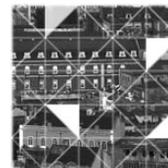

CIDADES, Comunidades e Territórios



Bonjour Tristesse. Proposed typology of residential problems in Portugal in relation to territories, policies and instruments.

Jorge Goncalves¹, Instituto Superior Técnico, Universidade de Lisboa, Portugal.

Sofia Ezequiel², Instituto Superior Técnico, Universidade de Lisboa, Portugal.

Susana Marreiros³, Instituto Superior Técnico, Universidade de Lisboa, Portugal.

Abstract

Most countries face chronic housing problems, which have produced countless social tensions and politico-economic opportunities. The housing question has had different characteristics, related to quantitative and qualitative issues or the urban and environmental surroundings of the housing.

Between the on-going problems' mutations and the administration responses through public policies, complications emerge: difficulty to understand the issues and their importance, and lack of resources, resulting in a worsening in residential dissatisfaction, degradation of the affected areas and diminished capacity to attract residents and investment.

To illustrate this, a spatialisation of housing dissatisfaction is presented for the municipalities of mainland Portugal, using recent statistical data. The variables used relate to the most common residential problems – overcrowding, degradation and lack of infrastructures – and also accessibility for people in wheelchairs and commuting time.

The statistical processing allowed for an identification of six clusters illustrating different types of residential dissatisfaction. They feature an interesting spatial distribution, supporting the view that geographic specificities can explain housing dissatisfaction profiles.

The results were correlated with the official instruments for mitigating residential dissatisfaction in order to verify their degree of coherence.

While the true origins of the problem may not lie in housing itself, or in the area's economic activity, but mostly in the income available to the affected families (retired/pensioners, minorities, unemployed people, precarious workers and other instances of social deprivation), the implications of the results obtained are evaluated for a social housing policy that is increasingly focusing on families, concrete types of dissatisfaction and territorial specificities.

Keywords: Housing dissatisfaction; Housing policies; Housing problems typologies.

¹ jorgemgoncalves@tecnico.ulisboa.pt.

² sofia.ezequiel@tecnico.ulisboa.pt.

³ susana.marreiros@ist.utl.pt.

Introduction

Concern with quality of life with regard to housing has been a constant issue in academic research (Baiden et al., 2011; Herting and Guest, 1985; Krieger and Higgins, 2002; Nathan, 1995; Zanuzdana et al., 2013). It is also an aspect that has been taken into consideration by several international institutions, such as the World Health Organization (WHO, 2008, 2011) and UN-Habitat (UNHabitat, 2009).

Housing is one of the most visible expressions of a population's social conditions. Today there are still people living in degrading conditions, for instance in dilapidated buildings, run-down social housing, overcrowded dwellings and dwellings without basic infrastructures. Opposition to such degrading conditions is essential if we are to improve social cohesion with respect to justice and dignity (Bramley and Morgan, 2003; Marques et al., 2013).

From the 1960s onwards, quality of life has come to mean more than economic growth and material comfort. This concept has become multidisciplinary, now encompassing material abundance and economic comfort, as the important components they are, while at the same time taking into account non-material aspects of living conditions, such as sanitary conditions, services, health conditions, family and social relationships and environmental quality (Ferrão and Guerra, 2003).

In Portugal, the quality or availability of housing have not deserved the same level of attention as the other areas of the social policy sphere, such as health, education and social security. This is true even though the Portuguese Constitution guarantees the citizens' right to live in housing with dignity.

The financing of the social state has been forced to review some of its traditional competences and housing has been one of them. This has led to an increase in the real estate taxes as well as a decrease in the benefits of homeownership, such as mortgage interest-related tax deductions.

The above aspects relate specifically to homeownership, but there are others that have to do with the quality of life in the dwelling for material and psychosocial reasons.

Concept of dissatisfaction – its complexity in time and space

WHO (2011) defines housing as a set of complementary aspects: physical housing; economic, cultural, psychological and social attributes; facilities and infrastructures; and the neighbourhood environment. Any problems identified in those aspects are particularly serious from a social perspective, mainly for those people who have to spend more time at home, thus being more exposed to said problems (poor, elderly, sick or disabled people, children and housewives). Those problems also create discomfort and lead to a decrease in productivity amongst all the other housing users.

According to Freitas (2004) and especially with Dekker et al. (2011), there are different groups of reasons that can explain residential satisfaction, namely: those related to the individuals' social characteristics and the composition of their groups; those related to the features of the residential spaces; and those related to the relationship processes that take place between individuals and their residential contexts, namely the residential changes that lead to the current scenarios and their forms of use and appropriation.

