

Naturbanization and sustainability in the National Park of Peneda-Gerês

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ABSTRACT: This paper introduces territorial sustainability in general and within European and Portuguese guidelines for planning and action, namely to regulate the urbanization and urban expansion processes. This topic is relevant to discuss the dynamics of urbanization and urban sprawl in rural areas of Northern Portugal integrated in and around the National Park of Peneda-Gerês, the park with the highest classification in the whole country. These dynamics relate to changes that have been re-occurring over the last fifteen years with consequences on shifts in land-use patterns, urban settlements and economic development trends. The analysis, based on the concepts of “naturbanization” and “counterurbanization”, shows some evidence of both processes. One municipality partially comprised within the National Park is selected as case study to be further analyzed, providing deeper insight of the urbanization trends as measured by development control indicators.

1 INTRODUCTION

The Portuguese legislation dealing with territorial planning, namely its main guiding law (Decreto-Lei no. 380/99), is already sustainability oriented. It requires, for instance, that territorial plans identify both the natural, agricultural and forest resources, as well as carry out the delimitation of the so called municipal ecological structures (which may be understood as “green plans” inside the territorial plans). The legal framework at the national level is mainly procedural, pointing out to the fulfilment of some general obligations but avoiding details about how they should be accomplished. One possible explanation for this is the assumption that it should be the task of planning professionals to get down to practice, while some flexibility is essential for this. Legislation embodies control mechanisms during the process of plan making and approval, such as public participation and agreement policies between stakeholders, but usually they are scarcely developed, although their importance tends to increase.

Territorial planning has a great influence on sustainable development and in its national strategy, which was recently approved in Portugal. As a result, the authors are in favour of stronger sustainability criteria during the elaboration of territorial plans and a better understanding of territory dynamics especially in critical areas for nature preservation. These criteria, precisely defined at the regional level, should be adopted, eventually with adaptations, by municipal plans which must be directly followed by citizens and institutions. A system such as this could become a more systematic way of contributing to the wider goals of sustainable development through planning. Section 2 examines the available methods for assessing such policies.

The remaining of this paper is organized as follows. Data characterizing the region and the National Park about their main features, land uses and socioeconomic disparities is presented in section 3. Further investigation on the micro and macro aspects of the location of households and urban development and some qualitative research with small scale surveys is introduced in the same section. The last section deals with concluding remarks on policies and strategies

pursued at the institutional and the community levels. The approach that links these aspects with theories about naturbanization needs further in-depth study. The impacts of naturbanization, whether negative or positive, seem to depend largely on the degree of interregional disparities and the specific territory at stake.

2 TERRITORIAL PLANNING AND SUSTAINABILITY

2.1 *International, European and national levels*

Numerous international charters and other publications contain general recommendations to translate into practice the principles of urban sustainability (for instance, the Ålborg Charter and succeeding declarations). These, in turn, are the root of field campaigns such as the Local Agenda 21, the Sustainable Cities Programme (ran by UN Habitat) or the Smart Growth Initiatives in the United States. Such projects are beginning to supply researchers with data and strategies that can be monitored and traced (Table 1).

Table 1. Relevant documents and projects dealing with territorial sustainability.

| Title | Organization or reference |
|--|---|
| Local Agenda 21 | United Nations, 1992 |
| European Urban Charter | Council of Europe, 1992 |
| Sustainable Cities Programme | UN Habitat, 1992 |
| Ålborg Charter | International Council for Local Environmental Initiatives, 1994 |
| European Sustainable Cities | European Commission, 1998 |
| Guiding Principles for Sustainable Spatial Development of the European Continent | Council of Europe, 2000 |
| Try this way: sustainable development at the local level | European Council of Spatial Planners, 2002 |
| European common indicators: towards a local sustainability profile | Ambiente Italia, 2003 |
| ECOLUP-Guidance: environmental management for communal urban land use planning | Lake Constance Foundation, 2004 |

Note: a more comprehensive list is available at EEA (2002:18-21).

At the European Union level there are two fundamental strategies with a territorial scope: the European Spatial Development Perspective (ESDP), approved in 1999, and the Thematic Strategy on the Urban Environment, adopted in 2006. The main policy options of the ESDP that are of particular interest for naturbanization areas are as follow (European Commission, 1999):

- polycentric spatial development and a new urban-rural relationship;
- parity of access to infrastructure and knowledge;
- wise management of the natural and cultural heritage.

Pertaining to the first strategy about polycentrism and rural areas, twelve goals are formulated as European policy guidance:

- promoting integrated spatial development strategies for city clusters in individual Member States, within the framework of transnational and cross-border cooperation, including corresponding rural areas and their small cities and towns;
- support for effective methods of reducing uncontrolled urban expansion;
- promotion of diversified development strategies, sensitive to the indigenous potentials in the rural areas and which help to achieve an indigenous development (including the promotion of multifunctionality in agriculture);
- support of education, training and in the creation of non-agricultural jobs in rural areas;
- strengthening small and medium-sized towns in rural areas as focal points for regional development and promotion of their networking;

- securing sustainable agriculture, application of environmental measures and diversification of agrarian land utilisation;
- promotion and support of co-operation and information exchange between rural areas;
- use of the potential for renewable energy in urban and rural areas, taking into account local and regional conditions, in particular the cultural and natural heritage;
- exploitation of the development potential of environmentally friendly tourism;
- maintenance of a basic supply of services and public transport in small and medium-sized towns in rural areas, particularly those in decline;
- promotion of co-operation between towns and countryside aiming at strengthening functional regions;
- promotion of company networks between small and medium-sized enterprises in the towns and countryside.

