URBAN-RURAL CONNECTIONS AND DEVELOPMENT PERSPECTIVES IN PORTUGAL[1]

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ABSTRACT

Portugal is characterized by a significant asymmetry in the population distribution/density and economic activity as well as in social and cultural dynamics. This means very diverse landscapes, differences in regional development, sustainability and quality of life, mainly between urban and rural areas. A consequence coherent with the contemporary dynamics: urbanization of many rural areas that loose their productive-agricultural identity and, simultaneously, the reintegration in urban areas of spaces and activities with more rural characteristics. In this process of increasing complexity of organization of the landscape is essential to restore the *continuum naturale* (between urban and rural areas) allowing closer links to both ways of life. A strategy supported in the landscape, which plays important functions for public interest, in the cultural, social, ecological and environmental fields. At the same time, constitutes an important resource for economic activity, as underlined in the European Landscape Convention.

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Based on this assumption, and using a multi-method approach, the study aims to analyse a) the links between urban and rural areas in Portugal and b) the reasons why these territories are chosen by individuals as places of work and mobility, residence or evasion, culture and leisure, tranquillity or excitement – meaning overall well-being.

Primary information was obtained by a questionnaire survey applied to a convenience sample of the Portuguese population. Secondary data and information will be collected on the official Portuguese Statistics (*INE* and *PORDATA*).

Understanding the urban-rural links is essential to support policy measures, take advantage from the global changes and challenge many of the existing myths.

Keywords: Connections, Urban-Rural, Development

INTRODUCTION

Portugal is characterized by a significant asymmetry in the population distribution/density and economic activity as well as in social and cultural dynamics. Different territories have human, social and economic dynamics that result from an historical heritage, different political and institutional frameworks as well as how the endogenous resources are explored by the different internal and external agents. In what way these factors are articulated generates very diverse landscapes, different levels of development and sustainability as well as different levels of quality of life, mainly between rural and urban areas. Thus, perceptions about the quality of life level that each individual feel in each place are also very diverse.

A consequence coherent with the contemporary dynamics: urbanization of many rural areas that loose their productive-agricultural identity and, simultaneously, the reintegration in urban areas of spaces and activities with more rural characteristics. In this process of increasing complexity of organization of the landscape is essential to restore the *continuum naturale* (between urban and rural areas) allowing closer links to both ways of life. A strategy supported in the landscape, which plays important functions for public interest, in the cultural, social, ecological and environmental fields. At the same time, constitutes an important resource for economic activity, as underlined in the European Landscape Convention.

Having that diversity in mind, the study aims to analyse a) the links between urban and rural areas in Portugal and b) the reasons why these territories are chosen by individuals as places of work and mobility, residence or evasion, culture and leisure, tranquillity or excitement – meaning overall well-being. The aim is to to distinguish the

individual perceptions about quality of life level, taking into account the attributes of the corresponding regions.

We propose a multi-method approach. The geographical area is the Portuguese continental territory, at NUTS III level, classified according to their urban-rural characteristics. The research strategy has as a starting point a survey based on a questionnaire applied to a population sample of residents in Portugal. Secondary data and information was obtained on the official Portuguese Statistics (*INE* and *PORDATA*).

After this introduction, the paper is organized as follows: in Section 1, a literature review about the concepts of urban, rural and quality of life is made. Section 2 explores the potential criteria and attributes to differentiate urban from rural areas as well as those criteria and attributes to define quality of live. Data and methods used are explained also in this section. In Section 3 we present some of the results of data analysis as well as their discussion. We conclude this paper with a section of final remarks.

1. URBAN, RURAL AND QUALITY OF LIFE: LITERATURE REVIEW

The concept of urban concerns the city or town, while the rural is linked with the field or farm life. Secularly they express two worlds, which are distinguished by greater affirmation of certain functions, activities, social groups, lifestyles and landscapes.

Rural is characterized by the organization based in four domains:

> *"- The main function: food production;*
>
> *- The principal economic activity: agriculture;*
>
> *- The reference social group: the peasant family (with own lifestyles, values and behaviours);*
>
> *- The type of landscape: reflecting the balance between the natural characteristics and the developed human activities"* (Ferrão, 2000, p. 46).

The urban involves a less specific and more complex organization:

- Several main functions (economic, social, political, cultural);
- Several principal activities (commercial, recreational, educational,...);
- Different social groups;

- Landscapes dominated by the built environment (inert and artificial) frequently imbalanced and disrespecting the natural characteristics of the territory (Freire & Ramos, 2014).

So, rural and urban means two different worlds, where the traditional role of complementarity is, in present, turning into interdependences, highly recognized as asymmetrical (Telles, 1992; Ferrão, 2000).