Indeed, housing satisfaction is “an elicited variable, expressing the degree of content that a given housing situation provides to an individual (subjective outcome)” (Vera-Toscano and Ateca-Amestoy, 2007).

As far as this paper is concerned, we are of the opinion that it is more interesting to focus on concrete situations of residential dissatisfaction, instead of analysing a gradient of residential satisfaction where the real problems end up being diluted on a scale of more or less satisfaction.

The concept of residential dissatisfaction is a very complex one. Contrary to what it would seem, it is not the direct opposite of that of residential satisfaction. While there is a multitude of factors that contribute to residential satisfaction, when it comes to dissatisfaction there seems to be agreement as to which features are unsatisfactory and which ones are not (Baker, 2002; Li and Wu, 2006).

Housing dissatisfaction can mostly be caused by the dwelling's own degradation or lack of basic comforts, while satisfaction can include a wide variety of features such as pleasant aesthetics, large living rooms, an electric gate on the garage, etc. The lack of these features doesn't necessarily imply dissatisfaction because dissatisfied residents focus on core issues (James III and Carswell, 2008).

It is necessary to know the factors that lead to residential dissatisfaction in order to implement adequate housing policies (Lu, 1999 and Diaz-Serrano, 2005).

Lee and Park (2010) defend that higher income-households are more likely to be satisfied with their housing because they have financial capacity to have a better home.

According to UN-Habitat (2009), there are certain aspects that are considered relevant for adequate housing. These aspects were the basis used in this research to create the residential dissatisfaction assumptions that were then adapted to the available data (Table 1) for mainland Portugal provided by the 2011 population and housing Census (INE, 2012a, 2012b)

Table 1. Aspects for adequate housing.

UN-Habitat aspects (2009)	Description	Relation to this research
Security of tenure	Housing is not adequate if its occupants do not have a degree of tenure security which guarantees legal protection against forced evictions, harassment and other threats	In Portugal there are legal provisions that guarantee this aspect
Availability of services, materials, facilities and infrastructure	Housing is not adequate if its occupants do not have safe drinking water, adequate sanitation, energy for cooking, heating, lighting, food storage or refuse disposal	Several indicators were taken into consideration in order to cover this aspect
Affordability	Housing is not adequate if its cost threatens or compromises the occupants' enjoyment of other human rights	This aspect was not taken into consideration because there is no available data for mainland Portugal
Habitability	Housing is not adequate if it does not guarantee physical safety or provide adequate space, as well as protection against the cold, damp, heat, rain, wind, other threats to health and structural hazards	Several indicators were taken into consideration in order to cover this aspect
Accessibility	Housing is not adequate if the specific needs of disadvantaged and marginalised groups are not taken into account.	Several indicators were taken into consideration in order to cover this aspect
Location	Housing is not adequate if it is cut off from	A proxy of this aspect was

UN-Habitat aspects (2009)	Description	Relation to this research
	employment opportunities, health-care services, schools, childcare centres and other social facilities, or if located in polluted or dangerous areas	taken into consideration
Cultural adequacy	Housing is not adequate if it does not respect and take into account the expression of cultural identity and ways of life	This aspect was not taken into consideration because there is no available data for mainland Portugal

Source: Own elaboration.

If one looks at the European context, Portugal has often been ranked in a low position when it comes to housing (Norris and Domański, 2009). The housing needs in Portugal have changed throughout the years, and whilst the problems are less apparent today, they are still a very serious reality. Whereas the main concern in the past was the shantytowns, today's problems are no longer as visually shocking and now involve overcrowding and degradation (Guerra, 2011).

According to Marques et al. (2013), the typical residential problems in Portugal can be attributed to several causes: the urban sprawl of the metropolitan areas and the rural exodus; the return of Portuguese people from the African colonies; the increase in clandestine construction; the bad quality of social housing construction; the concentration of economically disadvantaged people in social housing, and the increase in the number of immigrants who live in degrading conditions.

There was a period – in the 1990s and into the first decade of this century – during which serious problems had to be faced, such as the elimination of slums and the legalisation of clandestine neighbourhoods. At the same time, attractive conditions were created for the purchase of housing instead of renting. This stimulated urban growth and generated many unoccupied/run-down dwellings.

Based on the conceptual framework used in this research, it was possible to create a residential dissatisfaction typology and a spatial representation of dissatisfaction in mainland Portugal.

Aim

This research was carried out with the aim of reflecting on the residential dissatisfaction in Portugal and grouping the Portuguese municipalities according to their residential characteristics. To achieve this goal a set of indicators was collected from the Population Census 2011 and a Cluster Analysis was carried out in order to identify several types of residential dissatisfaction in Portugal. These results were spatialised in a map.

