trend: areas which were regularly cultivated with cereals for grain are progressively only used for pastures, mostly natural. In the natural pastures there may develop a dispersed shrub, depending of the livestock charge. Cultivation may occur for the improvement of the natural pastures, or for the production of fodder.

In many holdings the most important production, besides the cork, is actually the livestock. In a period of uncertainty concerning the market and the future of agriculture, the strategy of most farmers aims at the lowest possible production costs, and no investment - therefore, the greatest possible area of arable land is used for pasture, or for the production of fodder for the livestock of the holding.

In the areas of cork oak, and where the tree density is higher, farmers may chose to concentrate their benefits only on the cork: the shrub may then develop for a few years, since it is a support in the fixing of nutrients in the soil and it allows the growing of young trees for natural regeneration. But nevertheless, areas with uncontrolled shrub development are rare, and concentrated in patches of high tree density.

On both case-study areas there are no signs of abandonment; even if there is a process of extensification, the areas identified as abandoned for production are very small. If there is a process of marginalisation affecting those areas, it is expressed by the extensification trends detected. Farmers are uncertain about the future, and they prefer not to invest, but they maintain their exploitation with extensive livestock production and use of land. This extensification may lead to a new balance in these types of systems, where cultivation of cereals is excluded, but where the soil use is maintained

together with the exploitation of the tree cover. From an ecological point of view, no studies have been made in the areas considered, and it is uncertain whether extensification, if grazing is maintained, leads to a diminution or an increase in biodiversity. From the landscape perspective, there is a loss in heterogeneity, since cultivated patches are reduced and natural pastures in a more homogeneous pattern occupy the soil cover.

But is it really adequate to refer to marginalisation here? These areas may be marginal in relation to the socio-economic development, but in relation to agriculture it is more difficult to state this condition. There is an extensification of land use, but it may lead to a new balance, eventually more adequate to the nature constraints of the region. And the large average size of the farm units is adapted to an extensive use; these units are still profitable, especially with the support of different CAP measures.

Only small and medium farm units face more problems, since the extensive agro-system doesn't bring enough output to maintain the farm system. The solution for these farmers would be to acquire more land, but it is difficult to them to support investments in land, especially when farmland prices are too high, due to the general rigidity of the land market.

Alcoutim and the study area of Vaqueiros

The study area of Vaqueiros (996 ha) is located in the municipality of Alcoutim, in the North-eastern Algarve, along the border with Alentejo. It is an inland region, isolated due to difficult access and bad transport facilities; it is a region of irregular topography and poor soils with an old and scattered population. Vaqueiros is located in the Western side of the Serra do Caldeirão, in the valley of the Odeleite stream (a tributary off the right bank of the Guadiana River), an area characterised by a row of hills with rounded summits whose altitudes vary between 260 and 300m, with steep slopes (>35%).

Concerning the population, there has been a constant decrease since the fifties, caused mainly by emigration towards the coast, urban centres and other European countries. In 1990, the average density for the municipality was 10 hab/km². The level of education is very low, with 30% illiteracy rate, and only 16% with more than the basic school level. Reflecting the economic stagnation of the region, the primary sector is still predominant, with almost 40% of the active population.

In the case-study, as well as in the surrounding area, the population is concentrated in small hamlets where only a few families live; both asphalt roads and electricity only arrived here during the eighties. The most basic services, public or private, only exist in Vaqueiros, or in the municipality headquarters in Alcoutim; the closest hospital is in Faro, in the coast. Infrastructures are deficient and transport facilities reduced, contributing to the isolation of the region. There is no railway and bus connections have a low frequency.

The soils are poor and close to the parent rock (schists and greywackes): in the study area of Vaqueiros the totality of the soil is classified in the lowest class for the production of cereals (class E). The bottom of the valleys have better soils, but they are subject to strong water erosion in periods of heavy rains: in the winter of 1989 the largest valley in the case-study, the valley of the Ribeira de Odeleite, lost great part of its arable soil during a period of torrential rain.