The industrialization created large urban concentrations and the depopulation of rural areas: the city grew, becomes a wealth and power centre and is dehumanized; the countryside becomes depopulated and desertified; accompanying this phenomenon the population lives longer, has more free time and leisure, and circulate more easily, hence added new activities and mobilities.

The industrial economy succeeded the agrarian economy and the landscape changed significantly. New values, urban phenomena and ways of life emerge; growth and dispersion housing, production and manufacturing activities, mass consumption, explosion of services and commercial areas, increasing mobility and a significant distance between urban populations and food production and nature; all this is among the main dynamics experienced - which shape the transition from a predominantly rural society to another, markedly urban (Batista & Costa, 2011).

Accordingly, current research is faced with the challenge of looking for new approach models or strategies, which take into account the economic, social, cultural, aesthetic and ecological components, related with landscape. Cravidão & Fernandes (2003) and Telles (1992) advocate the approximation of the two worlds - rediscovering and/or reinventing them - expressed essentially in strengthen complementarity relations between urban and rural. As referred by Telles (1992, p. 8) *"(...) ruralize the city and urbanize the countryside, without abolishing the own values of each of the two faces of the Portuguese society."* An organization, which includes the global value, linked with the biophysical space, fundamental to life, and the affirmation of cultural values. A conceptual design of countryside, increasingly integrated, once we see valued others functions than the production (protection, cultural and recreational); and a conceptual design of urban space, integrating other functions, including the production and protection, complementing the dominant functions.

Thus it is from this corollary we develop our study.

Because quality of life (QOL) is an important goal to achieve for everyone regardless of the territory where they live, the study adopts this concept as an analytical

perspective. QOL, being a broad and ambiguous concept, has multiple theoretical approaches, socially, spatially and temporally contextualized.

Key issue in many political and social analysis, QOL is the term used to define the quality or characteristics of the conditions of human life, considering essential elements such as health, education, physical and psychic well-being or all aspects referring to the conditions of individual and collective life.

The growing interest in the topic remains for some time, and gained strength against economist current, to the 60s, essentially advocated the growth economic as a way of development of societies and analysed the growth and development through GDP or per capita income growth. It is after the 60s that some authors began to worry about aspects relating to human well-being and to consider a statement made by the President of the United States, Lyndon Johnson, who in 1964 said that social progress could not be measured by the balance sheet of banks, but through the provided QOL for people (Kluthcovsky & Takayanagui, 2007). Lyndon uses for the first time the concept of QOL in social terms, leaving behind the economist current accepted to date. Since then, similar conditions and social pressures followed, in Europe and in Latin America, the emergence of social work, in particular, developed by European Economic Community, Organization for Economic Cooperation and Development and United Nations Development Programme (Santos, 2011).

These new visions of QOL value the involvement and participation of populations in the course of community life, highlighting the importance of their perceptions and their ability to influence or change its course. The research in this area seems, then, to reflect a general reorientation towards three main aspects: i) the need to enhance the dimensions of subjective well-being; ii) the need to assess the development from a broader set of indicators (integrate aspects not strictly economic and simultaneously consider the different cultural and institutional issues); iii) need to integrate environmental sustainability concerns, assuming that the quality of environmental conditions and socio-economic development are mutually reinforced. (Ferrão & Guerra, 2004).

If QOL is a term used tendentiously as welfare synonym, its meaning and its dimensions is the subject of many weights. People's well-being is composed of many dimensions (OECD, 2013) and defined by Shin & Johnson (1978) as "a global assessment of a person's quality of life". According to Emerson (1985), QOL is consistent with the conceptualization that satisfaction and well-being stem from the

degree of fit between an individuals' perception of their objective situation and their needs or aspirations (Felce & Perry, 1995). The World Health Organization defines QOL as a broad and complex concept (persons' physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment), related with the individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns (Oort, 2005).

Terms such as happiness (Shin & Johnson, 1978), well-being (Andrews & Withey, 1976) and life satisfaction (Diener & Lucas, 2000) have been used quite interchangeably to address the topic of QOL (Bramston *et al.*, 2002; Rapley, 2003).