In addition to these main objectives (finding types of residential dissatisfaction; geographically distributing that residential dissatisfaction), there were complementary purposes (relating the problems with the planning instruments normally used to solve them – policies, programmes and plans; correlating the affected municipalities according to their specific dissatisfaction type and purchasing power). This sequence allows us to be consequent in two ways: on the one hand, through a search for the problem's causes that are situated in the development level/type shown by the purchasing power; and on the other hand, through the existing ways of counteracting those types of dissatisfaction.

Methodology

In this project we had a set of 23 indicators (Table 2), applied to 278 municipalities of mainland Portugal. These indicators were collected from the Population and Housing Census 2011 and are organised into four dimensions: Facilities and Infrastructures; Age, degradation and type of buildings; Capacity and properties of the dwellings for habitual residence; Commuting.

Table 2. Indicators by dimensions.

Dimension	Indicator	
Facilities and Infrastructures	Dwellings for habitual residence	No bathing facilities (%)
		No heating (%)
		No bathing facilities, no heating (%)
		No bathing facilities, no toilet (%)
		No running water, no bathing facilities (%)
		Toilet only (%)
		Running water only (%)
		Heating only (%)
		No facilities (%)
		Not served by municipal solid waste collection (%)
Age, degradation and type of buildings	Buildings by age of construction or partial reconstruction	Before 1919 (%)
		1919 - 1945 (%)
		1946 - 1970 (%)
		1971 - 1990 (%)
	Buildings by repair needs	Buildings in need of repair (%)
		Run-down buildings (%)
	Type of buildings	Substandard housing (%)
Capacity and properties of the dwellings for habitual residence	Overcrowded dwellings	Lacking one room (%)
		Lacking two rooms (%)
		Lacking three or more rooms (%)
	No parking space or garage (%)	
	Buildings with three or more dwellings where the entrance is not accessible for people in wheelchairs (%)	
Commuting	People who spend over 90 minutes commuting (%)	

Source: own elaboration.

A Cluster Analysis was carried out using the above indicators with the aim of identifying the types of residential dissatisfaction in Portugal.

Cluster Analysis is a quantitative statistical method that uses unsupervised learning to explore, find, and categorise features, and to gain insight into the nature or structure of data (Long et al., 2010). According to Pinto-Correia et al. (2006), Cluster Analysis is carried out to group analysis units with similar behaviour, based on indicator combinations.

The Cluster Analysis results were compared with the figures from the Purchasing Power Index for Portuguese municipalities in order to identify the relationship between the reasons for residential dissatisfaction and the purchasing power of the people who live there. This indicator summarises the economic and social performances, and it is of interest to intersect these with the residential dissatisfaction problem.

The Municipal Purchasing Power Index Study sets out to characterise the Portuguese municipalities according to their purchasing power, i.e. the material well-being of their inhabitants (INE, 2009). The Purchasing Power is the result of a methodological approach that uses Principal Component Analysis (PCA) through 17 variables at the municipality level.

In order to compare this information, five classes of Purchasing Power Index values were defined. It was made a graph represented for each of these classes the percentage of municipalities in each cluster with those specific Purchasing Power Index values.

Analysis of the planning instruments (Table 3) was another important component in this study. The planning instruments were analysed in order to identify references to residential problems or solutions for these. The information resulting from this analysis was compared with the residential problems identified by the Cluster Analysis with a view to gaining insight as to the sensibility of the Portuguese politicians and specialists who are responsible for the political, planning and action instruments for improving the residential situation in Portugal.

Table 3. Policy, Programme and Planning instruments.

Planning instrument analysed	Planning instrument type
Programa Nacional da Política de Ordenamento do Território (PNPOT) (<i>National Land Use Management Policy Programme</i>)	Policy
Plano Regional de Ordenamento do Território do Norte (PROT Norte) (<i>Regional Land Use Management Plan – Northern Portugal</i>)	Plan
Plano Regional de Ordenamento do Território do Centro (PROT Centro) (<i>Regional Land Use Management Plan – Central Portugal</i>)	
Plano Regional de Ordenamento do Território do Oeste e Vale do Tejo (PROT OVT) (<i>Regional Land Use Management Plan – Western Portugal and the Tagus Valley</i>)	
Plano Regional de Ordenamento do Território da Área Metropolitana de Lisboa (PROT AML) (<i>Regional Land Use Management Plan – Lisbon Metropolitan Area</i>)	
Plano Regional de Ordenamento do Território do Alentejo (PROT Alentejo) (<i>Regional Land Use Management Plan – Alentejo</i>)	
Plano Regional de Ordenamento do Território do Algarve (PROT Algarve) (<i>Regional Land Use Management Plan – Algarve</i>)	
PROHABITA (<i>Funding Programme for Access to Housing</i>)	Programme

