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RELATIVE REMOTE RURAL AREAS (RRRA) IN DEVELOPED REGIONS: AN ANALYSIS OF THE EMILIA-ROMAGNA REGION TO SUPPORT POLICY DECISION MAKING

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Abstract: This paper addresses the identification and the analysis of the remote rural areas (RRA) that should be at the center of future regional development policies for periphery areas in averagely highly developed territories, such as the Emilia-Romagna region. However, since none of the areas of the region can be defined lagging or underdeveloped when compared with the EU 25 countries, it is introduced the concept of “Relative” Remote Rural Area (RRRA) which partially could recall the semi-periphery in the theoretical scheme of Immanuel Wallestrein or the transition area of Friedmann.

Methodologically, the investigation is done both by using as a basis an intermediate geographical level that can be considered in line with the NUTS4 one: the SLL (Local Working Systems) identified by the Italian Institute of Statistics (ISTAT), and by a NUTS5-level cluster analysis performed using a selection of indicators, which includes demographic, socio-economic, employment, agricultural, infrastructure and commuting patterns. This work led to the identification and mapping of a set of municipalities that show the higher remote & rural features of the region. The Province of Ferrara resulted the NUTS3 level with the highest RRRA. After a discussion upon the main characteristics of this areas, preliminary policy indications for these territories are given.

Keywords: remotness, rurality, local working system (SLL), geographical economic analysis, regional policy

JEL classification: C30, C88, R12, R14, R58

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1. Introduction

Europe, especially after the widening process to the central-eastern countries, offers a vast variety of case studies of *remote rural areas (RRA)*¹. Therefore, the concepts of rurality and marginality take on different forms according to the territory of reference.

However, the definition of “rurality” is not so clear-cut; the review of a wide literature shows that the concept is changing in different periods relatively the rural territory function. Rurality has been conceived mainly agrarian (1950s-60s), industrial (1960s-90s) and post-industrial rurality (from 1990s) (Sotte,1997, 2005). In addition, Murdoch & Pratt (2002) redefine the concept in a contest of post-rural.

Furthermore, we can relate to three main meanings of rural and rurality: one where rural denotes a real object, or variously describes some quality of landscape or preponderance of social and economic practices. In this way the term rurality is usually deployed in attempts to classify or compare different landscapes, or different social and economic practices. It is in this sense that an 'index of rurality' has been used (Cloke, 1987). The second meaning it is about a 'cultural' interpretation of the rurality where the terms rurality is a cover-all notion for some qualitative measure of the 'naturalness' of the landscape or social and economic practices.

It is against these two main positions that a third one has been developing in recent years inspired by poststructuralist debates. Such a position takes the radical step of rejecting the notion of a point of origin; the suggestion is the existence of a plurality: in short, there are many 'rurals'. There has been some considerable debate about this plurality, especially with respect to the issue of power (see Philo, 1992; 1993; Murdoch and Pratt, 1993; 1994).

If the concept is referred to a territory, in a more concrete contest, rural can be linked to an agricultural (sector of productivity), a demographic (as depopulated) or a backward meaning and any of these meaning stands out from the other (Pacciani, 2003). In addition, rural and rurality can be conceived as concepts or subjects of discussion as well as territorial contests that remind us to a weakly situation because of changes that, just now have ignored or destroyed these realities.

Recent interests on environment, social inequality , rural cultural heritage, different kind of tourism and the industrial model crisis have highlighted the need to reflect upon the rural territories.

In the European Union (EU), since the reform of the Common Agricultural Policy (CAP), Rural Development is playing an increasingly important role in helping rural areas to meet the economic, social and environmental challenges of the 21st century. Rural areas make up 90 percent of the territory of the enlarged EU and the new legal framework points more clearly to the direction of boosting growth and creating jobs in rural areas – in line with the Lisbon Strategy – and improving sustainability - in line with the Göteborg sustainability goals.

The future Rural Development policy 2007-2013 will focus on three areas in line with the three thematic axes laid down in the new rural development regulation:

- Improving competitiveness for farming and forestry;
- Environment and countryside;
- Improving quality of life and diversification of the rural economy.

In addition, a fourth one, called "Leader axis", introduces possibilities for locally based bottom-up approaches to rural development.

¹ Significant examples are described by Bednarikova *et al.* (2006).

The new programming period provides a unique opportunity to refocus support from the new rural development fund on growth, jobs and sustainability. Therefore, with the introduction of the second pillar of the CAP, a new paradigm of multi-dimensional rural development has emerged in Europe. Rural development is no longer the “monopoly of the farmers”. In particular, in the CAP II initiative, also known as the rural development regulation, some keywords and phrases appear that seem to indicate that thinking on rural development in the EU is more in line with the approach that has been taken for quite a long time in development studies in the Southern countries (Korf and Oughton, 2006): e.g. “emphasis must be on participation and a ‘bottom up’ approach”.

However, although the rural development regulation talks about rural development in a broad sense virtually, all the measures mentioned are directed at farming and encouraging restructuring and diversification.

Finally, in addition to the concept of rurality, the focus area of the paper is include the remoteness concept should also be connected to territorial factors such as distances from core and urban centres and a relatively high dispersion of economic activity as well as a certain marginality and weakness in the economic performance. Referring to the EU policy it is thus relevant to mention a significant territorialisation methodology used to define the typologies of regions according to the European Structural Funds and Cohesion Policy Programmes (Council of Europe, 2006; Pasini, 2006).

This study is based on the territorial identification of remote rural areas (RRA) in the European Union following the methodological guidelines developed in the framework of the TERA research project; however, theoretically it recalls also the concepts of rural districts and local rural systems that the literature had widely discussed (Brusco, 1982; Cannata, 1989; Cecchi, 1992, 1999, 200; Romano, 2000).

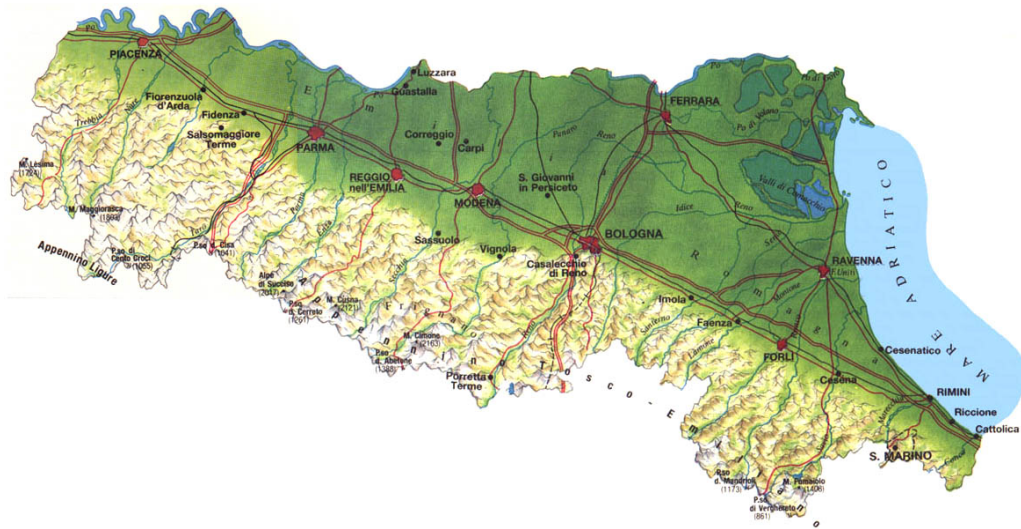
Concerning the Italian experience, it is important to underline that the Emilia-Romagna Region is characterized by a sustained economic welfare and an appreciable social stability following a model of a balanced and original development.