Used in a variety of disciplines and research programs (Lindströ & Henriksson, 1996; Ferrell, 1995; Oort *et al.*, 2005), QOL can be studied by three major approaches (Brock, 1993): 1) religious or philosophical norms; 2) satisfaction of preferences; and 3) subjective well-being (Diener & Suh, 1997). This study aims to contribute to the second and third approaches – satisfaction perception and subjective well-being, grounded in the need to assess the different individual perceptions of QOL, in diverse territories typologies. Including the previous team research (Rego *et. al*, 2014), the most common evaluations of QOL are based on objective statistical indicators (Ferrão & Guerra, 2004; OECD, 2013), neglecting the subjective QOL estimations (perceptions), focused on rural (*e.g.* Baltazar *et al.*, 2000) or urban areas (*e.g.* Bernardo & Palma-Oliveira, 2013) or sectorial approaches (*e.g.* Henriques *et al.,* 2012; Bettencourt *et al.*, 2013; Ramos & Carvalho-Ribeiro, 2013). The study contributes to a more comprehensive approach, taking into account the inseparability between objective and subjective points of view, comparing the perceptions of residents (subjective) in different territorial areas (objective) be it rural or urban areas and integrating different dimensions, at NUTS III level.

2. URBAN, RURAL AND QUALITY OF LIFE: POTENTIAL CRITERIA AND ATTRIBUTES. DATA AND METHODS

2.1. Data

The state of the art regarding studies about rural and urban, in particular for the analysis of these concepts and identification criteria, are presented in Talaska *et al.*

(2014) and Jacinto (1995). Telles (1992) also added references about the most striking features of today's dominant situations and the definition of intervention strategies, intended to establish new complementarity relations between rural and urban.

Once the aim is to study the Portuguese mainland, it is important to underline the global understanding of the landscape and define the most significant variables able to distinguish the urban areas from the rural ones. Statistical data will be collected from *INE* and *PORDATA* (Portuguese Statistics) and from a landscape study (Abreu *et al.*, 2004). Portugal is characterized by a significant diversity of landscapes, which result from its geographical position, spatial configuration, various natural factors (topography, geology, soil and vegetation) and, consequently, historical and cultural factors (ancient human occupation, diversity of production, economic dynamics and social behaviour).

The territorial units of analysis are the NUTS III. The data are collected for the last year available.

The most common variables used to characterize the urban and rural include: political and administrative criteria (urban districts, urban and rustic soil, property taxes, etc.) and demographic (total population, population density, urbanization, activities economic population) (Talaska *et al.*, 2014); another important variable concerns the biophysical and cultural space (expressed by the landscapes units), as the rural and urban concepts suggest. As a result of our research, we selected the following variables (Table 1) to distinguish both areas.

Table 1. Rural – Urban Distinction

Rural – Urban Distinction: Variables considered
Population density (2011)
Employees by branches of economic activity (according CENSOS 2011)
Resident population: total and less than 2000 inhabitants (according CENSOS 2011)
Average number of classic family households by km^2 (2011)
Number of agricultural farms (2009)
Number of forest fires (2011)
Urban waste collected per inhabitant (2011)
Number of landscape units (Abreu *et.al.*, 2000)

Source: Own elaboration from *INE*, *PORDATA* and Abreu *et al.*, 2004

The analysis of Quality of Life, according the literature review presented, namely the criteria used by EUROSTAT, will be based in the variables presented in Table 2.

Table 2. Domains and Variables of Quality of Life

Domains	Quality of life: variables
Living (material) conditions	Purchasing power per (2013) Mean monthly earning of employees for hire and reward (Total, 2013) Municipal Property Tax (2013) Beneficiaries of Guaranteed Minimum Income and Social Integration Income of Social Security (Total, 2013) Beneficiaries of Social unemployment benefit of Social Security in total of active beneficiaries (%) (2013) Deposits in banks, savings banks and mutual agricultural credit banks (Total, 10^3 €, 2013) Loans by banks, savings banks and mutual agricultural credit banks (Total, 10^3 €, 2013) Average number of persons residing in classic habitually resident family households (CENSOS, 2011)
Productive Activity	Unemployed (%) registered at job centers in the total resident population aged 15 to 64 years (2013) Unemployed population; total and by educational level completed (CENSOS, 2011) Youth unemployment rate (%): 15-24 age group (CENSOS, 2011) Employment rate (%) total and by age group (CENSOS, 2011) Workers for hire or reward: total and with higher education (2013) Part-time workers for hire or reward (2013) Job offers (annual average) available in job centers (2013) Difference between the national minimum wage and the average monthly basic remuneration of workers for hire or reward (€, 2013) Number of companies constituted by number of dissolved companies (Ratio): total and by sector of main economic activity (2013)
Health	Killed by 100 road accidents with victims (%, 2013) Child mortality rate (2013) Road accidents with victims per thousand inhabitants (2013) Inhabitants per doctor (%, 2013) Inhabitants by personnel employed in health centers (%, 2013) Inhabitants per health center and extension (2013) Longevity Index (2013)
Education	Students enrolled in pre-primary, primary and secondary schools: total and by level of education (2013) Students enrolled in higher education (2013) Graduates per 100 students enrolled in higher education (2013) Public establishments of total establishments (%, 2013) Illiteracy rate (CENSOS, 2011) Resident population aged 15 and over by highest level of education completed - secondary and higher education – (2011) Teachers in exercise in pre-primary, primary and secondary schools (2013)
Leisure and social interactions	Cinema: spectators per thousand inhabitants (2013) Expenditure of municipalities in culture (10^3 €, 2011) Live performance: spectators per thousand inhabitants (2013)