Planning instrument analysed	Planning instrument type
Habitação a Custos Controlados (<i>Controlled Costs Housing</i>)	
Programa Especial de Realojamento (PER) (<i>Special Rehousing Programme</i>)	
Programa Operacional Potencial Humano (POPH) (<i>Human Potential Operational Programme</i>)	
Programa Operacional Factores de Competitividade (POFC) (<i>Competitiveness Factors Operational Programme</i>)	
Programa Operacional Valorização do Território (POVT) (<i>Territorial Enhancement Operational Programme</i>)	
Programa Operacional do Norte (PO Norte) (<i>Operational Programme for the North</i>)	
Programa Operacional do Centro (PO Centro) (<i>Operational Programme for Central Portugal</i>)	
Programa Operacional de Lisboa (PO Lisboa) (<i>Operational Programme for Lisbon</i>)	
Programa Operacional do Alentejo (PO Alentejo) (<i>Operational Programme for the Alentejo</i>)	
Programa Operacional do Algarve (PO Algarve) (<i>Operational Programme for the Algarve</i>)	

Source: own elaboration.

Results

The results consist of four kinds of outputs: the definition of different types of residential dissatisfaction according to a set of variables; spatialisation of those types of dissatisfaction at the municipality level; an analysis of the types of dissatisfaction and the dynamics in the municipalities; and a comparison between the problems and the institutional responses.

Definition of six different types of residential dissatisfaction

Six clusters were generated in the cluster analysis using STATISTICA®. This number of clusters is general enough to allow for a macroscopic analysis, and at the same time it has a level of specificity that shows how diverse the residential situation in Portugal is, thus allowing for an interesting differentiation in the context of the country as a whole.

The clusters obtained show in a very clear way a country that is marked by different types of dissatisfaction that are actually well delimited across the country's area. A table for each cluster was created and all the variables were sorted according to their means, from the largest to the smallest. It was thus possible to identify which variables were more relevant in each cluster, thus setting patterns that helped the investigation proceed. Having knowledge of the more relevant variables for each cluster (i.e., the variables with the highest values when compared to other clusters) made it possible to establish comparisons between the municipalities in each cluster and with the rest of the Portuguese municipalities. Each cluster was given a name and a definition that summarised its most important characteristics (Table 4).

The name chosen for Cluster 1 was “Satisfied Portugal I” because this is one of the two clusters where there does not seem to be a problematic situation. The highest variable means within the cluster are still very low in comparison to other clusters.

Cluster 2 was named “Obsolescence” because the variables that best represent it have to do with the advanced age of the buildings, mostly buildings constructed or partially reconstructed before 1945.

Cluster 3 corresponds to the municipalities with more run-down houses compared to the rest of the Portuguese municipalities.

Cluster 4 is the second cluster where none of the variables has a high mean value. Since the characteristics that indicate dissatisfaction do not have significant representation, this cluster has a lower dissatisfaction rate than the rest of the clusters.

Cluster 5 is the cluster where the overcrowding problem is more visible. The two variables with more representative values in this cluster were overcrowded dwellings lacking one or two rooms.

Cluster 6 is the one in which there is more substandard housing and lack of infrastructures.

Table 4. Cluster names and their most important characteristics.