Relating to the important aspect of equity and parity of access to infrastructure and knowledge, two goals have been put forward:

- better co-ordination of spatial development policy and land use planning with transport and telecommunications planning;
- improvement of public transport services and provision of a minimum level of service in small and medium-sized towns and cities.

As to the last strategy envisaged at European guidance for management of the natural and cultural heritage, seven goals were stated:

- continued development of European ecological networks, as proposed by Natura 2000, including the necessary links between nature sites and protected areas of regional, national, transnational and EU-wide importance;
- preparation of integrated spatial development strategies for protected areas, environmentally sensitive areas and areas of high biodiversity such as coastal areas, mountain areas and wetlands balancing protection and development on the basis of territorial and environmental impact assessments and involving the partners concerned;
- greater use of economic instruments to recognise the ecological significance of protected and environmentally sensitive areas;
- promotion of energy-saving and traffic-reducing settlement structures, integrated resource planning and increased use of renewable energies in order to reduce CO₂ emissions;
- protection of the soil as the basis of life for human beings, fauna and flora, through the reduction of erosion, soil destruction and overuse of open spaces;
- preservation and restoration of large wetlands which are endangered by excessive water extraction or by the diversion of inlets;
- creative restoration of landscapes which have suffered through human intervention, including recultivation measures.

At the national level and more specifically in Portugal, the territorial planning and policy law (Law no. 48/98) states the main general guidelines. It establishes, inter alia, such aims as the rational use and management of natural resources, the maintenance of the environmental equilibrium, the humanization of cities and the functionality of the built up spaces. It redefines the legal concept of the regional territorial plan, which becomes a strategic plan that translates the national economic and social strategies to the regional level and broadly frames the planning guidelines for municipal territories.

The National Strategy for Sustainable Development (ENDS, “Estratégia Nacional para o Desenvolvimento Sustentável”), covering the time span of 2005-2015, is a tool to highlight. One of its goals consists in creating an urban dynamics that is less destructive to the environment and more inclusive. This goal will be implemented namely through the adoption of regional territorial plans covering the whole country, as Portugal did not have full coverage of these planning tools, contrarily to Spain, for example (but all Portuguese municipalities had structure plans approved by the mid-nineties). A bottom-up approach is thus still under construction for a complex national planning system. The top of this system is the so called National Program for the Territory and Land-Use Policies (PNPOT), a recently approved document which shall be articulated with other important strategies like the ENDS. The

program is structured around five main objectives, one of which should be highlighted: the promotion of a polycentric development of the territories and the strengthening of the infrastructure that supports territorial integration and cohesion.

2.2 Common elements across policy documents

After analyzing the documents mentioned in the previous section, a non-exhaustive list showing the main elements that need to be addressed by urban sustainability policies can be assembled (Table 2). The list is arranged according to the main topics covered by the European Thematic Strategy on the Urban Environment.

Table 2. Fundamental elements of urban sustainability.

| Theme | Description |
|----------------------------------|---|
| Sustainable urban development | |
| Urban structure and land use | <ul style="list-style-type: none"> Polycentrism of urban centres Higher densities around transportation nodes and networks Physical constraint of sprawl and of urban expansion areas Control of the amount of impervious and urbanized areas Mixture of uses Urban rehabilitation and regeneration Heritage protection Protection of sight and landscape views |
| Green areas | <ul style="list-style-type: none"> Primary and secondary green structure Natural, agriculture and forest areas Urban trees Protection of flooding areas |
| Sustainable urban transportation | |
| Mobility | <ul style="list-style-type: none"> Intermodality Speed and frequency of public transports Bus corridors, rail network, transit lines Cycle lanes and pedestrian routes Parking and localization of park and ride Speed limits |
| Air | <ul style="list-style-type: none"> Air quality Emissions reduction Automobile use restrictions Environmental friendly transportation |
| Sustainable construction | |
| Ecological construction | <ul style="list-style-type: none"> Wastewater collection, reutilization and treatment Composting toilets Insulation and passive solar design Heating Thermal and acoustic comfort Air ventilation and renovation Renewable and environmental friendly energies Environmental friendly materials Waste sorting Building versatility Pavement permeability |
| Sustainable urban management | |

| Theme | Description |
|---------------------------------------|--|
| Water | Water networks Wastewater treatment Freshwater quality Riverbank quality |
| Waste | Waste collection techniques <i>In situ</i> composting |
| Noise | Noise minimization Noise barriers |
| Public participation and transparency | Public participation procedures Access to information Reporting obligations Transparency of the decision-making process |

As can be seen, there coexist several different but complementary approaches to urban sustainability. They can be divided into six categories:

- a classification of the kind or degree of sustainability;
- a theoretical framework defining the main domains that sustainability encompasses, namely social, economical, environmental and territorial; the relevant issues to be considered in each of these domains; horizontal factors that affect the success of the model as a whole;
- policy formulation: principles, objectives and targets;
- standards: quantitative or qualitative parameters;
- monitoring: indicators;
- the geographic level being analysed.

There are also more specific approaches to urban sustainability including the definition of sustainable land use, which “must secure that the inhabitants of the area can have their vital needs met in a way that can be sustained in the future, and is not in conflict with sustainable development at a global level” (Næss, 2001: 505). The goal of a sustainable land use was operationalised into five main elements:

- reduction of the energy use and emissions;
- minimizing of the conversion and of the encroachments on natural areas, ecosystems and soil resources for food production;
- minimizing of the consumption of environmentally harmful construction materials;
- replacement of open-ended flows, where natural resources are transformed into waste, with closed loops relying to a higher extent on local resources;
- a sound environment for the city’s inhabitants.

There is strong evidence that spatial planning has an important role to play in achieving these goals: either directly, through the minimization of pressures such as land consumption, or indirectly, by acting upon the societal driving forces in a way that the environmental pressures are alleviated (e.g., reduction of transport needs and of energy consumption) (Næss, 2001; Camagni *et al.*, 2002).