The difficulties resulting from the low quality of the soils and hard climate are underlined by the farm structure, with small units spread out in several separated parcels. In the municipality of Alcoutim, the majority of the holdings cover 1 to 5 ha or 5 to 20 ha: 70% of the farm units considered have less than 10 ha, and 50% less than 5 ha; holdings with more than 50ha are here very large holdings, but they

represent only 3,3% of the total number. Furthermore, the average number of different plots in each single holding is 11.

Rural development supporting measures in this region have recently aimed at creating associations and co-operatives, not only within the agricultural sector but also concerning tourism and hunting. Nevertheless, most farmers still work alone with traditional methods, making very modest incomes, with no prospects of future improvements or alternatives.

Land use changes

The actual land use in Vaqueiros is dominated by open fields covered with shrub in different densities (over 60% of the total area), and by recent plantations of trees, both cork and holm oaks and pine trees (almost 30% of the total area).

It is unclear whether in this region (including the Alentejo area surrounding Mértola) there has been a tree cover which has been destroyed due to the needs of wood for timber, mainly for the Guadiana boats, or if trees have always been rare.

Anyhow, by the end of the fifties the tree cover was lacking. According to land cover cartography of 1957, at that time 90 % of the land in this case study was used in a rotation of yearly crops, like wheat, barley, rye and oats, and fallow/pastures. The remaining area was mainly occupied by permanent cultures, as vineyards, olive and almond groves, and vegetable gardens.

This land use pattern was still the result of the protectionist campaign for the improvement of cereal production in Portugal, known as Wheat Campaign, which started in 1929. Direct support to wheat prices was established, with a state controlled federation of wheat growers as sole buyer. This policy led to intensification experiments aimed at emphasising crop cultivation, and the limitations imposed by the soil types were not respected: the resting periods, when the land should be left fallow, were reduced, and even soils of low capability were intensively cultivated. Before long, the fertility, which had been accumulated, was soon exhausted, the productivity fell, and the fragile soils were further degraded by erosion (Balabanian, 1984; Feio, 1983). Until the fifties, however, the intensification efforts were maintained, being the productivity of the soils artificially maintained with fertilisers.

In an area of steep slopes and thin soils as in Vaqueiros, the results of these intensification trends were mainly the further impoverishment of the soils, and this contributed to the abandonment of their use.

During the sixties, the exhaustion of the soils, the lack of land for the totality of the population and the hard life conditions, combined with the attraction of employment possibilities in the coast and in other European countries, led to a progressive abandonment of the fields. On a first phase, part of the population left, but those remaining kept on using the land. Later, as the demographic pressure further decreased, land began being abandoned.

Thus, in 1990 the fields in a rotation of cultivation and pastures were reduced to 4% of the case study, being this rate maintained until 1995. The majority of the area (63%) is now covered by shrub, dominated by rockrose (*Cistus ladaniferus*), with dispersed arboreal trees (*Arbutus unedo*), whose fruit is used to make a kind of brandy. Other species found in the shrub are sargasso (*Cistus monspeliensis*), greater rockrose (*Cistus albidus*), common rockrose (*Cistus crispus*), lavender (*Lavandula stoechas*), rosemary (*Rosmarinus officinalis*), daisy (*Pterospartum tridentatum*), heather (*Erica arborea*), and gorse (*Ulex densus*).

In 1995, natural pastures, with dispersed shrub, occupied 27% of the territory; these are mainly located next to settlements and in the bottom of wide valleys as well as on the slopes, the land being worked manually, still with the help of animals or with small motorised cultivators. Mainly sheep and goats graze these pastures. They graze in their owners' plots and also in plots belonging to absent owners, or to owners without livestock, as long as they are not planted recently with oaks or pine trees.

Vegetable gardens and small vineyards occupied only 0,5% of the area considered, while almond groves occupied 7%. Almonds are actually, together with the livestock, the only production oriented towards the market. These land uses are located also next to settlements and in the bottom of valleys, where the soils have less limitations, water is available and the access easier for farmers.