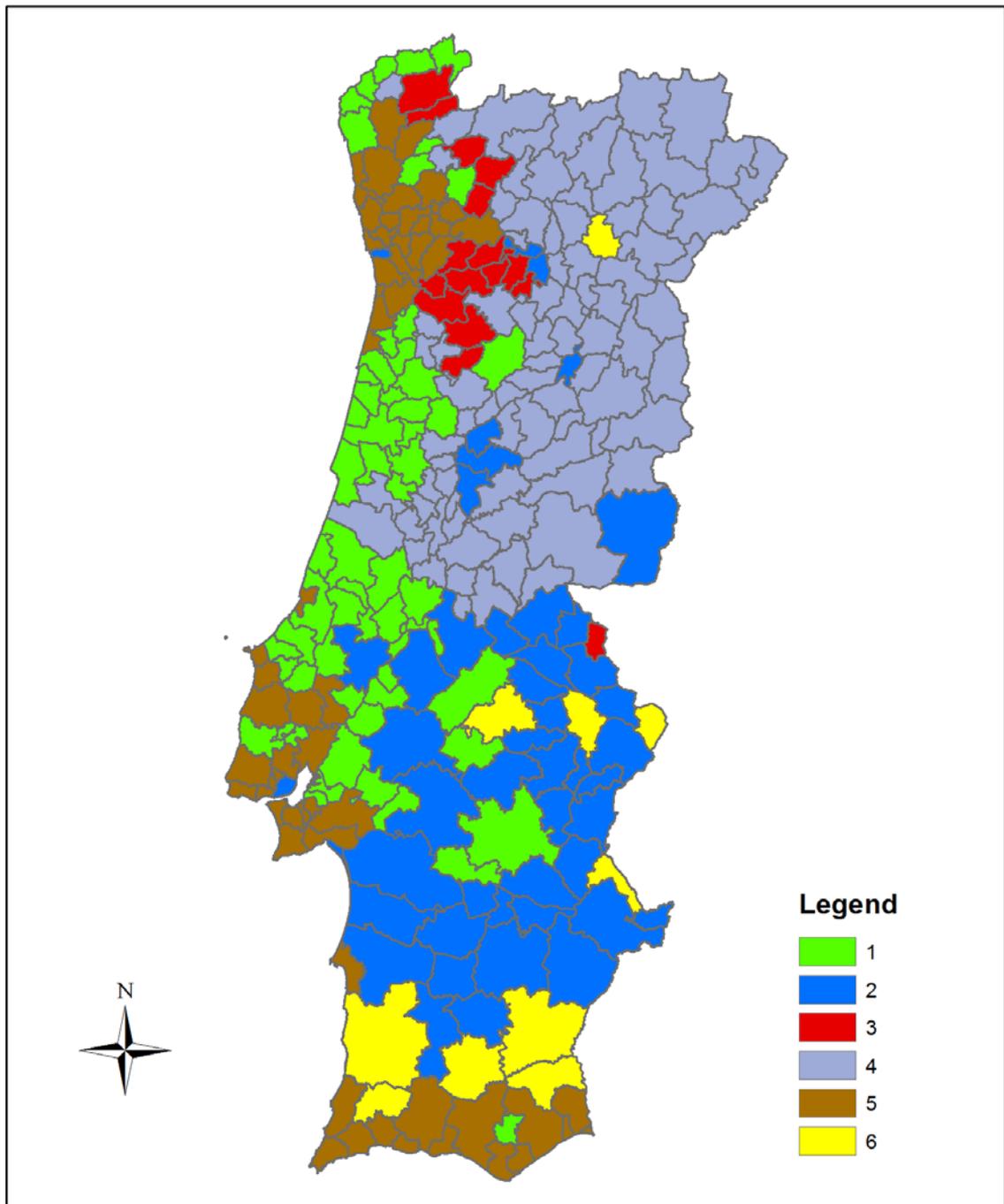
Clusters		
Number	Name	Characteristics
<i>Each cluster was given a number and a name that summarises its characteristics</i>		<i>The indicators with the highest means within the cluster (the ones that best describe the cluster) are listed below</i>
1	Satisfied Portugal I	(None of the indicators has a high mean, thus this cluster does not feature significant dissatisfaction factors) <i>Buildings built between 1946-1970</i> <i>Buildings built between 1971-1990</i>
2	Obsolescence	Buildings built between 1919-1945 Buildings built before 1919
3	discomfort	No running water or bathing facilities No bathing facilities People who spend over 90min. commuting Run-down houses
4	Satisfied Portugal II	(None of the indicators has a high mean, thus this cluster does not feature significant dissatisfaction factors) <i>No bathing facilities</i> <i>No bathing facilities or toilet</i>
5	Overcrowding	Dwellings with no heating Overcrowded dwellings lacking one room Overcrowded dwellings lacking two rooms
6	Lack of habitability	Dwellings with heating only Substandard housing Dwellings with running water only Not served by municipal solid waste collection

Source: own elaboration.

Municipality-level spatialisation of the dissatisfaction types

Using the knowledge of how each cluster corresponded each municipality, we were able to create a map to represent the six different clusters, i.e. the six different types of dissatisfaction.

Figure 1. Residential Problems types.



Source: own elaboration.

Given the fact that a geographical study of this nature implies a certain degree of spatial heterogeneity/uneven distribution of the clusters in the territory, it is fascinating to observe that there is still a clear pattern of specific characteristics for specific parts of the country. Analysis of the types of dissatisfaction and the dynamics in the municipalities dynamics

Cluster 1: Satisfied Portugal I

With very low mean values for all indicators, this cluster is the least negative one in the study. It includes most of the country's northern inland municipalities.

Cluster 1 represents about 17% of the surface area of Portugal and 21% of its population.

