Chapter 7
Socio-Economy of Peri-Urban Areas: The Case of Lisbon Metropolitan Area

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Abstract The chapter presents typologies of peri-urban areas of Lisbon Metropolitan Area (LMA) regarding social and economic dimensions. These typologies are the outcome of a trans-disciplinary research developed by the project PERI-URBAN involving different Portuguese universities, crossing academic fields and integrating the knowledge of stakeholders from diverse institutional and territorial (local and regional) backgrounds. By bridging science and society, transdisciplinarity allows the translation of knowledge acquired in research into useful and relevant information for planners and decision-makers. The analysis reveals diverse socioeconomic realities demanding different and specific political approaches envisaging sustainable peri-urban territories in a changing world. The socioeconomy of peri-urban areas considers identities and lifestyle issues (e.g., age, family patterns, living and working conditions) and economic characteristics (e.g., main economic activities, economic organisation and structuring, attractiveness). The influence of a metropolitan area is expressed by continuing investments in peripheral areas that offer sources of labour and natural resources such as land. The presence of industries, services, logistics and distribution platforms, enterprises, housing, big store chains, etc., constitutes manifestations of this realm. Plus, and in parallel, the coexistence of a rural-agriculture matrix establishes a hybrid territory where distinct activities co-exist defining distinct degrees of specialisation/diversity of the economic tissue.

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7.1   Introduction

The characterisation of peri-urban areas of LMA within Peri-Urban project considered the following dimensions: economy, society, environment, mobility, and land cover. The chapter presents the results obtained in the design of typologies for social and economic dimensions. The conception of peri-urban as an interface of social and territorial metamorphosis, imminently fragmented, and composed of changing communities with distinct identities, is translated in a geographic image of attributes and trends, that is, typologies of LMA peri-urban areas for social and economic realities. The chapter is structured as follows: presentation of a peri-urban project, its main goals and methodological options; characterisation of LMA; identification of the indicators used in the design of typologies; presentation of the typologies of LMA for social and economic dimensions; concluding remarks.

7.2   Peri-Urban Project: Goals and Methodology

Peri-urban areas encompass both characteristics of the urban and rural world and they are located somewhere in-between the urban core and the rural landscape. They have been traditionally approached from an urban planning perspective as ground for urban sprawl and location of regional and trans-regional infrastructures. Several European key policy documents (e.g., Lisbon Strategy, European Spatial Development Perspective, Territorial Agenda, Leipzig Charter, and European Landscape Convention) have been fostering the understanding of sustainable urban development as an increased integration of economic prosperity, social equity and cohesion, and environmental protection, as well as the strengthening of rural-urban relationships. The strategic role of peri-urban areas must be understood within the current societal challenges like, for instance, climatic changes and food security concerns.

Unlike urban areas, which were the object of in-depth research for a long time and from multiple disciplinary perspectives, peri-urban areas have not deserved much attention until more recently. Nevertheless, research and policy initiatives, as FP6 PLUREL Project or the PURPLE network, have put forward the case that peri-urban areas in Europe might occupy nowadays the same amount of land as consolidated urban areas, concluding that these have become a "new" kind of space that needs more targeted policies and it should be treated as a "spatial system in its own right". PURPLE (Peri-urban Regions Platform Europe) presented *The Peri-Urban Charter*. According to the Charter, peri-urban means: "a mix of urban and rural characteristics which co-exist and interact in the same territory; a wide spectrum of opportunities and urban/rural lifestyle choices for inhabitants economic diversity and intellectual capital; food production close to large populations with a range of well-established land-based services – agriculture, horticulture, forestry; infrastructure and communication – transport links, energy and other essential resources and

services including fresh water for urban and peri-urban inhabitants; valued land-scapes and open space for recreation and health, enjoyment of countryside, leisure and sport". Portugal was not integrated in the mentioned initiatives focused on peri-urban territories. It was precisely this absence that justifies the Portuguese Peri-urban project, which has as a main goal the assessment of the potential of peri-urban areas of LMA to meet future challenges for sustainable development in a changing world. To achieve this goal the project integrates several steps including the defini-tion of peri-urban areas through the construction of LMA multi-dimensional typolo-gies. These allow the delimitations of areas with similar characteristics and, therefore, the contribution to the design of public policies dedicated to these territo-rial contexts. The concern with the translation of knowledge acquired in research developed in the project into useful and relevant information for planners and decision-makers justifies the adoption of a methodological approach that bridges science and society (Ramos et al. 2013) through a transdisciplinary perspective.