	Live performance: average number of spectators per session (2013) Number of art galleries and other spaces for temporary exhibitions (2013) Museums: Total visitors (2013)
Physical security	Crimes registered by the police per thousand inhabitants (2013) Crimes registered by the police: total and by type of crime (People, Patrimony, Life Society, State) (2011)
Governance	Abstention rate in the elections for the Assembly of the Republic (2011) Abstention rate in the elections for the Presidency of the Republic (2011) Abstention rate in the elections to the Local Administration (2013)
Environment	Burned area (ha, 2013) Firefighters (2013) Expenditure of municipalities in environment: management and environmental protection (10^3 €, 2013) Number of Environmental non-governmental organizations (NGO) (2013) Urban waste selectively collected per inhabitant (2013)

Source: Own elaboration from *INE* and *PORDATA*

2.2 Methods

The following methods were developed to achieve the objectives of this study:

- Cluster analysis to distinguish rural areas from urban areas;

- Descriptive statistics to analyse the differences between the clusters identified through some variables used to measure Quality of Life;

- The fuzzy set qualitative comparative analysis;

- Application of a survey by questionnaire in order to identify the subjective component of the Quality of Life Index.

2.2.1 Cluster Analysis and Descriptive Statistics

In order to classify nuts based on the information used in this study trying to differentiate urban from rural areas, we use multivariate analysis. More specifically, Cluster Analysis. Given the number of observations, we use the hierarchical method. The validation of results was performed by the comparison between the results of different cluster methods: Between-groups linkage and the Ward's, all based on the squared Euclidean distance for all variables under analysis. Is important to refer that Cluster Analysis is not inferential, so there are no methodological assumptions. Although, is very important to perform validation procedures, based on Linear Discriminant Analysis and on the ANOVA and R2 methods.

After obtaining and validating the clusters, is important to classify and understand the main areas that compose each one. In this way, we will proceed to the descriptive analysis if the obtained groups through mean, standard deviation, median.

The main goal is to have a better picture for all the variables that are important to distinguish the groups.

2.2.2 The fuzzy set Qualitative Comparative Analysis (fsQCA)

In order to achieve the main goal of this research piece of work, we will use a methodology based on fuzzy set qualitative comparative analysis. The main objective of this methodology is to account for individual outcomes (or effects, in this case the Quality of Life), the patterns (conditions or variables) that cause those outcomes (see, for example, Wagemann & Schneider 2010). This qualitative methodology distinguishes from the quantitative ones, since its main objective is to evaluate in a qualitative way the cause-effect relations between dependent and independent variables.

As referred by Vis (2012), "fsQCA fits the causes-of-effects approach most because this approach aims to reveal the minimal (combinations of) conditions bringing about a particular outcome in specific cases."

This topic was introduced in the literature by Ragin in 1987, and developed in a first way by the same author (Ragin, 2008) and as been mainly used in social sciences like Sociologya dn Economics.

Since we want to study the conditions to have quality of life (QOL), instead of making estimations about it, fsQCA seems to be the more adequate methodology and approach. In fact, fsQCA does not make a pure cause-effect analysis. Furthermore, fsQCA is also able to analyze different combinations of conditions in a problem (Ragin, 2008). Another important issue is that this methodology is also well suited in cases of few or medium sized samples, as we have in this study only 23 observations (see, for example, Vis, 2012).

It is important to refer that fsQCA has the ability to capture the existence of necessary and sufficient conditions. Necessary conditions are measured by "consistency", which measures the degree to which each case corresponds to a set-theoretic relationship given by a solution. In other words, we want to know which proportion of cases is consistent with a given outcome. We use a measure of consistency introduced by Ragin (2006), which accounts with penalties severe inconsistencies. To analyze sufficient conditions, we use the truth table algorithm (see,

for example, Ragin, 2008). This is an algorithm that groups causal conditions in core and peripheral causes.

While in regressions we usually use data directly from the source, in fsQCA we need a process called calibration (Ragin 2008). In this calibration process, the researcher establishes, for each condition and for the outcome, the *fully in* set (which means that the variable should have the 1 value), the *fully out* set (0) and also a crossover point (0.5) which mean that the observation in *neither in nor out* the set. This calibration serves to rescale conditions in an interval ranging from 0 to 1.