Cluster 2: Obsolescence

This is one of the most interesting clusters when it comes to analysing the dynamics in the municipalities. The buildings covered here are some of the oldest in the country. Most municipalities in the southern region of Alentejo are included in this cluster, as are the municipalities of Lisbon and Oporto, but not their metropolitan areas. This distribution is indicative of two distinctive facts.

With respect to the Alentejo region, it shows how one of the least developed (and least populated) regions in Europe does not have large numbers of new buildings and still retains many of its old buildings. In this particular case, many of the old buildings are the traditional *montes* (farmhouses set in the middle of land used by for agricultural/livestock production). Those buildings do not seem to be very run-down, thus it would be vital to have investment in them to preserve them for the future.

The other fact shown by this cluster's spatial distribution is that the municipalities of Lisbon and Oporto have more old houses than the municipalities that surround them. This can easily be attributed to the fact that they are the two biggest – and among the oldest – cities in Portugal, therefore their historic centres contain many old buildings that generally are not run-down.

Cluster 2 represents about 27% of the Portuguese territory but only 13% of its population.

Cluster 3: Discomfort

This cluster has a lack of some basic infrastructures, such as running water or bathing facilities. Also, this cluster includes many inhabitants who spend over 90 minutes commuting, and many buildings that are run-down. These situations can be observed in several municipalities in northern inland Portugal and one in the Alentejo region.

Cluster 3 represents only about 4% of the surface area of Portugal and only 3% of its population.

Cluster 4: Satisfied Portugal II

This is one of the two clusters that do not express much dissatisfaction. It covers the vast majority of municipalities in northern and central inland Portugal; only one of the 83 municipalities has contact with the sea.

Cluster 4 represents about 32% of the surface area of Portugal but only 11% of its population.

Cluster 5: Overcrowding

The main characteristics of the municipalities in Cluster 5 include lack of heating and overcrowding. This situation is particularly evident in the municipalities surrounding Lisbon and Oporto: these smaller metropolitan cities are home to some of the worst problems in terms of overcrowding. In the Algarve (the southernmost region of Portugal) this reality is also very much present. Cluster 5 represents only about 13% of the area of Portugal but 51% of its population.

Cluster 6: Lack of habitability

This cluster is the one whose municipalities are in the worst situation regarding residential dissatisfaction. Often there is a lack of basic infrastructures, many houses are substandard, and the area is not served by waste collection services. This is also the smallest cluster, made up of ten municipalities, most of them in the south of Portugal.

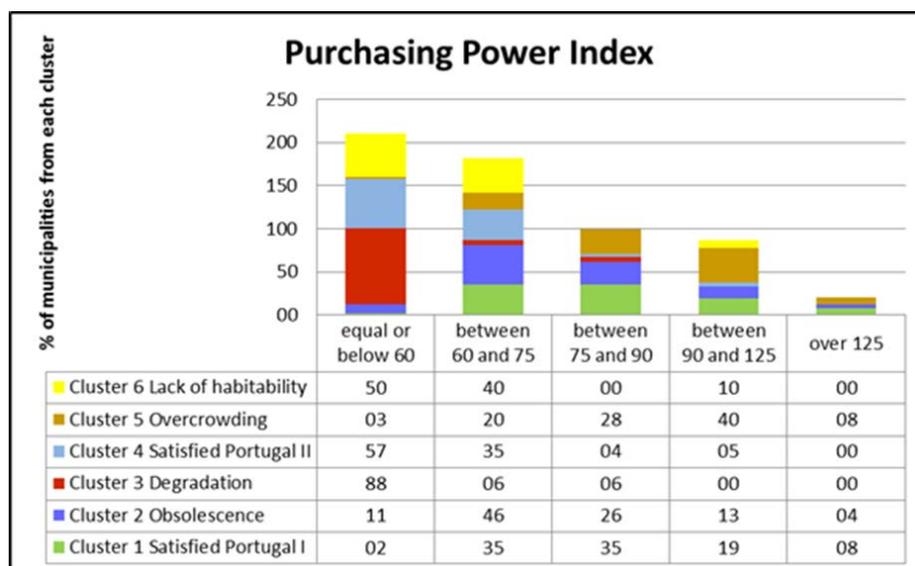
Cluster 6 represents about 7% of the surface area of Portugal but less than 1% of its population.

Comparison between the problems and the Purchasing Power Index

With the aim of corroborating the spatial distribution of residential problems, the Purchasing Power Index was used as a comparative indicator, proxy of the development level (Figure 2). This comparison showed that the residential dissatisfaction problems in municipalities with a Purchasing Power Index score similar to or higher than the national average have to do with overcrowding of dwellings. This problem is more evident in the two metropolitan areas and on the Algarve coast.