It is not yet possible at the current stage of research development to fully apply the conceptual framework shown in Table 2 to the case study area, the Peneda-Gerês National Park (PNPG, “Parque Nacional da Peneda-Gerês”). Therefore, a limited number of variables were studied: land cover and land cover changes, population and dwellings dynamics as well as public participation, which shall be presented in the following sections.

3 CASE STUDY: COUNTERURBANIZATION AND NATURBANIZATION TRENDS AT THE PENEDA-GERÊS NATIONAL PARK

3.1 A brief presentation of the National Park

The PNPG extends through an area of 703 sq km (or 885 sq km if the surrounding areas belonging to the Natura 2000 network are included) and is the only protected area in Portugal that falls under IUCN category II: national park. IUCN guidelines state that national parks are natural areas of land and/or sea designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation contrary to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible. Several other protected areas exist across the country, as shown in Figure 1.

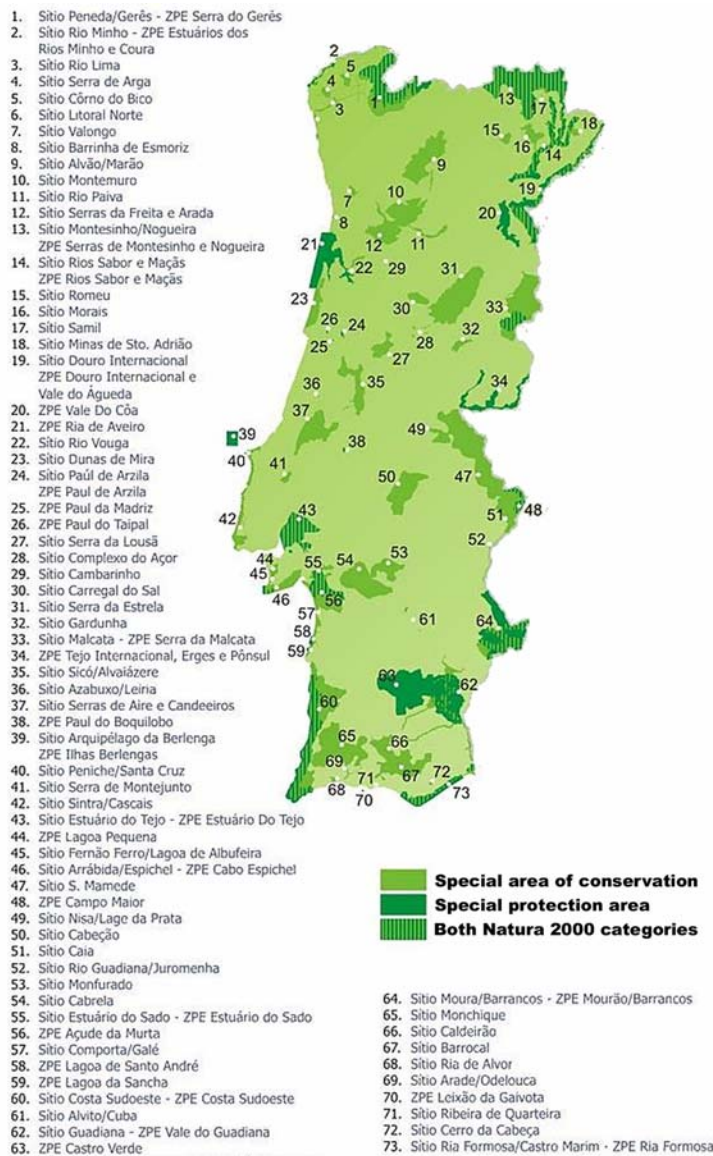


Figure 1. Location of PNPG and of other protected areas in Portugal.

PNPG is located in the northwest of Portugal, extending to parts of the municipalities of Melgaço, Arcos de Valdevez, Ponte da Barca, Terras de Bouro and Montalegre. Created in 1971, PNPG received its status as a national park because of its undisturbed ecosystems and because of its ecological, scientific and educational value. It is also part of the National Network of Protected Areas, launched in 1993. The creation of PNPG had one main objective – long-term scientific planning – at the same time making use of the existing natural resources for the benefit of education, tourism and science. This means the Park has been divided into two different zones (rural environment and natural environment), with different levels of protection depending upon several criteria such as the ecosystems in place, the kind and intensity of human land uses and the flora and fauna existent (see Figure 2). There are agricultural zones, forested zones and social areas. The social areas are further divided into urban zones and recreation or tourism areas. The master plan of PNPG, dating back to 1995, is currently under revision.