The number of fuzzy sets defined could be different. In this study we chose three sets for each condition and outcome. The calibration of data was based on a percentile approach. According to Ragin (2008), this approach is adequate when we have continuous data. The basic intuition behind the calibration is the rescale an interval variable defining cutting points: the "fully in" set (1), the "fully out" set (0) and the "neither in nor out" crossover point (0.5). As mentioned, since we applied the percentile approach, the "fully in" was defined as the 95^{th} percentile, the "fully out" as the 5^{th} percentile and finally, the "neither in nor out" point was defined by the 50^{th} percentile. We used the current version of the fs/QCA software package (2.5).

2.2.3. Application of a survey by questionnaire

As has been previously developed, QOL is a comprehensive concept which interconnect different approaches. One of these analysis fields corresponds to the distinction between the objective and subjective aspects of quality of life. Objective aspects are easily perceived by quantitative indicators (as presented in this paper with the use of Portuguese Statistics). Other aspects related to the subjective perception that each individual have of QOL are, clearly, very different from person to person. Thus, the indicators of QOL have different translations, depending on the socio-economic structure of population, spatially and temporally contextualized.

It is considered that the participation of citizens can be the key to citizenship and democracy, essential for social consensus and as such essential for improving the quality of life. Therefore, and because the methods to be used to support a public participation exercise may be different, in this study we opted for the application of a questionnaire survey.

This individual analysis was developed through the collection and assessment of opinions or perceptions of each person, that expresses its satisfaction (or dissatisfaction)

according to its references or standards (implicit or explicit) in terms of well-being and living conditions. The diverse domains included in the survey followed the Eurostat and OECD guidelines. These spheres include: quality of life, health and wellbeing, crime and safety community, culture and social networks, governance decision making processes, environment, public transport and, economic wellbeing.

As preliminary study and pre-test of questionnaire, a non-probabilistic convenience sampling[2] was made as preliminarily study and respondents, residents in urban and rural areas, were encouraged to complete the survey online. Fieldwork took place between first of June and end of July 2016.

Completed questionnaires were received from 50 respondents made up of 30 urban respondents and 20 rural respondents.

3. SOME RESULTS

3.1. Cluster Analysis and Descriptive Statistics

The cluster analysis, done with the variables that distinguished the rural from the urban areas (Table 1), allowed obtaining the identification of two clusters:

C1: cluster constituted by the metropolitan areas of Lisbon and Oporto;

C2: cluster constituted by of all other Portuguese NUTS III.

This result demonstrates the significantly differences that exists in terms of several characteristics studied between these two groups of regions: on one hand, metropolitan areas that concentrates the majority of the population, social, productive and recreational activities; on the other hand, as opposed, the other regions of the Portuguese inland territory characterized by a lower intensity of occupation and activities.

By **the** ANOVA test performed for the two clusters, based on the variables analysed, it appears that there are no significant differences for the variables Agricultural Farms and Urban Waste Collected *per capita*.

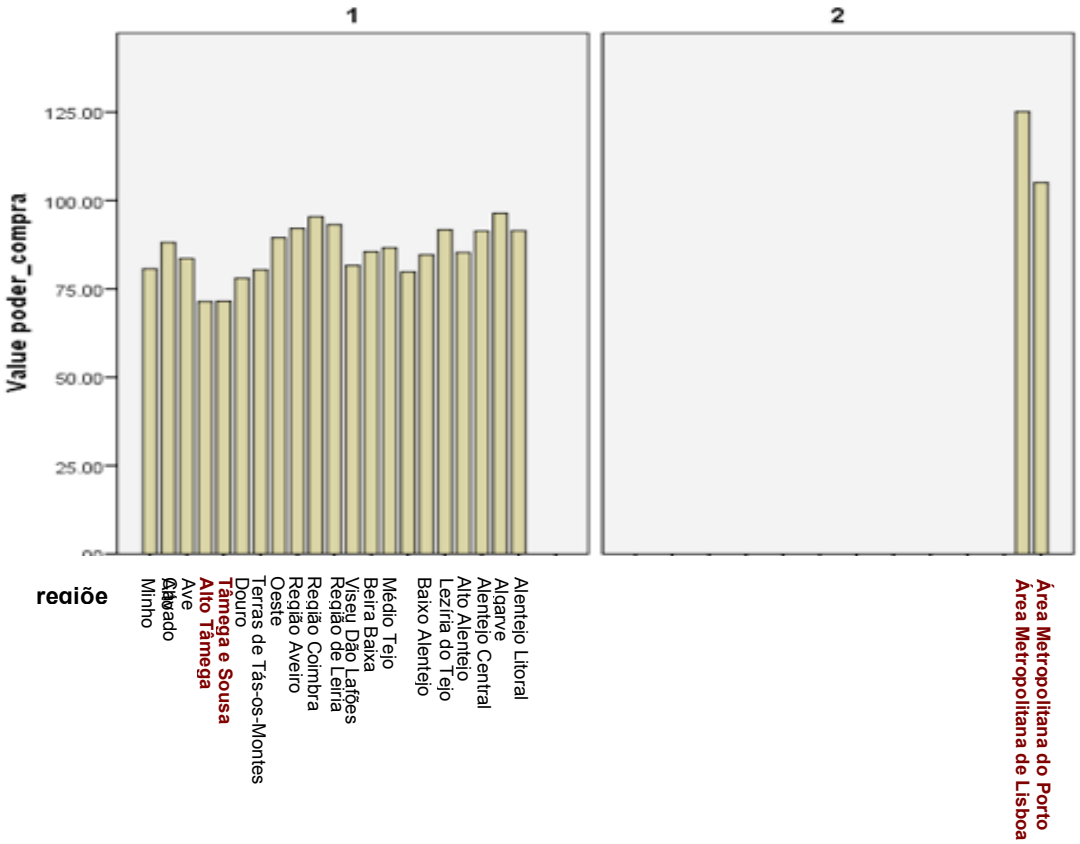
In the case of Agricultural Farms, the fact that there are no significant differences between the two clusters can be explained once the location of the head offices of the companies can't always correspond with the locations of productive