In municipalities with a Purchasing Power Index rating lower than the national average (<60%) residential dissatisfaction has to do with the buildings and their conditions of habitability. These municipalities are distinguished from the others by the age of the buildings (mostly in Alentejo), the lack of habitability (Alentejo) and overcrowding (metropolitan areas).

Figure 2. Comparison between the problems and the Purchasing Power Index.



Source: own elaboration.

Comparison between the problems and the institutional responses

The various planning instruments were analysed and compared with the residential problems identified using the Cluster Analysis. A summary table (Table 5) was produced to show which planning instruments applied more to each cluster.

Table 5. Policy, Programme and Planning Instruments and their relation to each Cluster.

Planning instruments	Cluster 1 Satisfied Portugal I	Cluster 2 Obsolescence	Cluster 3 Discomfort	Cluster 4 Satisfied Portugal II	Cluster 5 Overcrowding	Cluster 6 Lack of habitability
PNPOT		X				
PROT Norte					X	
PROT Centro	X	X		X		
PROT OVT						
PROT AML	X					
PROT Alentejo		X				X
PROT Algarve					X	
PROHABITA		X	X		X	X
HCC					X	X
PER		X	X		X	X
POPH						
POFC	X	X	X	X	X	X
POVT		X	X			
PO Norte		X	X		X	
PO Centro						
PO Lisboa	X	X			X	
PO Alentejo	X				X	X
PO Algarve						X
<i>Total</i>	5	9	5	2	9	7

Source: own elaboration.

A comparison between the type of dissatisfaction and the relevant policy, programme and planning instruments results in three main ideas:

- The planning instruments do not focus specifically on the housing issue;
- Most of the instruments taken into consideration in this study have a considerable focus on the municipalities in Cluster 2 (Obsolescence) and Cluster 5 (Overcrowding), which should mean that the problems of degradation and overcrowding should be their main targets;

- With regard to the specific programmes created for housing matters, the problem seems to be their excessive comprehensiveness, which, in certain situations, can be an obstacle to the resolution of specific problems.

Discussion/Conclusions

The information taken from Population Census 2011 was able to support the types of residential dissatisfaction based on the dimensions "Facilities and Infrastructures", "Age, degradation and type of buildings", "Capacity and properties of the dwellings for habitual residence" and "Commuting".

The consistency of these types was reinforced by their spatial representation at the municipality level. A relationship between dissatisfaction types and metropolitan dynamics was identified, and the Purchasing Power Index shows also a degree of correlation to development levels.

It should be emphasized that there is a clear and regionalized distribution of the typology of problems and a strong coherence between the lack of habitability, discomfort and obsolescence and municipalities with low purchasing power.

However, it is also important to note the convergence between municipalities with a strong purchasing power and the problems of residential overcrowding. This apparent contradiction reflects the fact that in these areas, especially urban and metropolitan, the heterogeneity of its social composition is very large and much of its purchasing power has its origin in access to credit for consumption.

Moving house requires, however, financial resources difficult to find in the current social and financial context.

The types of residential problems identified can be linked to policies, programmes and plans only to a limited degree. This supports the view that spatial planning instruments that are more oriented towards and focused on the identified problems will bring greater efficiency in terms of policy actions and also more benefits for the communities.

REFERENCES

Baiden, P., Arku, G., Luginaah, I., Asiedu, A. (2011), "An assessment of residents' housing satisfaction and coping in Accra, Ghana", *Journal of Public Health*, 19, pp. 29-37.

Baker, E.L. (2002), *Residential Satisfaction: Wellbeing through Housing. In: Public Housing Tenant Relocation: Residential Mobility, Satisfaction, and the Development of a Tenant's Spatial Decision Support System*, Adelaide: University of Adelaide.

Bramley, G., Morgan, J. (2003), "Building Competitiveness and Cohesion: The Role of New Housebuilding in Central Scotland's Cities", *Housing Studies*, 18 (4), pp. 447-471.

Braubach, M., Jacobs, D.E., Ormandy, D. (Eds.) (2011), "Environmental burden of disease associated with inadequate housing. Methods for quantifying health impacts of selected housing risks in the World Health Organization European Region", Copenhagen, World Health Organization (WHO).

Cadima, J. (2010), "Apontamentos de Estatística Multivariada. Lisboa: Departamento de Matemática", Instituto Superior de Agronomia, Universidade Técnica de Lisboa.