The recent plantations of trees, composed normally by mixed oaks and pine trees, occupied, already in 1995, 33,5% of the total area. The plantation was still continuing, mainly in the larger properties. These plantations are included in the area classified as shrub, since the young trees are surrounded by shrub species. In 1990 these plantations were not classified as shrub, since the soils had just been cleaned in order to plant the young trees.

These plantations appear in the beginning of the nineties as the result of a policy for promoting forest development in Portugal, integrated in specific measures for the Portuguese agriculture and according to the EU objective of increasing the forest area in the Community. Landowners may receive almost the totality of the investment cost for plantation as non-refundable subsidies. The association of cork and holm oaks with pine trees has two objectives: pine trees grow faster and allow a profit in a shorter term, and at the same time they protect the young oaks and allow better growth conditions for them. The plantations occur in land, which was out of use, or only used for sporadic grazing, and may be considered as an available alternative to abandonment.

From the three case studies considered, Vaqueiros is the only one where changes in land use clearly reflect a marginalisation of the region and of the agricultural land: the process taking place is not an extensification reflecting a change in farming strategies, but rather a clear abandonment of the agricultural activity, and thus of the land. Plantations only appear because there is a strong support in that sense; otherwise also the land planted would be abandoned today.

Farmers' typology

In order to understand how the farmers and land owners activities and strategies are articulated with the changing trends identified in each case-study, and to evaluate the role of the different constraints which affect the farmer/land owner decision making, a detailed interview has been made to all the farmers with farmland and main farm buildings inside the case-studies area.

According to the information collected, and based in an uni-variate and bi-variate analysis, a farm typology was developed, simultaneously comprehensive and integrated: comprehensive, because the aim is to contribute to the description of the different situations analysed, and integrated because it articulates the different factors which might contribute to change in the farms.

According to Van der Ploeg (1994), styles of farming might be defined in terms of their scale, their level of intensity, the implied interrelations between capital and labour, and the specificity of particular technique-productive aspects and relations; furthermore, the different styles represent specific connections between economic, social, political, ecological and technological dimensions.

In order to consider all these dimensions, the typology has been built through an articulated analysis of the farming systems (Turner and Brush, 1987) and the various factors that explain these systems and their changing or stagnation trends. The analysis is carried out in terms of the behaviour and perspectives of the head farmer, considered the main agent of change of the farming system in each farm unit.

In Vaqueiros, three different types of farmers were identified:

a) Routine, subsistence and declining farms:

Small agricultural and animal production, mainly for home consumption, even if some products may be sold and constitute a complement to the family revenue. The main income source is a pension, often a retirement pension, since farmers are old. These farms have some trees, almonds and orange trees, and the number of trees tends to increase. The best land is used for vegetable production, and for small-cultivated pastures to feed the farm livestock, or even cereals to make the family bread. Many different lots, spread out compose farm units. The older head farmers have already given up working, and their children have left. Among the younger generation, those who have not left yet aim at doing it, and therefore an inversion in the trend towards abandonment is not foreseeable.

A practical example of this type of farm is a medium sized farm located in Vaqueiros, constituted by 120 different plots spread between three settlements: Fernandilho, Madeiras and Taipas. The farm was inherited about thirty years ago and is currently almost completely abandoned, covered with more or less dense shrub. The head farmer is 64 years old, never went to school and receives a farmer's pension; he continues nevertheless to work in the farm, but only in a small part of the land, and mainly for self-consuming. The only produces sold are almonds and the cork taken from a small number of trees. The three children, aged between 30 and 40 years, live outside the region: one is a salaried farm worker near Faro, another is in domestic service in Tavira and the third emigrated to France. The head farmer and his wife get about on donkeys and they rarely use other forms of transport or leave the region, not even to visit their children in the Algarve coast.

b) Traditional farmers highly centred in livestock production:

These farmers have similar characteristics to the previous type, but with higher income level and more concerned with the market; livestock production is more important than the vegetal products. Goat farming predominates in Vaqueiros, since these animals are best suited to the characteristics of the soil, landforms and vegetation cover. The shepherds take care of their own animals but also of animals from other farmers. The animals graze in the pastures inside the farm unit, but mainly on abandoned land covered with shrub.