[2] The residents in different Portuguese regions was selected because of their convenient accessibility and proximity to the researchers.

activities. In the case of the intensity of the waste collected we believe that this is the result of the balance provision of infrastructure throughout the country.

Following, a brief descriptive analysis of some of the variables that allow us the measurement of quality of life shows clearly the differences between the identified clusters. The next graph (Graph 1) illustrates an example of this context.

Graph 1: Purchasing Power in regions of the Clusters identified



Source: Own Elaboration

Graph 1 shows that the distance between the two clusters considering the variable Purchasing Power. Probably, this is one of the most significant variables in the clusters distinction once it synthesizes the capacity that the individuals have to acquire a set of goods and services. Another example is Longevity Index. The Longevity Index measures the weight of the elderly (more than 75 years) throughout the aged population (more than 65 years). The results show, in general, an aging population in all the country. This variable doesn't distinguish between the previous clusters. This result is due to the fact that the factors that explain the aging population (among which we

highlight the access to health care, and adequate measures of public health policies) are factors that depend mainly of the public policy, which is applied homogeneous throughout the country.

3.2. Fuzzy set QCA

We start our analysis by testing whether which causal conditions, and their negations, can be considered a necessary condition for the NUTS III Quality of Life. We must remember that we used Purchasing Power as a proxy to the Quality of Life index. No conditions exceed the threshold of 0.8, which is considered as the minimum level of consistency for solutions to be accepted (see, for example, Fiss, 2011). In this case we must conclude that, probably, none of our conditions (or respective negation) is as itself a necessary condition for the Quality of Life proxy used in this study. Somehow these results are surprising, since according to the theory, the QOL as several determinants, that must be considered necessary to achieve such outcome.

In this sense, a multi-dimensional approach is advantageous when measuring and predicting QOL (Bramston *et al.*, 2005; Matarrita-Cascante, 2010; Perry & Felce, 1995;), using different dimensions that can vary across life areas as well as between levels that are individually-based through more expansive place-based levels. While determinants related to QOL have been investigated at both the individual and community levels, results have been somewhat inconsistent in determining the impact that community factors have on how one perceives his own QOL (Bramston *et al.*, 2002; Butler & Ciarrochi, 2007). According to Goudy (1990), some ideal social dimensions across territories influences the perception of residents' QOL – higher community attachment; higher ratings of local services and opportunities; and higher QOL evaluations are all related to positive social dimension ratings in communities. Marans (2002, 2012) concludes there is considerable evidence to show that "place" matters when it comes to QOL and help us to understand the meaning of QOL and how it might be measured.

The inclusion of community in addition to individual factors continues to warrant further consideration in the study of QOL. Bramston *et al.* (2002) state that the importance of empirically demonstrating the causal impact of specific determinants on subjective QOL cannot be underestimated, particularly variables related to individuals, to increase the understanding of QOL. Considerations need to be made of area size, time frame of data collection, population composition, life composition domains, use of

objective and subjective measures as indicators, measurement scales, inclusion of key decision makers, function of QOL model, population distributions, and residential distance impact when studying QOL (Michalos, 1996). Greater analysis and evaluation of major factors for QOL and of indices for predicting increases in satisfaction are of great benefit for continued research in QOL research across all fields of study. Multiple factors contribute to the overall satisfaction levels of perceived QOL. Individual residential satisfaction, territorial area and community support are hypothesized in the current study, each having an impact on how one is to be satisfied with perceived QOL.