Since the 1950s the development process of the regional economy has been based on small and medium handicraft enterprises and on a forefront agriculture oriented to the European agro-food market. In the 1970s there was an intense and unexpected acceleration of the economy which, from a peripheral position, has pushed the Emilia-Romagna region towards a development level comparable with the rich Italian North-west and so that now it is to be among the richest areas of the European Union. This can be explained by a diffuse process of localisation and productive polarization in the rural areas, often indicated as the industrial district phenomena (Beccattini, 1987).

This innovative orientation of the rural world has been confirmed at the European level with Agenda 2000 where the EU has ratified the new functions that agriculture can develop in the modern society and for which the society is minded to pay: care on aliments quality, health's protection, environmental sustainability, integration between productive activity and land conservation. In this way also the marginality takes on a particular connotation, as a tool to reach a wider equilibrium where the marginal areas become the warder of patrimonies, important for the whole territory (Zabbini, 2000).

This paper addresses the identification and the analysis of the remote rural areas (RRA) in the Emilia-Romagna Region and discuss the relativeness in the EU context, leading to the introduction of the Relative Remote Rural Area. Chapter 2 of this paper present two approach for territorial identification: a GIS expert analysis based on a NUTS4 equivalent units (the Local Work Systems – SLL) and a cluster analysis based on NUTS5 level using the methodologies guidelines developed in the framework of TERA research project. Finally a discussion on policy approach is done.

Fig. 1 – General Map of the Emilia-Romagna Region



2) The Relative Remote Rural Area territorial identification

2.1 The choice of the Local Working Systems (SLL)

Within the TERA project the local research units were required to define the marginal areas on the basis of a coherent territorial comparison for all the partners, and the NUTS 4 is thought of as the more effective geographical scale (the dimensional-optimum). This choice give to the Italian team a problem of homogeneity in order to be aligned with the other research units of the project. In particular, Italy has not formally recognized this level of administrative division, but just the NUTS3 – i.e. Provinces - and the NUTS5 level represented by the Municipalities. To consider the first one would create a lost of a precious information as Provinces are a too large territorial context to conduct meaningful investigations, whilst the second ones, NUTS5, could provide an excess in the fractionalisation in the analysis, but even more in those steps of the TERA research linked to policy proposals. Thus, it is important to define meaningful municipality aggregations that are also significant for the activation of European policies focusing on rural and remote rural areas.

The proposal of the authors is the use of the Local Working Systems (*Sistemi Locali di Lavoro, SLL*) as these represent the places of the daily life of the population that there resides and works. They are territorial units made by several aggregated municipalities, geographically and statistically comparable. The SLLs are a very useful tool of analysis for investigating the social and economic structure of the Country in a territorial perspective. The study that has brought to the definition of the SLL in 2001 is the result of a joint research project between ISTAT and the Department of Economics of the University of Parma. This project follows a line of scientific and methodological continuity with previous experiences that ISTAT had in 1981 and in 1991 in collaboration

with the IRPET and the Universities of Newcastle upon Tyne and of Leeds. This approach and the regionalisation algorithm is based to the Travel-To-Work Area (TTWA) methodology developed by the University of Newcastle scholars in the 1980s and adapted by Sforzi *et al.* to the Italian case (ISTAT, 1997).

In particular, the SLLs are aggregations of Municipalities which derive from the elaboration of the data related to the commuting attitudes of the family-members for job reasons, and collected via the General Census of the Population. The objective is the construction of a territorial grid determined by the movements of people for job reasons. In this way elementary administrative unities (Municipalities) are aggregated on the territory following social and economic relationships. The criteria adopted for the definition of the SLLs are the followings:

- Self-containment
- Spatial Continuity
- Space-to-time Relationship.

The term “Self-containment” indicates a territory where productive activities and services are concentrated in a sufficient quantity in order to offer job opportunity to the greatest part of the population resident in that proper area. It is the capability of a territory to contain the greatest part of the human relationships that occur between the centres of production activity (place of work) and the activity related to the social reproduction (i.e. place of residence, education, culture, health, leisure, etc.). A territory with these characteristics is a local system, a social and economic entity that summarizes occupation, acquisitions, relationships and social opportunity; the activities are, however, limited in time and space, accessible under the tie of their location and their duration, up to the available transport technologies, given an individual residential basis and the necessity to come back at the end of the day, in classical term referred as commuting patterns.

“Spatial Contiguity” means that the municipalities contained in the SLL must be adjacent. The “Space-to-time Relationship” is intended to indicate the distance and the time of route between the place of residence and the place of job. This is referred to the time-distance concept that actually is quite relative and it is deeply connected to the availability of efficient services.

The boundary of the SLL crosses the administrative edges of provinces and regions. The only administrative limit safeguarded by the definition procedure of the Local Systems is that of the municipalities, because it represents the elementary unit for the data survey. Yet, at the whole national level, 167 are the SLLs composed of municipalities belonging to more than one province.

SLLs seem therefore to be adequate to be used in this regionalisation process because they implicate spontaneous mechanisms of social, economic, and political homogeneity of the areas and they contain information for the development possibilities of the most marginal areas and are, finally, they are clearly an intermediate area between NUTS 3 and NUTS 5 that can be a relatively be a *proxi* of a NUTS 4. In addition, SLL include conceptually a partial content of marginality and remoteness as SLL are, by construction, related on the concept of distance.

Fig. 2 – Map of the 2001 Italian Work Local System (SSL) (ISTAT, 2005)