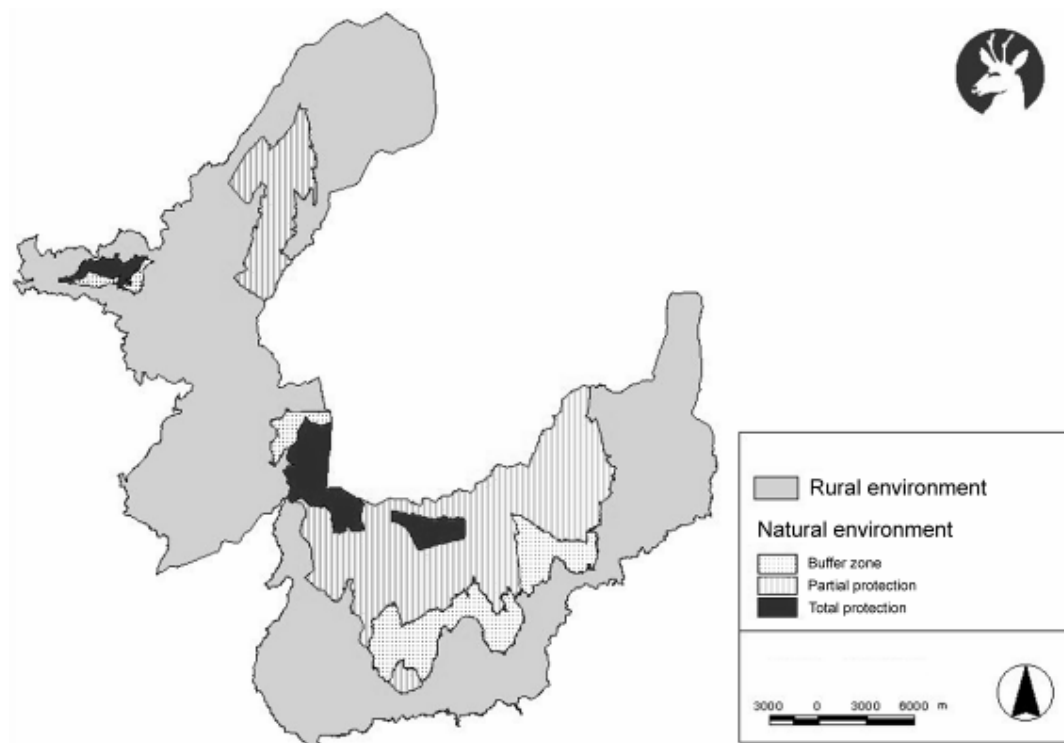


Figure 2. The Peneda-Gerês National Park master plan.

Less than 30% of the Park lands, 194 sq. km, are private property. From the total of 703 sq. km, 7% are public property (53 sq. km) and the remaining 456 sq. km are common property.

An important feature of the landscape is the constant presence of water. The few villages in the high lands are located near the arable lands with built terraces. Accommodation for visitors is limited but existent in several low-budget hotels in Caldas do Gerês (spa town) or in renovated village houses for rent in Soajo and Lindoso. There is also a “pousada” (equivalent to “parador” in Spain) that caters for upper markets and six small camping sites.

The PNPG runs along the Spanish border from the Castro Laboreiro plateau by way of the Peneda, Soajo, Amarela and Gerês mountains to the Mourela plateau in the south. The Park can be explored by car or by several pedestrian routes and hiking trails. Several interesting spots can be found there, such as the “castors” at Castro Laboreiro and Calcedónia, the trail at Mézio, the monastery at Pitões das Júnias, the remarkable sanctuary at Peneda, the shrine at São Bento da

Porta Aberta, the traditional small granaries built of granite (“espigueiros”), the many waterfalls and Portela do Homem, known for its Roman milestones, the largest number of the kind in the Iberian peninsula.

3.2 Land cover and land cover changes

Land cover at Peneda-Gerês National Park is dominated by open spaces with little or no vegetation associated with high altitudes and extensive cattle raising (see Figure 3, Figure 4 and Figure 5).

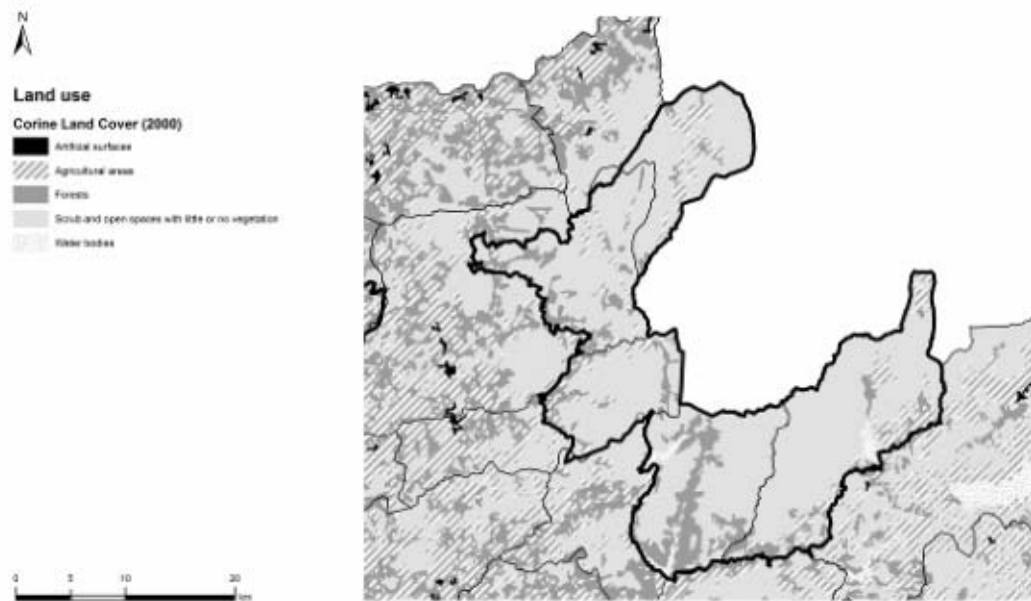


Figure 3. Land cover in PNPG and surrounding region (2000).