An example from this type is a shepherd from a *monte* in Vaqueiros, a man of 60 years that never went to school. He has four children, two living by the coast and two in the farm, one being a salaried farm worker and the other a student. The farm covers 55 ha spread over 59 plots, 40 ha being an undeclared lease. 15 ha are used for small lupines, with low productivity level, and also for some cereals and vegetables for home consumption. The remaining 40 ha are used as natural pastures, except 8 ha of thick and inaccessible shrub. The livestock is composed of 164 traditional goats from the *Serra Algarvia* (meat and milk production), but in the last years he has reduced the number of animals because, with the lack of rain, the shrub couldn't feed the number of animals he had. In the

near future this farmer aims to acquire more land in order to have more pasture and increase the livestock, his sole production. This farmer considers that subsidies are very important for him, and that “without subsidies there would no longer be a farmer in the region”. Even if he would like to expand and has two children still living at home, the farmer thinks that livestock farming will finish in his unit when he dies, since none of the children will succeed him.

c) After decline: forestry as the last resort:

In these farms, large for the region patterns, agriculture is abandoned and most land is covered with recent plantations of cork and holm oaks, associated with pine trees. The choice of the forestry appears as a way of, in the long term, make some profit in the land abandoned previously. The steep slopes, the density of stone outcrops and the depletion of the soils caused by the Wheat Campaign, combined with emigration to the coast and to other countries, contributed to the abandonment of the land in these farms. The majority of landowners from these farms lives outside the region and is not interested in investing in their farmland; they accept plantation due to the favourable conditions actually existent.

An example of this type is a landowner living in Vila Real, 58 years old, taking over the management of the farm in Vaqueiros since her husband died. Neither she nor her son, which as 27 years old and is trained as optician, have the least interest in farming. The farm has 130 ha spread in two blocks; it was abandoned before, and a tenant used the land for livestock grazing. The decision to forest the farm arose on account of the influence of family members who, having adjacent plots, proposed the presentation of a joint project for the planting of trees. The owner “does not aim to invest time or money in the farm”, and only agreed with the project because it didn’t imply any investment.

Prospects

From what has been described above, it is clear that a marginalisation process is in fact severely affecting the region of Alcoutim, in North-eastern Algarve, leading both to depopulation and to land abandonment. The process has been progressively occurring for decades and is today still continuing. The main land cover is shrub and most land is abandoned, or planted with forest; despite, there are still some farmers in Vaqueiros, but how long will they persist? Those who still maintain a farming activity are old and do not foresee succession. The alternative to abandonment is forestation, which do not require a farming activity. All socio-economic indicators show accentuated periphery symptoms and decline.

What can be the alternatives? The scenic quality of the region is very high, and it is possible to invest in tourism - but tourism will not be enough to maintain the population. The shrub and the new forest are adequate habitats for game species, and hunting can also be exploited - but hunting does either not maintains the people living there. Hunting and tourism projects are being developed by investors from outside, and not by local initiative, and they do not represent relevant job possibilities.

If some regions in Europe are marginal, this is one of them. Both peripheral and marginal in what concerns socio-economic indicators and the land-use. Solutions are not easy to find. According to EU guidelines, and also to the national strategies, these kinds of regions should be under specific measures for the promotion of the local initiative, development of the local traditional products and improvement of the relations to the market. According to the analysis made in the case study, this last issue is the fundamental one. The local products have quality and are specific - but the farmers are

dependent of a complicated commercialisation system and do not receive enough for them. Another important aspect may be the promotion of the region, not just for the exterior but also inside, for the local population, as a way to contribute to the satisfaction of living there, with a traditional way of life.

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