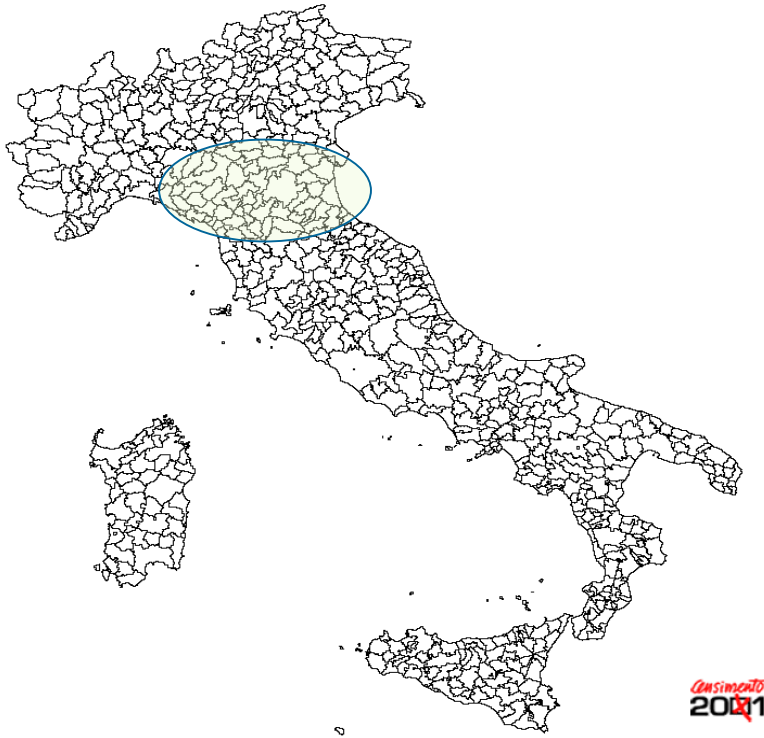
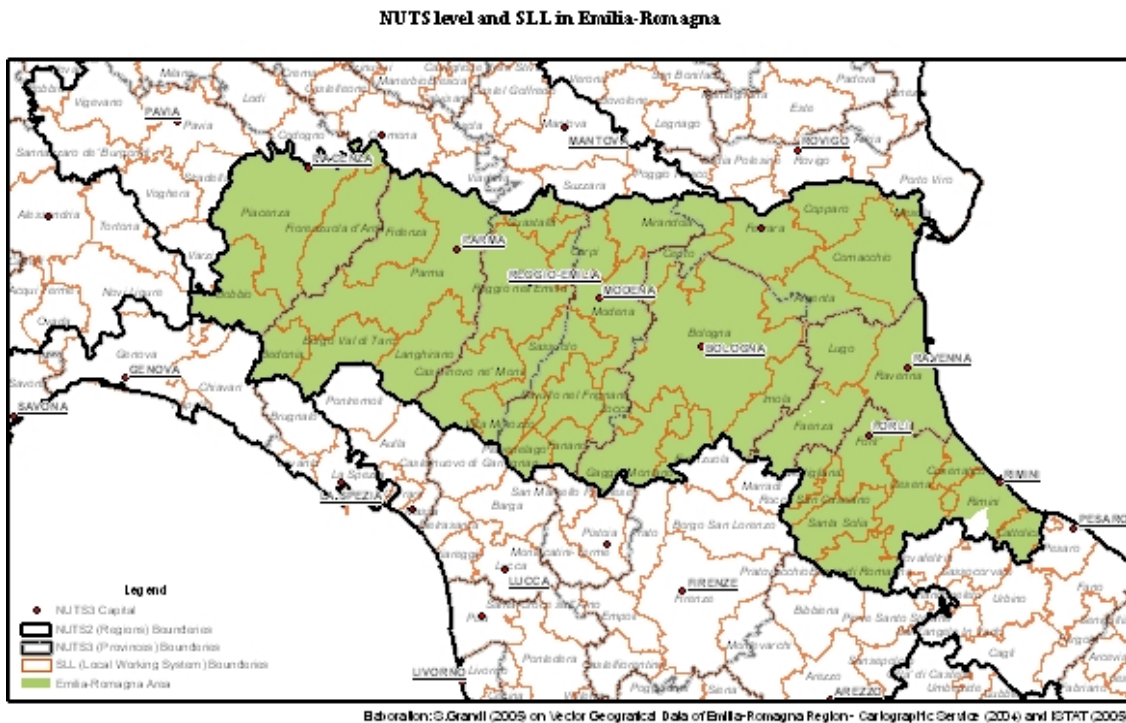


Fig. 3 – Map of the Administrative levels and Work Local System (SLL) in the Emilia-Romagna Region



SLLs size vary depending by the number of inhabitants and by the form and density of their daily commuting patterns. In fact, near to small municipalities that are part of a wider intercity network, and which can be considered as peripheral elements of a Local System of greater dimension; there are, also, other small municipalities that constitute, together with others of similar demographic level, an independent Local System. The demographic dimension is therefore connected to the economic nature of the Local Systems. Thus, by analyzing this dimension it is possible to understand if the SLL is a marginal reality, in a demographic decline, or a small dynamic industrial concentration, in economic and demographic expansion.

SLLs also vary according to the number of employees in the local unit of the enterprises and institutions. The number of employed people depends obviously on the class of demographic broadness, but also on the age structure of the population.

The territorial structure of the SLLs changes through time reflecting the changes in the social territorial organization and in the overall economic conditions. In 2001, the Italian SLLs were 686, whilst they were 784 in 1991 and in 955 in 1981. However, the decrease was not uniform across the country. While in some areas of Italy they have been decreasing, in others they were increasing. The latter phenomenon is connected to the economic growth of some municipalities that become detached from the SLL to which they used to belong in the past. Whilst the great number of SLL in the past was a consequence of the fragmentation of the residential and productive installations, today the formation of new SLLs depends on the birth (or consolidation) of new productive - mainly industrial – realities as well as the great role of the progress in transportation technologies and infrastructures that have reduced some time-distance. Therefore, this concentration and reduction in time-distance phenomenon is also confirmed in our Region where the SLLs passed from 48 in 1991 to 41 in 2001.

Table 1 – SLL Variation of the Emilia-Romagna Region in (1991-2001) (ISTAT, 1997 and ISTAT, 2005)

Region and/or Geographical Unit	Number of SLL		Difference between 1991 and 2001	2001 %	1991 %	Variation
	2001	1991				
Emilia-Romagna	41	48	-7	6,0	6,1	-14,6

Fig. 1 – Resident population density in each SLL (Source: ISTAT, 2005 based on 2001 census data)

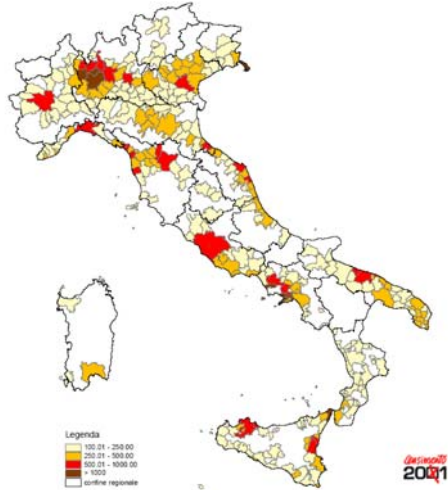


Fig. 2 – Seniority Index in each SLL (Source: ISTAT, 2005 based on 2001 census data)

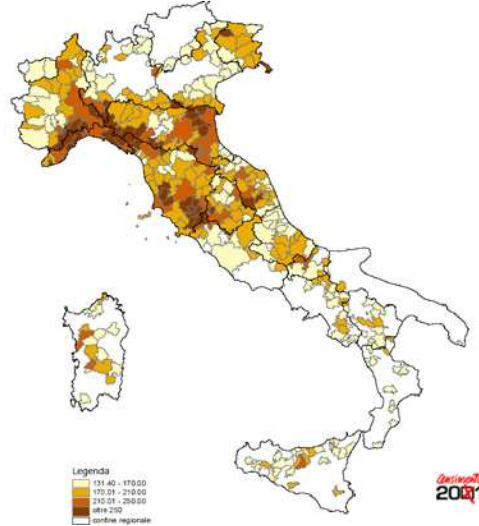


Fig. 3 – Territorial Concentration of foreign resident in each SLL (Source: ISTAT, 2005 based on 2001 census data)