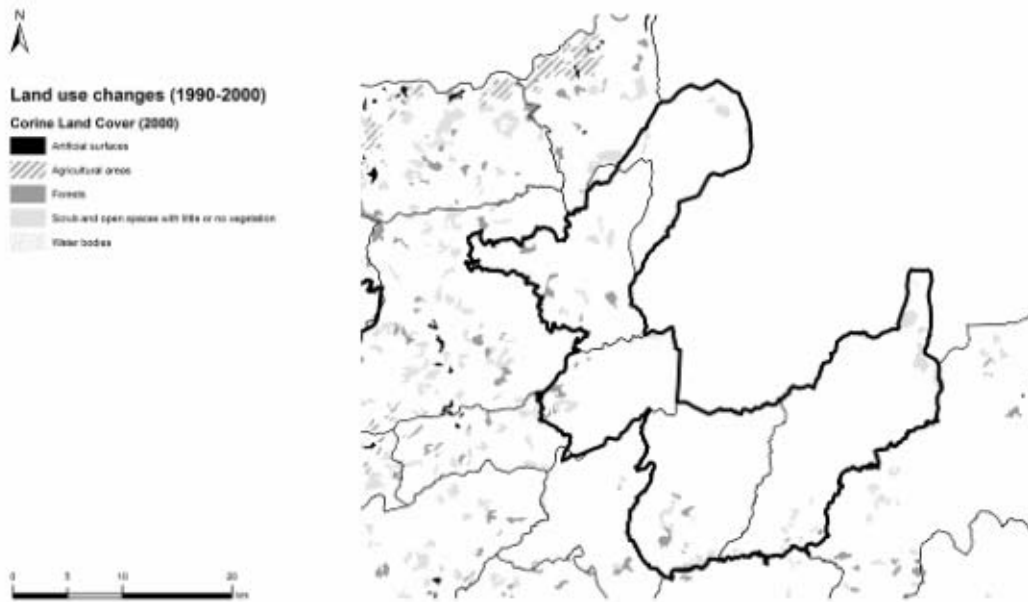


Figure 4. Lands that shifted uses (1990 – 2000). Land cover in 2000 is shown.

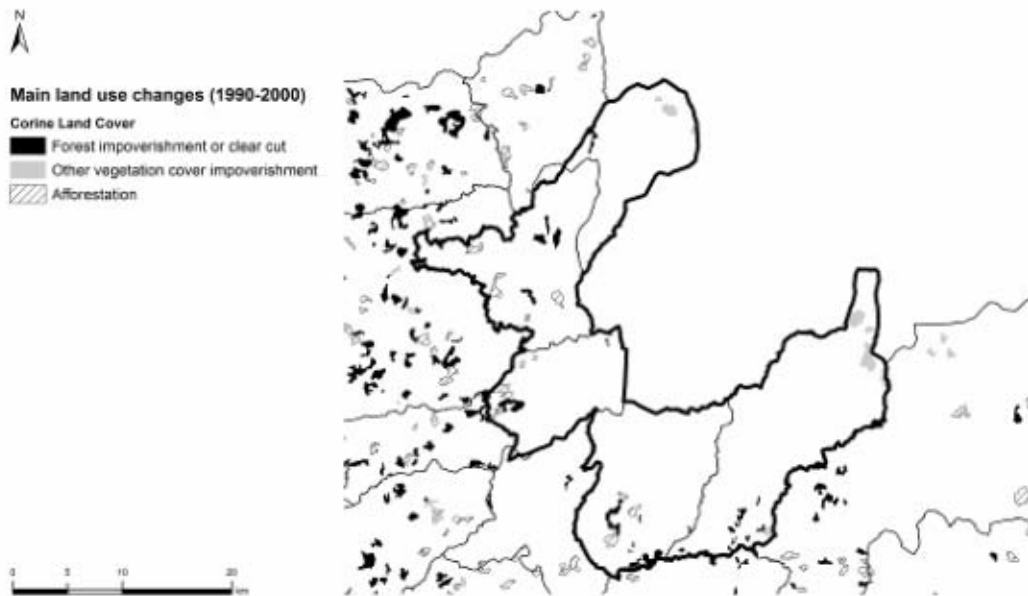


Figure 5. Main binomial land use changes (1990 – 2000).

Land use statistics are summarized in Table 3, Table 4 and Table 5. Forest cover in PNPG remains modest (around 15%) and tends to decrease, albeit the main forest losses in the region have occurred outside the National Park. The small decrease in the absolute forested area (around 3%) hinders a high turnover of this kind of land cover, *i.e.*, a significant proportion of the forested area have become impoverished at the same time as a lower area of deforested lands have become forested. Also, a big fire that occurred in 2006 and has consumed one of the most important conservation woods is not visible on the map, though some regrowth is expected. It is estimated that about 4000 ha of these high importance forests remain.

Table 3. Area occupied by land use classes in PNPG and surrounding Natura 2000 sites (in 2000).

| Land cover class | Area | |
|---|-------|------|
| | (ha) | (%) |
| Artificial surfaces | 62 | 0,1 |
| Agricultural areas | 9063 | 10,2 |
| Forests | 12637 | 14,3 |
| Areas with shrub, herbaceous or no vegetation | 65590 | 74,1 |
| Water bodies | 1186 | 1,3 |

Table 4. Land cover changes in PNPG and surrounding Natura 2000 sites (between 1990 and 2000).

| Land cover class | Class change (ha) | Class change (%) | Relative change (% of the total PNPG surface) |
|---|-------------------|------------------|---|
| Artificial surfaces | -98 | -61,3 | -0,11 |
| Agricultural areas | -42 | -0,5 | -0,05 |
| Forests | -418 | -3,2 | -0,47 |
| Areas with shrub, herbaceous or no vegetation | 418 | 0,6 | 0,47 |
| Water bodies | 140 | 1,3 | 0,16 |

Table 5. Main binomial land use changes in PNPG and surrounding Natura 2000 sites (between 1990 and 2000).

| Land cover class | Change (ha) | Relative change (% of the total land use changes) | Relative change (% of the total PNPG surface) |
|---------------------------------------|-------------|---|---|
| Forest impoverishment of clear cut | 1382 | 39,0 | 1,6 |
| Other vegetation cover impoverishment | 880 | 24,8 | 1,0 |
| Afforestation | 983 | 27,7 | 1,1 |

Is it visible a global trend of vegetation cover impoverishment, be it forests or shrubs – a transition to a state of a more sparsely cover or a more dramatic change to bare rock due to severe soil erosion. The absolute change of the surface occupied by the class “shrubs, herbaceous or no vegetation” is not so pronounced because some agricultural areas have been transformed into it. Conservation measures are thus needed to prevent the vegetation cover from further degradation.