The integration of stakeholders knowledge and proposals, allows a more holistic and systemic view and contextualises knowledge production: the challenges related with sustainability need to be envisaged through the integration of societal stake-holders such as the private sector and the broader public as well as diverse scientific disciplines into the process of generating knowledge" (Clark et al. 2005 in Luks et al. 2007: 420, *apud* Ramos et al. 2013). The crossing views of diverse and terri-tory based stakeholders and wider public interests provide a more complete and comprehensive understanding natures of peri-urban areas. The integration of the expert (team) scientific knowledge with non-scientific (stakeholders) knowledge into the project regarding the (i) definition of peri-urban areas and (ii) construction of typologies, was made through participatory methodologies in different moments (Ramos et al. 2013). The group of stakeholders was constructed gathering people from different areas with influence on the management of the landscape in the study. These actors had the opportunity to contribute to the definition of peri-urban areas; to identify the relevant indicators to the description of typologies and to their valida-tion. These indicators where subsequently used in statistical analysis that made possible the design of a range of territorial typologies for LMA.

7.3 Lisbon Metropolitan Area

LMA integrates the capital city of Portugal (Lisbon) and corresponds to an associa-tion of 18 municipalities (Alcochete, Almada, Amadora, Barreiro, Cascais, Lisboa, Loures, Mafra, Moita, Montijo, Odivelas, Oeiras, Palmela, Sesimbra, Setúbal, Seixal, Sintra, and Vila Franca de Xira) (Fig. 7.1). With a population of 2,8 million inhabitants (26 % of the total national), there was a demographic decrease of its center during the last years related with a displacement of population to boarder municipalities and a consequent daily movement for working reasons. LMA has a positive demographic trend with a multicultural expression, which is also associated with immigration flows. In fact, and after the 'industrial' urbanisation process until

Fig. 7.1 Lisbon Metropolitan Area (LMA)

the 1960', with flows comings essentially from rural areas, the immigration dynamic of the 1970s and the 1980s is mainly related to the population of the ex-Portuguese colonies, which occupied the first peripheral crown of Lisbon. According to a recent characterisation of LMA with planning purposes (Regional Coordination Commission of Lisbon and Tagus Valley [CCDR]), this is a polarised territorial entity with an influence that exceeds its administrative borders, explained by, and among other factors, the improvement of transport infrastructures (CCDR 2009: 33). LMA is the location of multinational enterprises and several industrial activities, especially in the South bank of Tagus River. It is the most competitive economic center of the country (38.6 % of National GDP) (CML 2012) with global integration and a strong presence in international markets. This is also a territory with problems like the lack of land use planning, urban and landscape disqualification, mobility, environmental risks, social exclusion and inequality (Figs. 7.2 and 7.3).
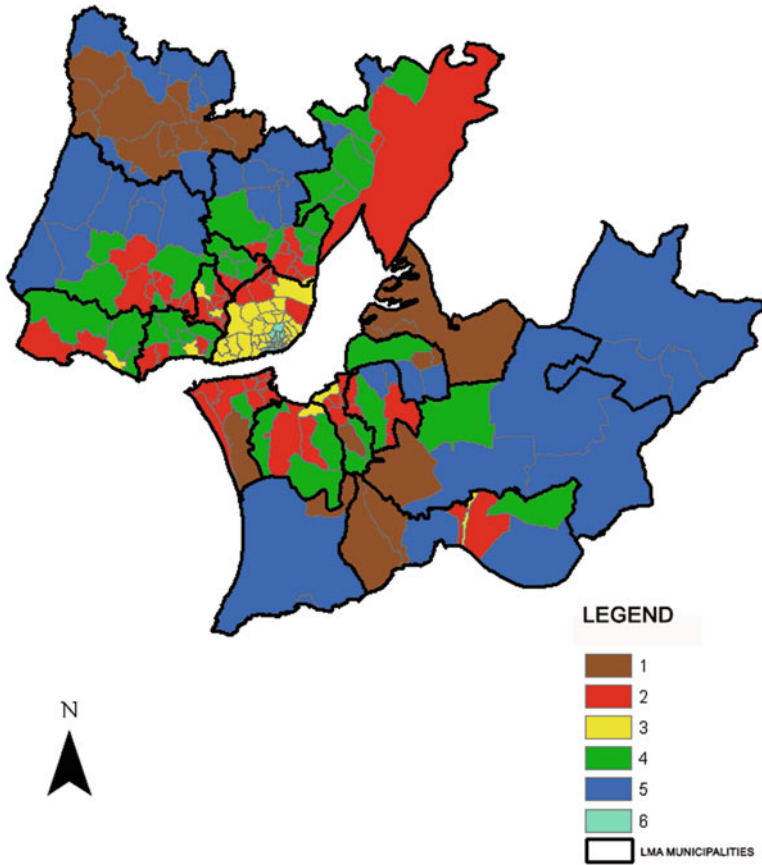
Fig. 7.2 LMA – social typologies