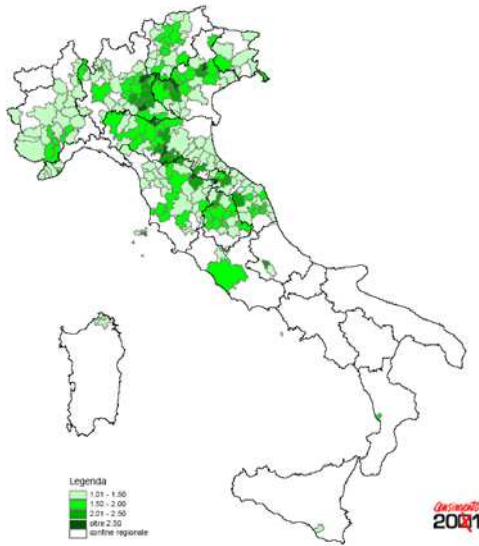
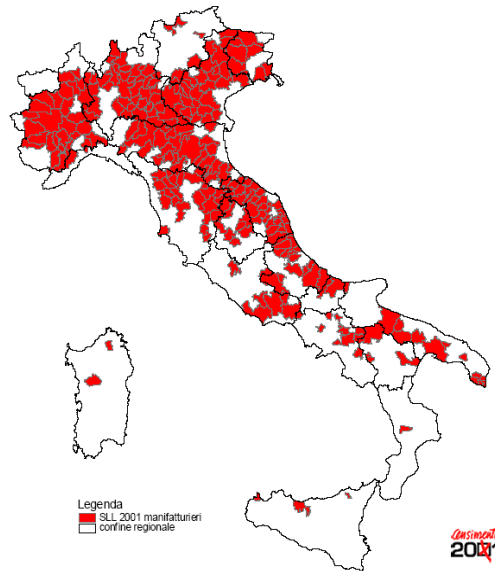


Fig. 4 – Manufacturing work local Systems (Source: ISTAT, 2005 based on 2001 census data)



2.2 Territorial Identification: a GIS expert spatial analysis based on the Local Working Systems

By observing the characteristics of the SLLs which are present in our Region it is possible to distinguish between strong SLLs and weak ones: an expert spatial-analysis of thematic layers has led to focus on two different marginal areas²:

- The Piacenza Mountainous Area and
- The Po Plain Area, where two different NUTS3 areas are located, i.e. the provinces of Ferrara and Ravenna³.

The analysis of the housing density clearly underlines a marginality of these two areas in comparison with the regional average, where the inhabited area is concentrated on the pied-mountains line in correspondence with the historical road axle of the Emilia-way, i.e. corresponding to what can be called the metropolitan line. Both the Province of Piacenza, nearer to the industrial triangle, and Ferrara (city of reference for the Po Plain area) have had the greatest population contraction in the Region, being impoverished by the emigration. Even though the regional demographic structure is fairly stable in the Region, it has sensitively modified through time its distribution on the territory “marginalizing” some areas. This behaviour is confirmed by other indicators too: the seniority index (the highest), the balance of the population in the census interval (1991-2001) (the most negative), the rate of unemployment per 100 actives (high), the manufacturing systems of work (absents), the mobility (the weakest both in entrance and in exit), the scant presence of graduates over 24 years as well as the high percentage of non-employed residences, and an high presence of houses not used for usual residence (i.e. vacation houses).

The cartographic representations reported clearly show the two marginal areas in the regional context. This marginality, however, has some deeply marked differences due to the geographical and historical conditions that ask for an accurate qualitative analysis, especially in view of a choice for policy making as it will be discussed in a further paper.

The expert spatial analysis indicates the Po Plain Delta area more appropriate as Relative Remote Rural Area (RRRA) because of two main reasons: it present a more accentuated dispersion in population and settlements and an overall depressed economic situation, particularly as far as mobility and income is concerned.

In particular, the RRRA are identified in those SLLs and municipalities which mainly belong to the Province of Ferrara (i.e. Comacchio, made by 7 municipalities, Copparo, 6 municipalities, Ferrara, 10 municipalities, Mesola, 2 municipalities and Ravenna, 3 municipalities).

² For a quantitative analytical description of the 41 Emilia-Romagna’s SLLs, see the matrix reported in Annex I as well as the cluster analysis (Annex II). From the same matrix also the relative remoteness of the selected area comes out clearly.

³ A special note has to be done about Ravenna. Despite the indicators tend to show clearly the lack of strong disadvantages linked to the concepts of remoteness and rurality, it seems useful to keep this centre in mind. Yet, Ravenna could be interesting for the Po plain area in so far as it is experimenting a transient phase passing from an economy based on agro and chemical industry to a tertiarization. Ravenna could thus represent an urban pole outside the main area.

Fig. 5 – Resident population density in each SLL
(Source: ISTAT, 2005 based on 2001 census data)

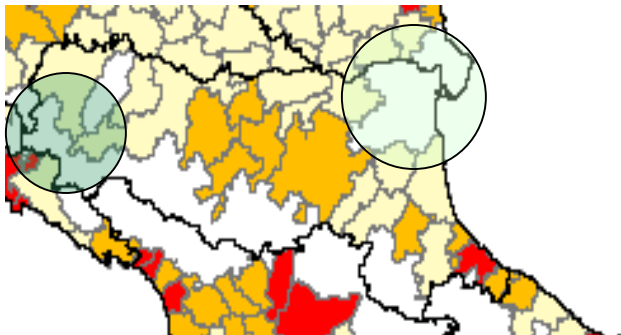


Fig. 6 – Seniority Index in each SLL (Source: ISTAT, 2005 based on 2001 census data)

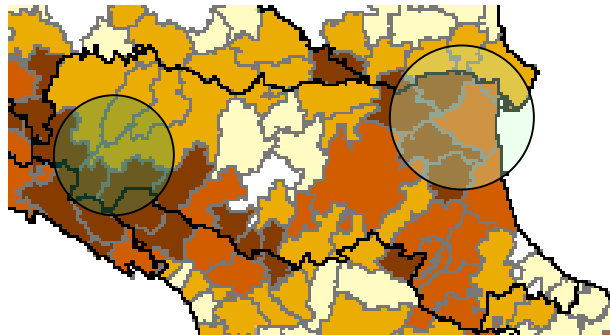


Fig. 7 – Territorial Concentration of foreign resident
(Source: ISTAT, 2005 based on 2001 census data)

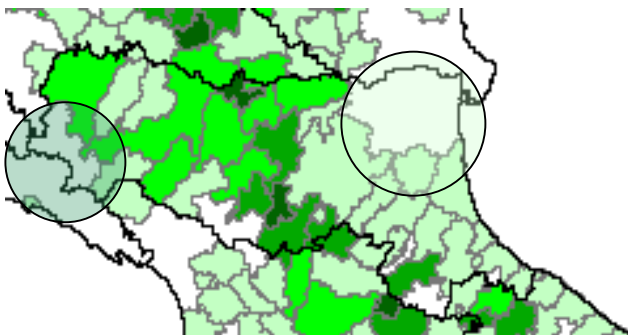


Fig. 8 – Manufacturing work local Systems (Source: ISTAT, 2005 based on 2001 census data)