The higher one's satisfaction with those factors, the higher satisfaction with QOL will be perceived. Our proposal seeks to contribute to this.

Besides necessary conditions, fsQCA also identifies the sufficient conditions to a referred outcome, i.e., those conditions that, when verified, will imply that an outcome will always be obtained. The results of those conditions are presented in Table 3.

Table 3. Sufficient conditions to Quality of Life (QOL)

Intermediate solution	Raw coverage	Unique coverage	Consistency
~fs_txanalfabeti*~fs_areaardida*ruralvsurbano	0.526271	0.140396	0.897210
fs_longevidade*fs_residuos*~ruralvsurbano	0.124892	0.124892	1.000000
fs_longevidade*~fs_areaardida*ruralvsurbano	0.491817	0.175711	0.758300
fs_sociedadestotal*~fs_txanalfabeti*fs_residuos*ruralvsurbano	0.343669	0.029285	0.832985
Solution coverage: 0.856159			
Solution consistency: 0.765204			

Source: Own elaboration

Note that total coverage, referring to the joint importance of all causal paths, is 0.8561, indicating that the greatest part of the outcome is covered by the causal paths indicated. The raw coverage ranges from 0.1248 to 0.52621. Although, some conditions have unique coverage levels near to zero.

According to the results obtained, the absence of Illiteracy, the absence of Burned Area and the fact to live in the rural area are jointly, sufficient conditions to the quality of life, and with a unique coverage of 0.14039, is one of the most important sufficient conditions. Important also to refer the joint conditions of Longevity, the absence of Burned Area and to live in a rural area, present a unique coverage of 0.1757.

Instead of having a unique coverage very small (0.0292) we believe that the combination of the Total Companies with the absence of Illiteracy, the Waste selectively collected and to live in a rural area still significant and make sense in the point of view of the literature about quality of life and the definition of rural and urban areas.

This is an important conclusion, because political makers should give more attention to the conditions that are really important to the population feel the quality of life somehow.

The analysis of the preliminary study of resident's perceptions in several quality of life domains displayed the results presented in Table 4.

Table 4. Quality of Life (QOL) individual's perceptions

Dimensions	Results
Quality of life	80% Positively; 20% good and increasing
Health and wellbeing	85% excelente (Rural); 65% Good (Urban)
Crime and safety	Undesirable problems (49% Urban; 35% (Rural)
	Unsafe (71% Urban; 86%Rural)
Society, culture and identity	Feel sense of community (76% Rural; 35% Urban)
	Online network (60% Facebook)
	Felt isolation and loneliness (58% Urban; 65% Rural)
	Trust people (65% Rural; 49% Urban)
	Greater cultural diversity positive impact (54% Rural; 75% Urban)
Local governance	Reasonably participation (60% Urban; 71% Rural)
Life style	Use of public transport (88% Urban areas; 21% Rural areas)
	Employment full time (65% Rural; 53% Urban)
	Part-time work (22% Urban; 15% Rural)
	Economic wellbeing (10% Urban; 8% Rural)
Overall QOL perception	Very Good (58% Urban; 77% Rural); Very Bad (12% Urban; 6% Rural)

Source: Own elaboration

The majority (80%) of respondents living in the urban and rural areas rate their overall quality of life positively, having pride in look and feel of city/local area with 20% rating it as good and say their quality of life has increased compared with twelve months ago.

Considering overall health, eight in ten (85%) of the respondents living in the rural areas and six in ten (65%) in urban areas rate their health and wellbeing as

excellent and good, respectively. The frequency of doing physical activity is higher in urban residents than in rural areas. Just under half (48%) of the respondents living in the urban areas say they undertake physical activity three or more days a week. In general respondents rate themselves as having a positive emotional wellbeing and are happy (52%). Only two in ten respondents in urban areas are regularly experiencing stress that has a negative impact on them.

Resident's perceptions of crime and other undesirable problems (sense of safety), half (49%) of the respondents living in the urban areas view vandalism, car theft or damage and presence of unsafe people as problems within their area over the last twelve months. In rural areas this proportion is low (35%). The majority (86%) of rural respondents feel safe in their home during the day and the dark, with around three in ten (29%) feeling unsafe in their home after dark.