Cultivated lands are less common and are used mainly for household-feeding or selling at local markets. Agriculture abandonment was insignificant either in absolute or relative terms. This can be explained by the dominance of cattle raising, especially in the common ownership mountain ridges (“baldios”, in Portuguese) – but these land are not considered agricultural under Corine guidance. Cattle may pose an environmental burden but they also grant some benefits: on one side, they prevent natural vegetation from growing up and restoring the ecosystem climax; on the other hand, cattle contribute to the formation of landscape mosaics that emerge

from the association of forest patches with natural scrub vegetation, on which the rich fauna of the Park is dependent. Still, it is common that shepherds set fires – illegal fires, usually – in order to prevent vegetation from growing up too much and to maintain the natural pastures. Sometimes these fires spread out and consume huge patches of forests and of natural ecosystems. Thus, forest restoration is a priority but must be spatially limited according to specific studies.

An interesting and unexpected phenomenon is the decrease of the artificial surfaces by half between 1990 and 2000. It is explained by the conversion of dump sites into open spaces with little vegetation or into grasslands, but the area is insignificant since only around 0,1% of the land cover falls inside the first category. This decrease has to be understood according to the database used, Corine Land Cover, whose area of the smallest mapping unit is 25 ha.

3.3 Socioeconomic dynamics

According to the socioeconomic data from the National Institute of Statistics, the population inside PNPG is living well below the national average and also below the average for the Natura 2000 sites in Portugal. These statements are based on the indicators presented in Table 6, which may not correlate necessarily to the perceived quality of living. However, they show beyond doubt that PNPG has a rural deprived population facing a serious unemployment problem.

Table 6. Selected socioeconomic indicators at different scales.

| Indicator | PNPG | Natura 2000 network in Portugal | Portugal | Unit | Year |
|-----------------------|------|------------------------------------|----------|---------------------------|------|
| Population | 4,76 | 329,4 | 10356 | 10 ³ people | 2001 |
| Population density | 7,6 | 17,1 | 113,2 | people / sq. km | 2001 |
| Farmers and shepherds | 46,3 | 15,9 | 11,4 | % of the total population | 2001 |
| Activity rate | 27,1 | 38,1 | 48,2 | % of the total population | 2001 |
| Purchasing power | 32 | 49 | 100 | % | 2002 |

Source: National Institute of Statistics (INE, “Instituto Nacional de Estatística”).

Although population in PNPG has been dropping since the eighties, after the drainage of the sixties, the number of households kept growing in the 1991-2001 decade (see Table 7). This growth was particularly evident in the municipality of Terras do Bouro – located in the center of PNPG and encompassing lands around the national road to one of the borders with Spain – where it reached 27%, more than doubling the rates occurring at any other municipality of PNPG.

Table 7. Evolution of population and dwelling numbers between 1991 and 2001

| Territory division | Population change (%) | Dwellings change (%) |
|-------------------------------|--------------------------|-------------------------|
| Portugal | 4,9 | 20,7 |
| Northern region (NUT II) | 6,3 | 25,5 |
| PNPG | -14,1 | n.a. |
| Minho-Lima (NUT III) | 0,1 | 17,4 |
| Arcos de Valdevez | -8,3 | 5,1 |
| Melgaço | -9,5 | 12,2 |
| Ponte da Barca | -1,8 | 10,2 |
| Cávado (NUT III) | 11,3 | 34,3 |
| Terras de Bouro | -11,5 | 27,0 |
| Alto Trás-os-Montes (NUT III) | -5,1 | 15,0 |
| Montalegre | -17,3 | 12,8 |

Source: National Institute of Statistics (INE, “Instituto Nacional de Estatística”).

Table 8 shows a global overview of the relative amount of parishes that increased in the last decade in terms of population as well as dwellings. It allows a rough picture about the geographical distribution of the population and dwellings dynamics but does not inform about the relative changes occurring. Most parishes inside and outside PNPG are experiencing a population decline and an increase in the number of dwellings, but the latter seems to be a little more spread inside the Park. This is relevant for detecting naturbanization trends as the PNPG parishes have as a whole a remoter location than the parishes outside PNPG. And as can be seen on Table 8, there is a higher percentage of PNPG parishes on average with increases in population or dwellings than their neighbouring counterparts which show as much similar percentages.

The fact that the municipality of Arcos de Valdevez portrays a slower trend towards naturbanization may be explained by the neighbouring Municipalities of Amares and Vila Verde's growth which seem to be experiencing a counterurbanization trend as working population in the town of Braga starts to choose nearby areas to fix their residence. The explanation lies in several factors namely proximity to the town and lower housing prices, thus explaining the growth in population and dwellings and eventually creating a trend more linked with counterurbanization than naturbanization. The attraction poles in both Municipalities although small in total size are located close to national roads as well as to the town of Braga which may possibly divert naturbanization trends in the nearby areas.