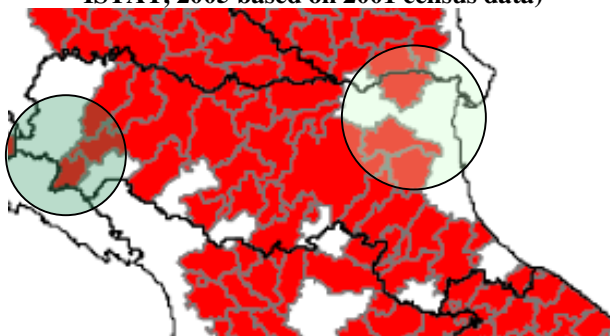


Fig. 9 - Total population balance between 1991-2001 at Municipality Level (NUT5) (Source: Istat, 2001)

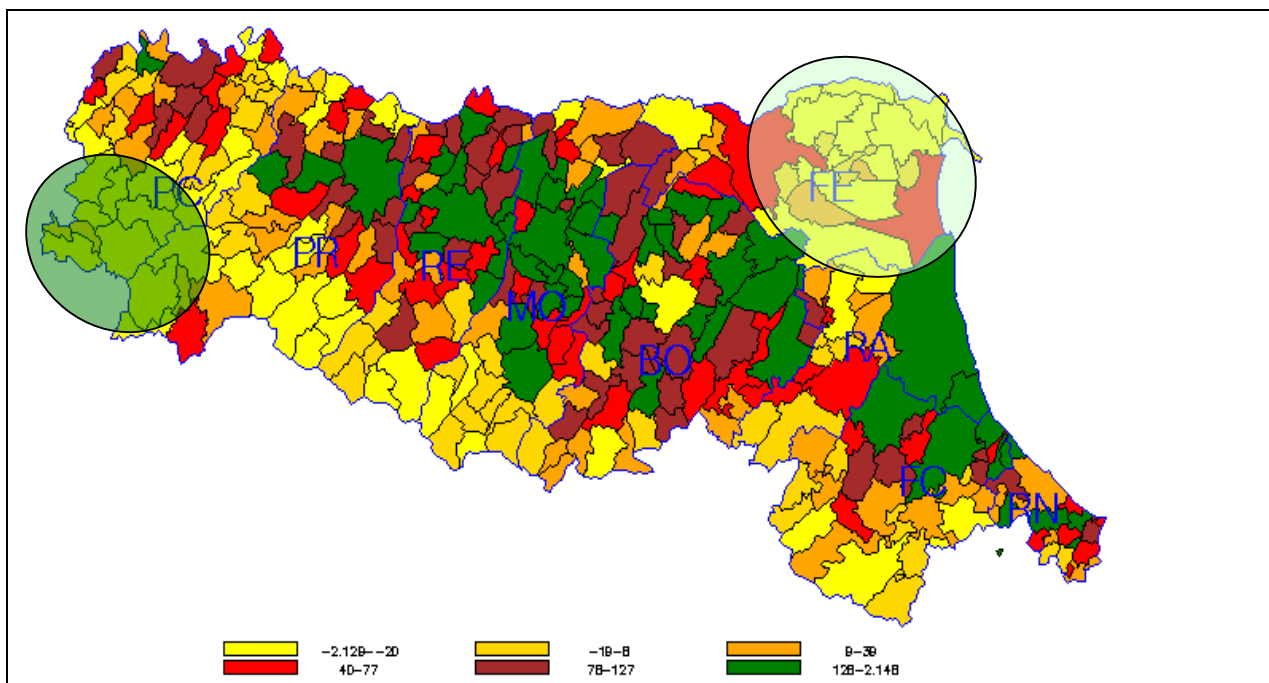


Fig. 10 - Unemployment rate at Municipality Level

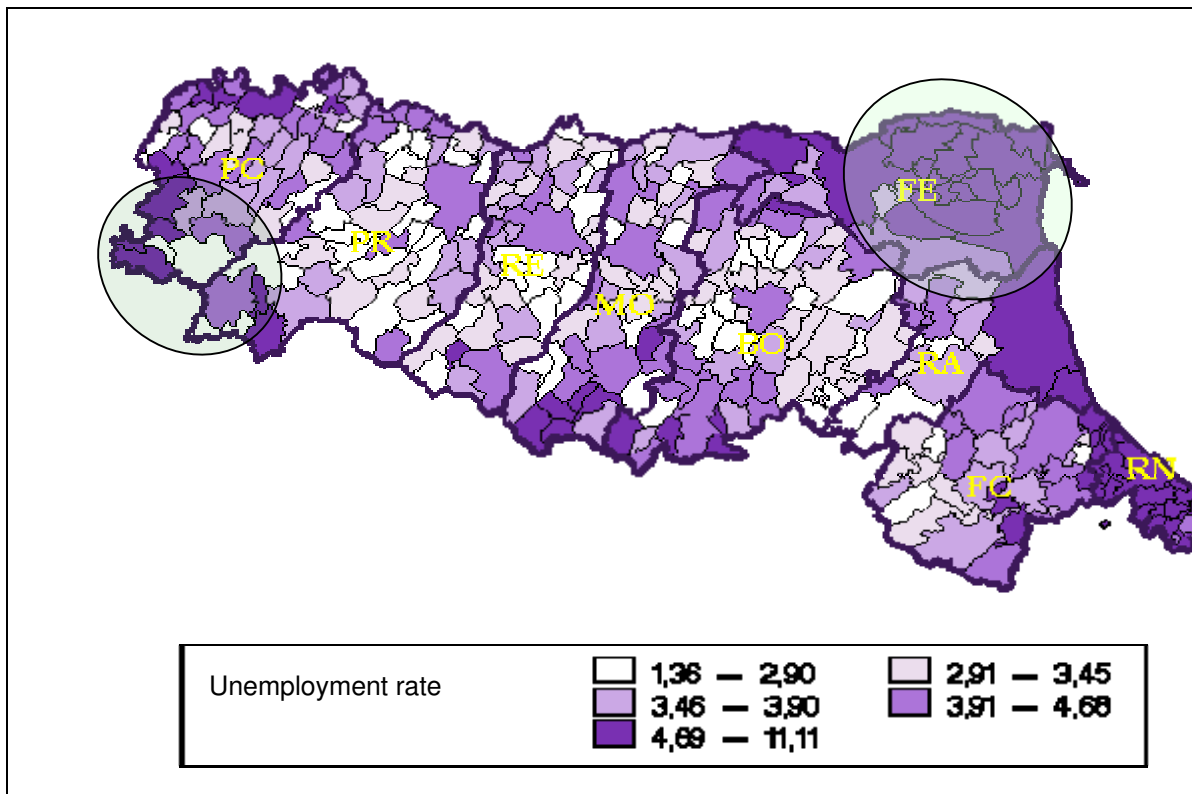


Fig. 11 – Commuting at Municipality Level: Arrivals ‰ (Source: Istat, 2001)