Three quarters (76%) of respondents living in the rural areas agree it is important to feel a sense of community with the people in their local neighbourhood and agree also that they actually feel a sense of community with others in their local neighbourhood. On urban areas this proportion is only 35%. The most frequently mentioned reason for a lack of sense of community is a busy life. The majority (60%) used online network through websites such as Facebook and Twitter and, within the last 12 months, 58% in urban areas and 65% in rural areas, despite the positive contact with people in their neighbourhood, felted isolated or lonely. Nearly two thirds (65%) of respondents in rural areas and 49% in urban areas say that can trust people and, over half (54%) of respondents in rural areas and three quarters (75%) in urban areas feel that greater cultural diversity (lifestyles and cultures from different countries) makes their region a better place to live.

Respondents in both areas agree they understand the governance decision making process and they have confidence that the local government makes decisions in the best interests of their region. Just over half (60%) in urban areas and more (71%) in rural areas participate reasonably in local governance decision making processes.

Lifestyle domain include built and natural environment, transport and economic wellbeing (employment status).

. Over three quarters (79%) in both areas agree that their city/local area is a great place to live. The most frequently mentioned reasons given by those who feel a sense of pride are a good overall lifestyle (no stress, overall beautiful environmental landscape, the existence of parks, green open spaces or gardens). The three most frequently

mentioned reasons for those who do not feel their residence's area as a good place to live are issues with transport system, labour stability and crime and safety issues.

The majority (79%) of respondents living in rural areas reported that their main form of transport is a car or van. The frequency of use of public transport is higher in urban areas (88%) than in rural areas (21%). Concerning the perceptions of public transport, just over four in ten (42%) respondents living in urban areas agree that public transport is affordable.

Regarding employment status, over half (65%) in rural areas or just half (53%) in urban areas are employed full time and 22% (urban areas) and 15% (rural areas) are in part-time work. Both groups are satisfied with the balance between work and other aspects of life and agree that their housing costs aren't affordable. Thus, they need extra work and ability to cover costs of family everyday needs. Only one in ten (10%) respondents living in urban areas and less than one in rural areas (8%) say they have more than enough money.

The overall QOL is perceived as very good in just over half of urban area (58%) and in more than three quarters in rural areas (77%) and is seen as very bad in both areas (12% and 6%, respectively in urban areas and rural areas).

FINAL REMARKS

This study aims, using a multi-method approach, to distinguish the urban and rural areas in Portugal, based on the NUTS III regions, analyse some variables related to the measurement of QOL in the both territories and identify the main reasons (through variables) why these territories are chosen by individuals as places where it is possible to enjoy a good level of QOL.

Until now, primary information was obtained by a preliminary study and pre test of the survey questionnaire applied to a convenience sample of the rural and urban population. Secondary data and information, related with the distinction between rural and urban and the attributes of the concept of QOL, was collected on the official Portuguese statistics (*INE* and *PORDATA*).

The methods applied to obtain the intended results were the follows: cluster analysis to distinguish rural from urban areas; descriptive statistics to analyse the differences between the clusters identified, through some variables used to measure QOL; the fuzzy set qualitative comparative analysis to identify the main variables

related with a higher level of QOL and an application of a preliminary survey by questionnaire in order to identify the subjective component of the QOL Index.

The application of cluster analysis, done with the variables that distinguished the rural from the urban areas created two clusters:

C1: cluster constituted by the metropolitan areas of Lisbon and Oporto;

C2: cluster constituted by of all other Portuguese NUTS III.

This result shows the huge differences that exists between these clusters (metropolitan areas where it concentrates the majority of the population, social, productive and recreational activities as opposed the other Portuguese regions characterized by a lower intensity of occupation and activities) as well as the fact that almost the country, be it north or south, coast or inland, do not show significant differences in occupation and usage. The descriptive analysis confirms clearly the differences between the identified clusters presenting metropolitan areas, for most of the variables used, levels corresponding to more dynamic population, economic activity, social and QOL.

According to the fsQCA results obtained, the absence of Illiteracy, the absence of Burned area, the Longevity Index, the Total Companies, the Waste selectively collected and the fact to live in the rural area are the main variables which, in several simulations, arise as sufficient conditions to the quality of life. These results suggest that the QOL (which the proxy is Purchasing Power) results from the combination of factors associated with higher density (low levels of illiteracy, absence of burned areas, Total Companies, Waste selectively collected) with others that preserve the rural characteristics (Longevity Index and Live in a rural area).

Despite the preliminarily character of the QOL resident's perception survey, the study contributes to increase the perception of quality of life by the different residents in their respective territory, emphasizing the subjective dimension of the concept (the available studies generally measure quality of life through objective statistical indicators). This is an important asset, once public policy measures should go beyond statistical data and methods and take into account the individual perceptions as well as the different characteristics of the different regions (place based policy), in order to improve quality of life.

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