Table 8. Population and dwelling dynamics inside and around PNPG's parishes (1991 – 2001)

| Municipality | % of parishes with increase in | |
|-------------------|--------------------------------|-----------|
| | Population | Dwellings |
| Arcos de Valdevez | | |
| Inside PNPG | 0 | 40 |
| Outside PNPG | 22 | 50 |
| Melgaço | | |
| Inside PNPG | 0 | 100 |
| Outside PNPG | 0 | 88 |
| Ponte da Barca | | |
| Inside PNPG | 20 | 80 |
| Outside PNPG | 20 | 65 |
| Terras de Bouro | | |
| Inside PNPG | 25 | 100 |
| Outside PNPG | 8 | 100 |
| Montalegre | | |
| Inside PNPG | 0 | 86 |
| Outside PNPG | 0 | 83 |

Source: National Institute of Statistics (INE, "Instituto Nacional de Estatística").

Together with Table 9, the information presented suggests a naturbanization trend inside and around PNPG since there are some "islands" of population growth (e.g., in the parish of Entre Ambos os Rios, in Ponte da Barca, and in the parish of Vilar da Veiga, in Terras do Bouro) within a large area of strong real estate development. That is, some parishes seem to be able to counteract the global trend of population decline seen throughout the countryside. There seems to be only one exception to this trend as the municipality of Arcos de Valdevez does not show population increase inside PNPG and the dwellings growth is not occurring in the majority of the parishes. However, it is difficult to assure that this naturbanization trend is of a different nature from that seen in the rest of the country, since data does not distinguish between the types of occupation present. Usually, and even if exceptionally a decrease in the total number of dwellings totally infra-structured is observed, the number of houses for secondary or seasonal uses continues to rise.

Table 9. Evolution of population and dwelling numbers inside PNPG's parishes (1991 – 2001)

| Municipality / Parish | Population change (%) | Dwellings change (%) |
|-----------------------|-----------------------|----------------------|
| Arcos de Valdevez | -8,3 | 5,1 |
| Cabana Maior | -22,7 | 2,8 |
| Cabreiro | -20,9 | -3,0 |
| Gondoriz | -6,0 | -0,6 |
| Soajo | -15,6 | -11,3 |
| Gavieira | -19,2 | 55,6 |
| Melgaço | -9,5 | 12,2 |
| Castro Laboreiro | -16,3 | 28,9 |
| Lamas de Mouro | -19,6 | 4,3 |
| Ponte da Barca | -1,8 | 10,2 |
| Britelo | -16,8 | -5,0 |
| Entre Ambos os Rios | 0,7 | 4,3 |
| Ermida | -25,3 | 5,9 |
| Gemil | -32,0 | 21,3 |
| Lindoso | -22,1 | 13,3 |
| Terras de Bouro | -11,5 | 27,0 |
| Campo do Gerês | -3,1 | 31,2 |
| Covide | -17,4 | 24,5 |
| Rio Caldo | -16,5 | 36,5 |
| Vilar da Veiga | 6,7 | 44,5 |
| Montalegre | -17,3 | 12,8 |
| Cabril | -11,2 | 20,5 |
| Covelães | -24,4 | -4,7 |
| Outeiro | -14,7 | 0,7 |
| Pitões das Júnias | -11,1 | 13,5 |
| Sezelhe | -20,8 | 17,0 |
| Tourém | -15,1 | 9,4 |

Source: National Institute of Statistics (INE, “Instituto Nacional de Estatística”).

Further research was then carried out at Terras do Bouro, the municipality that stands out in terms of global data for dwellings growth, and surprisingly three parishes were detected with high numbers of processes submitted to the Land Ecological Lands Council in order to be able to build a house in sensitive areas by way of removing its special status (REN, “Reserva Ecológica Nacional”) (see Table 10). This may be explained by the significant area of the municipality that is under ecological and agricultural restrictions which constrain building capacities. It should be noted that inside PNPG other constrains apply besides the special REN status, which is scattered throughout the country.

Table 10: Number of processes filed to the Land Ecological Lands Council to remove the REN status

| No. of parishes | No. of Processes (P) |
|-----------------|----------------------|
| 3 | >52 |
| 8 | 8<P<30 |
| 6 | <3 |

Source: Local Council Archives, 2006

3.4 Public participation

According to the several policy documents mentioned in section 1.1, public participation is an essential topic in a sustainable development approach. Swarbrooke (2005: 25) suggests that the key issues in the sustainable tourism debate are the principle of partnership, the green tourist, community involvement and local control, de-marketing: places, time, people, concept of

carrying capacity, ecotourism, lack of performance indicators, value judgements and lack of factual evidence.

A forum concerning protected areas, developers and other agents that promote the European Charter for Sustainable Tourism (ECST) in protected areas in both Portugal and Spain has taken place to discuss the PNPG. The ECST is primarily based on the principles of sustainable development and cooperation and partnerships between the PNPG and regional tourism developers. The ECST forum aimed at defining a model for action and development for tourism activities in protected areas, encompassing the following tasks: (1) define the objectives and sustainable tourism strategy (based on territorial assessments); (2) define a formal strategy via a five-year action-plan that implements activities towards sustainability, and (3) create a permanent working partnership.

The objectives of the Iberian network of the ECST in protected areas are primarily the promotion of debate and exchange of experiences and know-how, and the development of joint actions including both countries. The sharing of experiences is carried out via interaction between technicians and entrepreneurs. There are partnering project proposals aiming at implementing common actions (communication and broadcasting of ECST), with the purpose of bringing to the ECST the Iberian experience and reality. The Iberian network enables the participation of park representatives in the annual meetings of the European Park Network, promoted by the EUROPARC Federation, since many would otherwise be unable to attend the meeting.