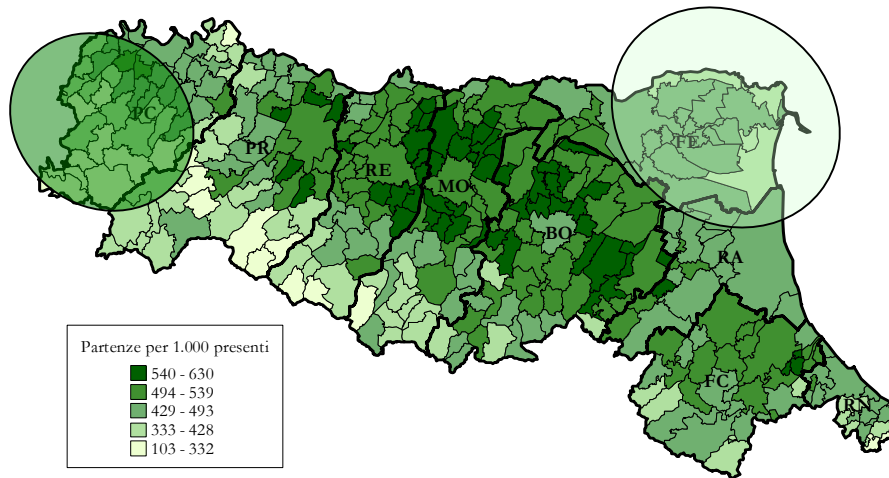


Fig. 12 – Commuting at Municipality Level: Departs ‰ (Source: Istat, 2001)

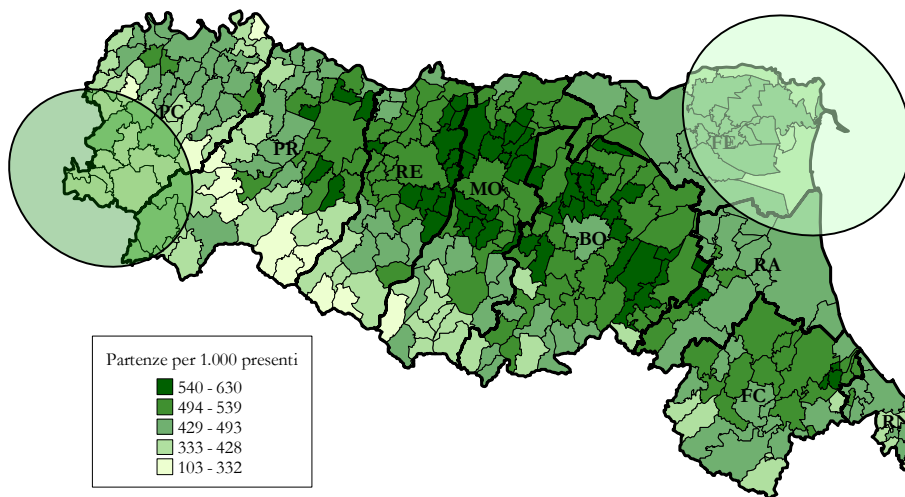


Fig. 13 – Percentage of graduates more than 24 years old (source: ISTAT, 2001)

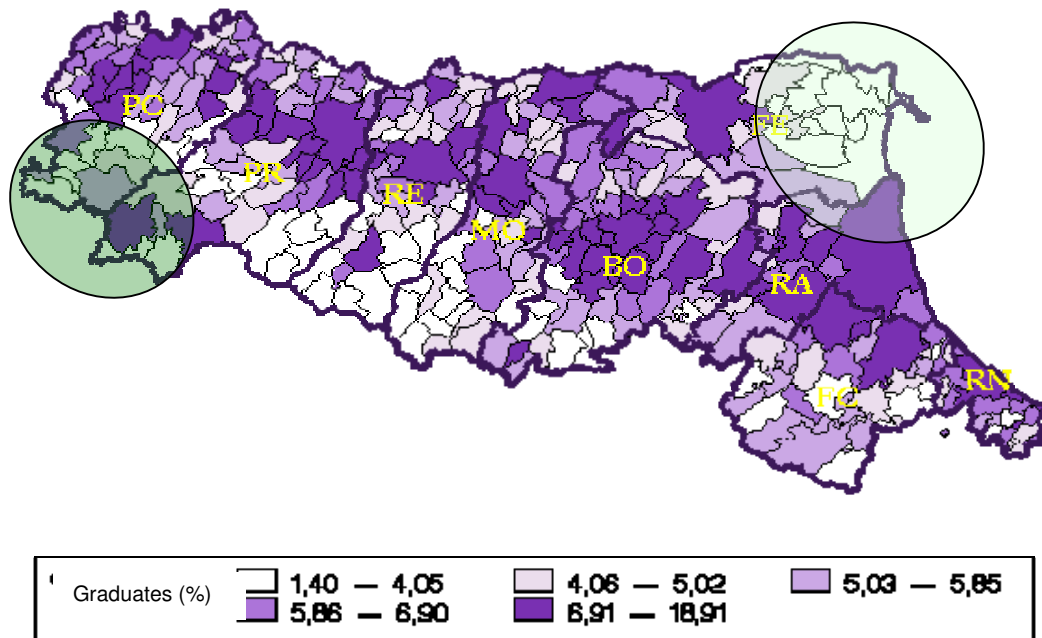
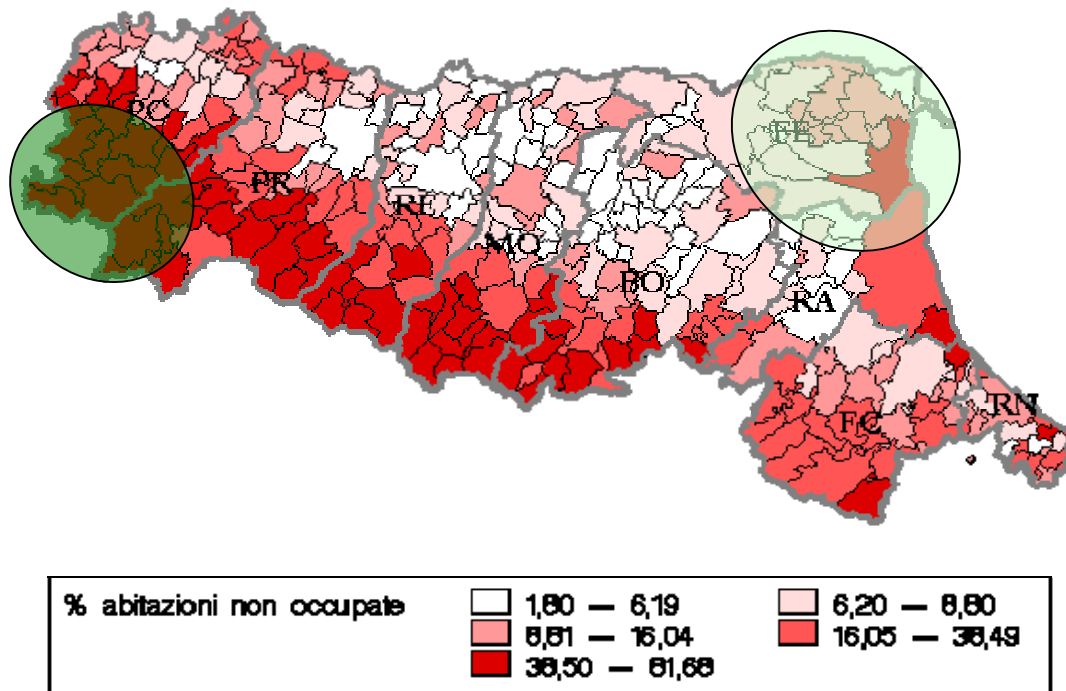


Fig. 14 - Percentage of empty residential houses (source: ISTAT, 2001)



2.3 Territorial Identification: a cluster analysis based on the NUTS5

In addition to the expert spatial analysis done at SLL level, a cluster analysis has been performed at NUTS5 level, i.e. considering all the 341 Municipality of the Region. Following the TERA suggested methodology (Bednarikova et al., 2005) and the statistical methodologies 20 indicators have been selected and their average are listed in Annex II (Table 6), whilst other indicators have been considered in term of descriptive ones.