Social problems were aggravated with the current economic crisis and increase of the unemployment rate. Positively, LMA presents environmental and ecological amenities related to the presence of coastal areas (Atlantic Ocean and two rivers – Tagus and Sado), and other places of important ecological value (e.g. Natura 2000 places, natural parks like Sintra-Cascais and Arrabida, Natural Reserves of Tagus and Sado Estuaries, the presence of rural areas with high productive land resources). LMA has also important subterranean water resources: the aquifers of Tagus and Sado basins represent 53 % of the water reserves of Portuguese Continent and are crucial to the development of agro-forestry sector which occupy 57 % of LMA area. The main planning instrument of LMA is the PROTAML (Regional Plan of Territory Planning), a Regional Plan that develops the goals and guidelines of National Program of Territory Planning Policy. The Municipal Plans of Territorial Planning constitute the local instrument of territory planning in Portugal.
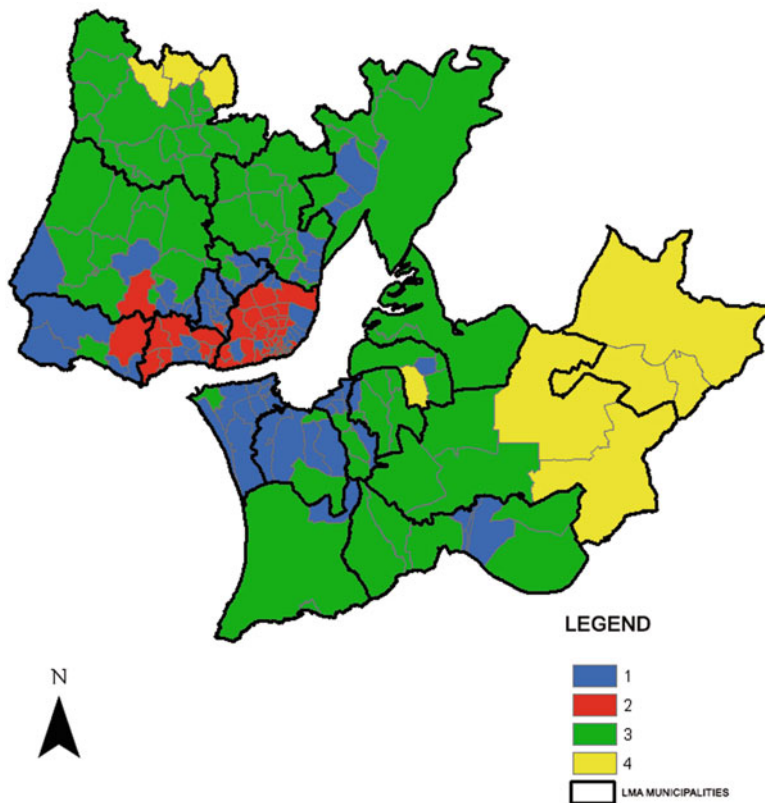
Fig. 7.3 LMA – economic typologies

7.4 Dimensions and Indicators for the Design of Peri-Urban Typologies

Instead of defining in advance a set of criteria to identify peri-urban landscapes, the project formulated a conceptual framework broad enough to accommodate distinct, and sometimes opposite, perspectives and characteristics about what can be considered as peri-urban spaces. This involved an intensive selection of the appropriate dimensions and indicators of peri-urban areas. This effort was done using a transdisciplinary approach bridging scientific and non-scientific knowledge through deeply participated working sessions. One of the major innovations of the project was the bond between spatial based and socio-economic indicators allowing a more inter-connected comprehension of facts and dynamics. Using 83 indicators aggregated in 5 distinct dimensions (economic, social, environment, mobility and land cover) it was possible to identify a set of typologies that represent the variety and dynamic of peri-urban areas.