- Dekker, K., Vos S. de, Musterd, S., Kempen, R. van (2011), “Residential Satisfaction in Housing Estates in European Cities: A Multi-level Research Approach”, *Housing Studies*, 26 (4), pp. 479-499.
- Díaz-Serrano, L. (2005), “Housing satisfaction, homeownership and housing mobility: A panel data analysis for twelve EU countries”, IZA DP N0, 2318, IZA Bonn.
- Ferrão, J., Guerra, J. (2003), “Municípios, Sustentabilidade e Qualidade de Vida – Contributos para a construção de um sistema de indicadores de monitorização da qualidade de vida nos municípios portugueses (Continente)”. Observa – Observatório de Ambiente e Sociedade.
- Freitas, M. (2004), “Por onde passa a satisfação residencial”, Actas dos ateliers do Vº Congresso Português de Sociologia, Braga: APS – Publicações, pp. 107-115.
- Guerra, I. (2011), “As políticas de habitação em Portugal: à procura de novos caminhos”, *CIDADES, Comunidades e Territórios*, 22, pp. 41-68.
- Herting, J., Guest, A. (1985), “Components of satisfaction with local areas in the metropolis”, *Sociological Quarterly*, 26, pp. 99-116.
- INE (2009), “Estudo sobre o Poder de Compra Concelhio”, Lisboa: Instituto Nacional de Estatística.
- INE (2012a), “XV Recenseamento Geral da População”, Lisboa: Instituto Nacional de Estatística.
- INE (2012b), “V Recenseamento Geral da Habitação”, Lisboa: Instituto Nacional de Estatística.
- James III, R.N., Carswell, A.T. (2008), “Home sweet apartment: A text analysis of satisfaction and dissatisfaction with apartment homes”, *Housing and Society*, 35 (1), pp. 91-111.
- Krieger, J., Higgins, D. (2002), “Housing and health: time again for public health action”, *American Journal of Public Health*, 92 (5), pp.758-768.
- Lee, E., Park, N.K. (2010), “Housing satisfaction and quality of life among temporary residents in the United States”, *Housing and Society*, 37 (1), pp.43-67.
- Li, Z., Fulong, W. (2006), “Socio-spatial Differentiation and Residential Inequalities in Shanghai: A Case Study of Three Neighbourhoods”, *Housing Studies*, 21(5), pp.695-717.
- Long, J., Nelson, T., Wulder, M. (2010), “Regionalization of Landscape Pattern Indices Using Multivariate Cluster Analysis”, *Environmental Management*, 46, pp.134-142.
- Lu, M. (1999), “Determinants of residential satisfaction: Ordered logit vs. regression models”, *Growth and Change*, 30 (2), pp. 264-287.
- Marques, T., Matos, F., Guerra, P., Ribeiro, D. (2013), “Morfologias habitacionais e a nível nacional: para uma política de habitação territorializada”, Lisboa: Congresso Internacional da Habitação no Espaço Lusófono, 13 a 15 de Março de 2013.
- Nathan, V. (1995) “Residents’ satisfaction with the sites and services approach in affordable housing”, *Housing and Society*, 22 (3), pp.53-78.
- Norris, M., Domański, H. (2009), “Housing Conditions, States, Markets and Households: A Pan-European Analysis”, *Journal of Comparative Policy Analysis: Research and Practice*, 11 (3), pp.385-407.
- Pinto-Correia, T., Breman, B., Jorge, V., Dneboská, M. (2006), “Estudo sobre o Abandono em Portugal Continental: Análise das dinâmicas da Ocupação do Solo, do Sector Agrícola e da Comunidade Rural – Tipologias de áreas rurais”, Évora: Departamento de Planeamento Biofísico e Paisagístico, Universidade de Évora.

Rezanková, H. (2009), *Cluster analysis and categorical data*, Praha: Vysoká škola ekonomická v Praze, pp.216-232.

Toit, M.J., Cilliers, S.S. (2011), “Aspects influencing the selection of representative urbanization measures to quantify urban-rural gradients”, *Landscape Ecology*, 26, pp.169-181.

UN-Habitat (2009), “The Right to Adequate Housing”, UN Factsheet 21/Rev 1.

Vera-Toscano, E., Ateca-Amestoy, V. (2007), “The relevance of social interactions on housing satisfaction”, *Social Indicators Research*, 86 (2), pp. 257-274.

World Health Organization (WHO) (2008), “Our cities, our health, our future”, Report to the World Health Organization Commission on Social Determinants of Health from the Knowledge Network on Urban Settings.

Zanuzdana, A., Khan, M., Kraemer, A. (2013), “Housing Satisfaction Related to Health and Importance of Services in Urban Slums: Evidence from Dhaka, Bangladesh”, *Social Indicators Research*, 112 (1), pp.163-185.