The cluster analysis identifies four classes of Municipalities grouping relatively homogeneous characters: “Industrial Belt” , “Rural Area”, “Metropolitan Line” and “Mountain Rural Area” that are shortly described in the following table.

Table 2 – Description of the main characters of the identified clusters

Cluster 1 – “Industrial Belt”	Composed of the most dynamic Municipalities. These present a low rate of utilized agricultural area (UAA), a high commuting, a positive population balance, a low seniority index, a low unemployment rate, a high level of industrial employment and a low dependency index. In general, therefore, despite the location of these territories are in what generically could be defined a rural areas
Cluster 2 – “Rural Area”	Composed of less dynamic non urban Municipalities. These present a less intense roads network, the lowest Local Units per inhabitants rate. As for the demographic indicators in this cluster there are a low number of inhabitants, a fairly low population balance with a rather high seniority index. The available income per capita in these Municipalities is averagely the lowest of the whole Region as well as the unemployment rate has relatively high values. Its average is 4.30 % just lower the main urban centres (see cluster 3) where this phenomenon is expected due to the rule of the large quantities.
Cluster 3 – “Metropolitan Line”	Composed of the largest urban centres (corresponding to the capital of the Provinces). These present a high number of inhabitants due to the large concentration of population in the urban area, therefore there is a high density of population and a relatively high seniority index. In addition, in these areas there is a high per capita disposable income, a low agricultural employment and a high unemployment rate. The house occupancy rate is high, thus there is a low number vacant house. Daily outward commuting is not very high due to the fact that most of the activities are done within the area itself, whilst the these centres are attractive of neighbouring Municipality labour.
Cluster 4 – “Mountain rural area”	Composed of the Municipalities located in the mountain area in the Apennines. As for demographic indicators, these areas present a low number of inhabitants in absolute term, as well as density of population and a negative population balance, linked with very high seniority and dependency indexes. Per capita disposable income is relatively high in average, as well as unemployment and local unit/inhabitant does not show significantly negative values. Low commuting patterns is an additional indication of the relatively “close” economic system. The presence of a lot of vacant houses witnesses the use of the territory as a leisure area.

As for the descriptive indicators an analysis of ISTAT data have been done to complete the cluster analysis. It can be said that from it does not seem meaningful to highlight rural remoteness through the female presence or the rate of female unemployment as the Emilia-Romagna is one of the Italian regions where the women's involvement in the working and social life is high. Over 42% of women (between 15 and 64 years) is employed *versus* the 31% as the national average.

On the contrary, considering indicators as the percentage of protected areas and the concept of accessibility of the NUTS 5 territories is more significant. The latter can be assessable with indicators such as the distance from the main centre, the communication infrastructures of the area (No. of Km. of roads per square Km. in the area, No of Km of freeway, No. of bus stops of extra urban lines, and No. of railway stations). To this purpose data reported in Annex I (table 3) was used. For example, Mesola results the most distant Municipality from the Province' centre (82 km) in the Region.

As for the population, the dynamic variation, between the census held in the 1991 and 2001 (according to the ANCITEL database of the year 2005), shows that most of the municipalities in the Province of Ferrara has been affected by a depopulation process with the highest value in the Municipality of Berra (-11.8%), versus a regional value of +1.9%.

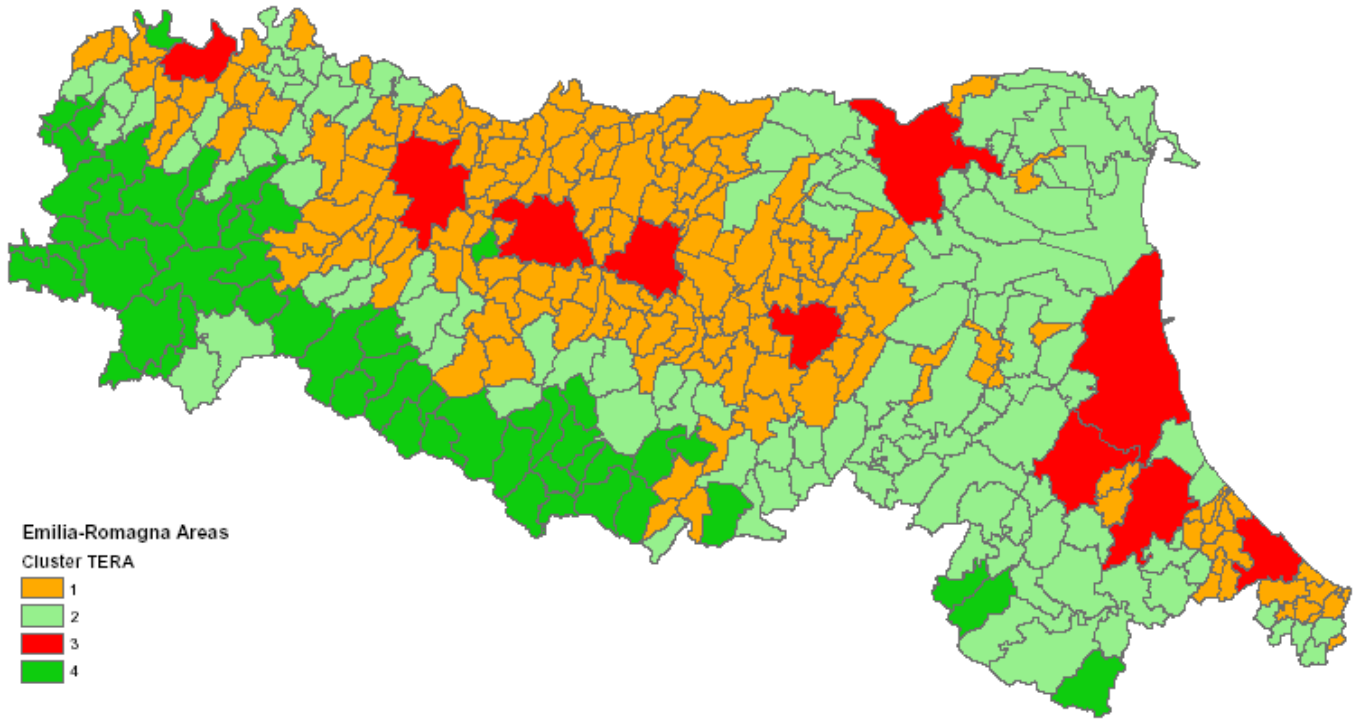
Finally, considering the relative distribution of the Municipalities in each Province, as reported in table 5, it is very clear the relative remote rurality of the Po Plain Delta Area, especially that of Ferrara. Here the cluster named "rural area" is the largest of the region. In particular, the 85% of the municipalities of this province result in the cluster so called rural area, followed by the Ravenna province with a percentage of 72%. Furthermore, the Ferrara province's area shows a very weak point in term of industrial economic development, yet, only the 12% of the territories presented indicators that lead to be included in the industrial belt (i.e. the Municipalities of Sant'Antonio and that of Mirabello).