The forum resulted in the improvement of relationships between the PNPG, local entities and the tourism sector. It enabled the consolidation of a technical body including PNPG, regional tourism associations (ADERE), municipalities and regional tourism development representatives that have since assisted in sustainable tourism issues. Other benefits were also reaped, such as the furthering of knowledge regarding the target region in terms of in-bound trips, allowing for a good analysis of the current situation. Opportunities for joint ventures were created, making use of the common objectives and coordination between the stakeholders. Relations between the various economical agents were also improved. Additionally, the forum allowed for the creation of a privileged information exchange structure, focused on access to standards, specific regulations, funding programmes, etc. In practical terms and regarding the application of the PNPG to the ECST, the five-year action-plan includes the formal diagnosis and definition of objectives and development strategy.

As beneficial as the forum demonstrated to be, there were nonetheless some limitations. Some economical agents lacked the adequate motivation, as the ECST is a mid to long-term process and does not necessarily produce immediate results. Another difficulty was getting the participants involved in real, tangible broadcasting and communication activities. Because a forum is a type of meeting that is essentially based on intervening and debating, it creates some level of expectation that may not be met. Therefore, it is important that it is kept in check to an extent. Another important aspect is the need for political endorsement prior to presenting any decisions as such. The technical participation was strong and dominant, furthering the need for increased political participation.

3.5 Prospective field survey

In order to detect motivations to live in the PNPG area a simple questionnaire of four questions was passed at people after mass and at a coffee shop. Some people living at houses that were recently built were also interviewed.

This survey was undertaken at one of the parishes with higher population loss (Castro Laboreiro, in the municipality of Melgaço, with a loss of 16,9% people in one decade) and an accrued increase in the number of dwellings (28,9%). One of the main findings was that for a sample population of property owners where 44% live predominantly in big urban centres or abroad (32%), people chose to have a house in this parish mainly because they have their roots there (63%) but an increasingly important percentage mentioned landscape (18%) and getting away from major urban centres (15%). Accordingly, major advantages of living in PNPG are considered lack of pollution (42%), quietness (28%) and less traffic and noise (25%). Surprisingly, typical major problems of rural areas are underscored such as lack of adequate access or cultural activities are mentioned each by 16% of the interviewed. Lack of medical

assistance achieves a higher number of mentions, totalling 24% while the remaining 44% state as their major problems a wide variety of issues.

In this sample, one out of twenty-five people interviewed is a clear example of naturbanization evidence leaving the city of Lisbon to come to Peneda-Gerês to live and work.

4 CONCLUSIONS

Some field knowledge shows that naturbanization and counterurbanization may be present in PNPG area. This distinction is possible due to the accessibility, location and landscape patterns as they vary. One parish is in the main access to Braga while the other two are in remoter places with beautiful scenery. It is very well known that rising levels of affluence and higher levels of mobility led to the increased action radius of residential consumers (Bowlet *et al.*, 1992; Dieleman & Wegener, 2004). This is combined with the ideal of owning a single family home, the need for a supportive environment for raising a family and the appeal of a rural ambience (Audirac *et al.*, 1990). As a consequence, population in some rural areas grew at the end of the 20th century (Bontje, 2001; Batty *et al.*, 2002). In fact, in the last four decades of the 20th century, both in Europe, North America and other Western countries, the growth of urbanized areas took place in the form of suburbanization of residential and economic functions, succeeded or accompanied by counterurbanization with population in the core and suburbs moving out to more rural areas (Berry, 1976; Bontje, 2001; Batty *et al.*, 2002). As the literature shows, people want to live in small towns and rural areas, yet few want to live far from a large or medium sized city (see Fuguitt & Brown 1990).

But in the other two parishes the explanations do not follow this trend and a naturbanization process (Prados, 2005) seems to be under way. Effectively, protected natural areas are an increasingly popular and an important driving factor in the attraction of residential and other consumption orientated activities towards rural areas. This new concept “naturbanization” refers to a process of attraction of residential population towards areas that are situated within or near protected natural areas. Changes in the socio-demographic and economic structure, in the form of settlements and agricultural landscapes in the PNPG, need to be studied and more research and also field work needs to be done here.

Shifts are easily detected on changes of the landscape, on rehabilitation of urban centres, renovation of existing housing stock and construction of second homes, infrastructuring renewal of the areas, development of enterprises associated with new activities, especially tourism and related services. Explaining factors for naturbanization process such as increased personal mobility, economic diversification, greater public investment, competitive land prices and housing characteristics are also found in the Northern region of Portugal as they were found in Andaluzia. The same evidence applies for other determinants such as the process of agricultural land abandonment and the creation of new outdoor recreational activities and the re-creation of traditional activities.

In this context, conflicting uses can arise due to the pressures brought about by new business activities on protected areas, even if several studies and management plans have been carried out. Thus, the negative aspects of naturbanization, namely the destruction or downgrading of ecologically sensitive areas and landscapes, the destruction of social values of rural areas, especially communitarian practices, needs further research and consequently careful policy attention. As researched by Prados (2005), the presence of or the proximity to protected nature is not the only factor determining the attractiveness for living in a rural area, mainly by urban new-comers. Rural areas closer to urban regions are subject to their centripetal tendencies but the urbanizing trend was also detected in more remote rural areas with specific characteristics, namely river banks and closeness to dams. Therefore, other factors have to be taken under consideration such as accessibility to water sports and proximity to main roads and to larger urban centres. Areas under analysis in and around the PNPG namely in the municipality of Terras do Bouro prove the existence of both phenomena, naturbanization and counterurbanization. But naturbanization trends as previously researched and the consequent effects on population flows as well as the number and location of related urban centres are much more limited and reduced in counterurbanization.

The last twenty years have shown that traditional planning policies are no longer able to manage the wide range of demands on space that come from a diverse group of actors, such as those found in rural areas today. Strategic analysis on several topics including stakeholder analysis needs to be consistently carried out and the environmental aspects should be integrated into territorial issues. More decentralized, bottom-up and flexible management of sustainable policies needs to be practiced within a monitored planning process where research takes place.

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