Table 7.1 Indicators used in social characterisation of LMA peri-urban territories

Variation rate of resident population (2001–2011)
Variation in ageing index (2001–2011)
Variation in rejuvenation index (2001–2011)
New residents (diverse indicators) (in relation to 2005)
Population born in the parish of residence
Location coefficient regarding different family types
Variation of single-family houses (2001–2011)
Secondary housing rate (2011)
Variation in secondary housing rate (2001–2011)
Land-use changes (2000–2006)
% of 'Social Inclusive Income' (RSI) beneficiaries
Variation of population with higher education (2011–2001)
Average municipal voters (2005–2009)

7.4.1 Social Characterisation: In Between Identity, Territorial Recomposition and Community Relations

Considering peri-urban spaces as 'in transition' and strongly marked by social and territorial recomposition, there was an option for a 'flows-based' approach in order to address the 'processes of rapid economic, sociological, institutional, and environmental change' that occur in these territories (Marshall et al. 2009). Understanding inherent social dynamics in LAM, leaded us to the identification of trends/characteristics through the use of static and dynamic indicators. This approach made possible the distinction between urban centre and peri-urban territory, but also the identification of types of peri-urban spaces with diverse social character. Considering peri-urban as an interface of social/territorial metamorphosis, imminently 'fragmented', and composed of changing communities with distinct identities, it was necessary to translate the fragmented territorial and social mosaic (as it's inner 'movement') in a geographic image of attributes and trends. Portuguese Census (2001 and 2011) information enabled the characterisation in social terms (Table 7.1) considering the following dimensions: population growth and composition; residential mobility and social diversity; family types; types of housing; territorial reconfiguration; spatial inequalities; community relations.

7.4.2 Economic Characterisation: In Between Local, Regional and Global Relations

Peri-urban areas are characterised by complementary relations between urban and rural systems. This complementarity results from the flow of products, information and people as from the connections between sectors related to agriculture, manufacturing, and services (Pradoto 2012). Peri-urban areas are also strongly influenced by

Table 7.2 Indicators used in economic characterisation of LMA peri-urban territories

Specialisation of employment (2011)
Specialisation of companies
Diversification of employment
Diversification of employment
Diversification of companies
Location coefficient of logistic and distribution
Significance of agro industrial sector
Average size of agricultural farm (ha)
Proportion of farmers under 65 years
Proportion of pluriactivity in agriculture
Average size of agricultural farms
Importance of 'caixa agrícola' (bank specialised in agricultural sector) dependencies in relation to total (other) bank branches
Average value of housing supply (€/m²)
Index of corporate rent – warehouse (industry) – (€/m²) (confidential values)

the interaction of local/regional/global dynamics, and local anchoring processes of global dynamics. The influence of a metropolitan area is expressed by continued investments in peripheral areas as they correspond to sources of labour and land. The presence of industries, services, logistics, distribution platforms, services, real estate, big chain stores etc. constitutes the physical manifestation of this realm. This complex set of conditions defines distinct degrees of specialisation and diversity of the economic tissue and different relations with the territory. The economic characterisation of LMA peri-urban areas considered the following analytical dimensions: specialisation and diversity of economic activities; presence of agriculture, agrobusiness, and other specific sectors (e.g., logistics and distribution); types of agroindustrial explorations, and real estate attractiveness. Table 7.2 presents the indicators selected envisaging the design of economic typologies.

7.4.3   Typologies of LMA Peri-Urban Areas

The previous indicators were analysed through cluster analysis. It was used a 'principal component' analysis by dimension. Then four of the most significant indicators were chosen by dimension, and, finally, a cluster analysis was applied. The original group of 83 indicators was reduced to 24, which allowed the identification of 7 clusters. The result was the design of typologies of peri-urban areas of LMA in social and economic terms. Each cluster represents one specific typology. In social terms six clusters (clusters 3 and 6 were not considered because they correspond to urban centres) were identified which clearly demonstrates a high fragmented territory and important processes of social recomposition. Demographic change, resident population balance, as well as age structure composition can function as explanatory elements of these spaces where it is normally verified by the growth of

population, explained either by demand of rural population (proximity to urban centre) or by demand of urban population. In fact, processes related to attractiveness (e.g., lower prices of houses) also induce a tendency of population growth and regeneration in these territories.

As determinant factors for the differences achieved, cluster 1 is mainly characterised by a tendency of population growth and dynamism matching high values of land use change, the highest values of secondary houses and the highest values of couples with children and negative values in ageing variation index. This is the most dynamic cluster providing its capability to attract new residents using the great improvement of accessibilities and the existence of new residential models, namely single-family dwellings. The new inhabitants of peri-urban areas, namely from the medium social class, are driven by the proximity of urban centre and quality of life; cluster 2 presents a stagnation with low capacity to attract new residents and a high level of ageing. Demonstrating simultaneously a large presence of single-parent families. In fact, this cluster shows the decline of territories in geographical continuity of the metropolis centre and who have participated in the first phase of the metropolisation process; cluster 4 is characterised by a loss of importance on secondary housing simultaneous with a relative population growth (2001–2011). It presents high values for families with children and single-family nuclei and a low participation in municipal elections.

Extensive bibliography draws attention on the importance of single-family houses in peri-urban areas, which derives not only from an existent 'rural model matrix' but also from the new demand of space, comfort, and quality driven by 'new comers' (Berger 2004). According to Charmes (2011), peri-urban inhabitants seek to 'consume and enjoy a certain quality of life' rather than developing a political attachment to the community in which they live. Generally, the analysis of social and demographic dynamics of these three clusters shows a trend of population displacement towards more peripheral areas of LMA; cluster 5 corresponds to the most rural municipalities, with a lower proportion of new residents and high percentage of resident population born in these municipalities. It presents low values for variation of population with higher education (2001–2011) and high values for couples without children and an important presence of secondary houses and single-family houses. This is the cluster that shows fewer processes of social and territorial recomposition, but probably one that may suffer a strong economic and social pressure for changing in the future.

Four clusters were identified concerning economic aspects of LMA peri-urban areas, with variations in the mix of economic activities and, thus, distinct degrees of diversity and character. In fact, measuring the specialisation of economic activities allows the recognition of the 'fragmented economic mosaic' of peri-urban areas of LMA. Furthermore, exploiting certain indicators we can identify the specific activities that are present in each specific space. Cluster 1 is determined by the diversification of the economic base in relation to employment and enterprises, exhibits low presence of companies and jobs related to agricultural activity. The price of housing has a positive valuation. However, requests for construction are low; cluster 2 presents some level of specialisation of the economic base in relation to employment. It

is characterised by a small presence of economic sectors such as logistics and distribution, agricultural or agro-industrial and presents a positive tendency in house valuations, lower industrial rents and few requests for construction. Cluster 3 expresses a relative degree of specialisation (employment and enterprises) probably induced by the importance of logistics/distribution sector, but also by a relative dynamic of agro-industrial and agricultural sector. It also presents low values of housing prices and high rental values of industrial facilities. Cluster 4 is characterised by high levels of economic specialisation in agriculture (employment and enterprises) based on the higher values for several indicators. This cluster also presents the lowest average price of real estate supply and a high number of requests for construction. The presence and the role of agriculture in peri-urban areas should be stressed. Agriculture still represents the main land use of peri-urban areas, despite its decline in economic terms. The process of industrialisation, the improvement of transport infrastructures and technology involved in storage of agricultural products, concur to this decline. However, agricultural activities in peri-urban areas reveal also a changing nature related, for instance, with pluriactivity, the increase of subsistence farming and the presence of agro-food industry. Therefore, peri-urban areas are fundamental in the reflection about food security and sustainability of metropolitan territories.

7.5   Conclusions

The presentation of peri-urban typologies related with the social and economic reality of LMA results from the research within the peri-urban project. The absence of Mediterranean territories from the European research about peri-urban areas was one of the driving forces of the project. LMA occupies a particular geographic situation: the Tagus River, two river estuaries, a political, administrative and economic centre, the presence of important natural resources and ecological values, the cultural diversity, important social and demographic dynamics. These aspects contribute to the existence of a peri-urban socioeconomic specific situation, characterised by a diversification of activities and social practices, but also by a diversity of territorial dynamics, which appeals to different forms of intervention regarding present and future challenges of metropolitan areas including peri-urban areas. The design of typologies with stakeholders participation allows the perception of this diversity and may be an important instrument to support more coherent and realistic decision-making regarding the enhancement of the sustainability of a territory whose evolutionary pathways are strongly conditioned by planning, governance mechanisms, and territorially management policies, as well as by general driving forces of change in-between local and global processes.

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