To conclude, considering all the above mentioned observations and comments, as well as summary table reported, it can be said that the Municipalities around the area of Ferrara can be considered the RRRA of the Emilia-Romagna Region.

It is interesting to note that both methodologies, the expert spatial analysis based on the SLLs and the cluster analysis, are clearly aligned to identify the Po Plain Delta area as socio-economically weaker one.

Fig. 15 – Map of the Cluster resulting from the cluster analysis

Emilia-Romagna Rural Areas



3) Relative Remote Rural Areas and Current Policy

As anticipated in the introduction, rural area policies at EU level are strongly linked with CAP and Structural Funds.

In Emilia-Romagna, in the former century, the agricultural space became more and more *rural*, where rurality has to be intended as “*not urban*”. In these areas producers take on other functions and new roles, consisting of managing the territory and the landscape following the Common Agricultural Policy (CAP). This critical European policy focuses on *environment, quality of the products and vitality of the rural world*, adding a few highly innovative goals to the traditional objectives and modifying its role of the 1960s when agriculture was considered in a mono-function dimension of commodities production for the consumers and of income creation for the producers.

Referring to DATAR⁴ (Lacour *et al.*, 2003), the French agency for territorial development, the main policy making principles in territorial economic development can be summarized in five leading principles, namely:

- 1) Redistribution,
- 2) Refunding or repairing,
- 3) Protection,
- 4) Compensation
- 5) Creation.

All these are the fundamental and the permanent basis that are always used in the territorial policies, even if they are applied with a different intensity and order, according to needs, political and historical phases.

The first, the principle of *redistribution*, is based on the fact that in a point in time a given stock of wealth, job places, and credits exists and it can and must be distributed and localized. In this framework, the goal of territorial planning is to ensure a better or harmonious distribution of these factors. This concept implies a wide vision and the ability to easily ensure the distribution of wealth and it clearly refers to a situation where the State and a top-down planning have a strong role.

The second, the principle of *refunding (or repairing)*, is a planning approach dominated by the sense of construct (or better re-construct) the territorial structure. Differences and unbalances often happen and they cannot be referred to wrong policies or to inefficient behaviors, but rather to negative situations which produce damages to territories and economies both at national and local scale. Therefore, the goal is to provide remedies to these weaknesses in the name of a shared justice.

The third, the principle of *protection*, focuses on the environmental dimension in its meaning of richness, i.e. in the sense of the patrimony of landscape and culture. Always more and more with a wider consensus, this principle is based on the belief that it would be a collective damage if some specific territories would be objects of threats and environmental losses or weakening. The creation of protected areas, national or regional parks, express the sensitivity towards these issues.

The fourth, the principle of *compensation*, is based on the critique that territorial planning is far from being an exact science and that no mathematical, economic or geographical models are able to reach an optimal distribution of means and resources. Even if a wide terminology has been developed (for instance: balanced development,

⁴ *Délégation à l'Aménagement du Territoire et à l'Action Régionale*

territorial order, territorial harmonization and so on, all words that seem to prove the contrary), development actions are actually activated in privileged areas, such as places with a high concentration of territorial factors.

Finally, the fifth principle - *creation* - is the most debated in the scientific literature. It is related to the belief that some mechanisms, local conditions and places, can trigger growth and development processes. Mechanisms conceived in such a framework are planned nearly *ex nihilo* since the territory is thought of as a space where planning action can be started-up and trigger exogenous dynamics from which autopoietic and endogenous processes can follow to ensure – in a more or less intense way – a spontaneous and a long term development of the given area.

In this theoretical framework, the Emilia-Romagna Region territorial policy has given to its territories different functions. In particular, in the mountainous areas, given their environmental and morphological characteristics, the regional policies foresee a conservation strategy in order to protect an inestimable patrimony for the eco-social equilibrium of the territory. Development projects which imply a different land use are, instead, indicated in the plain area, where the territory is more suitable for infrastructural action thanks to a higher potential in interconnectivity among areas.

The Po Plain Delta Area, in particular the Municipalities around Ferrara, which results as the potential important target of the regional policy where in the past the an inadequate top-down industrialisation has shown clear limits for a sustainable economic development and now the area calls for a new approach, probably valuing more the interaction of the environmental resources and services.

4) Concluding remarks

The analytical description, performed in the whole Emilia-Romagna regional area using the qualitative and quantitative approach, led to identify weak areas in term of selected territorial factors. After the spatial analysis of available data at SLLs level, the assessment of the Emilia-Romagna territorial policies facing enterprises development, the selection process led us to focus the attention on the Po Plain Delta area, especially those SLLs and municipalities which mainly belong to the Province of Ferrara.

Further refining of the assessment of the selection, in order to chose a collection of areas linked to a NUTS3 level, done through the cluster analysis at NUTS5 level, the choice has been restricted to the weaker and more rural and remote municipalities of the area of the province of Ferrara as this show the highest percentage of areas in the rural cluster of the region.

However, the study and the comparative work done within the TERA research project with other selected European remote rural area, highlights that the rural remotes character in this area is not absolute. For instance, these municipalities, compared to remote rural areas in the new EU25 countries can benefit of a relative positive transport infrastructure or a potential space for improvement. In addition, this area is relative close to the capital of the region, to an important international transport ways such as the Brennero motorway and railway, and to a crucial hub as well, like the goods storage and carriage organizations (“interporto”) in Verona.

These and the territorial identification analysis led the authors to introduce the concept of Relative Remote Rural Area which partially could recall the semi-periphery in the theoretical scheme of Immanuel Wallerstein or the transition area of Friedmann

In addition, this area includes also a main urban centres (also NUTS3 region capital): Ferrara which in this study is clustered in the “Metropolitan Area” category. Economic

interactions between remote rural areas contiguous or adjacent to urban centres, led to conceive Ferrara to be thought as a “relative cores” and recalls the structure of the core-periphery model of the NEG approach (Krugman, 1991; Krugman, 1995). Ferrara is one of the cardinal element to connect more remote rural areas to the rest of the Region or to external territories, not only thanks to infrastructure resources, but also for immaterial resources such as the higher presence of knowledge-based human capital, due to the presence of universities and to a long historical cultural tradition (the Estense tradition come from Ferrara) and social capital. This latter is composed, for instance, by the tradition and ability to manage large enterprises, to start-up and to develop small firms and to work collectively through a well developed cooperative system. In addition, and as far as the naturalistic patrimony is concerned, some of the most precious and rare wetlands ecosystems that can count of an exceptional biodiversity especially in terms of local and migratory ornithological presence are located in the Po Delta plain area. Since more than 20 year a Regional Natural Park has been created in order to protect unique eco-systems in the area of Comacchio, Mesola, Ravenna and Cervia and to provide the conservation and the growth of vegetation and fauna as well as being a source of economic activities (i.e. eco-tourism).

The main goal of the research was to select the RRAs and understand those features that can support to policy decision makers at the Emilia-Romagna regional level. In addition, a second aim of the study was to verify the applicability of a more general methodological approach to be used in other European areas thus the cited TERA methodology. In this contest two more points resulted useful: firstly, the concept of “relativeness” in rural remote area definition is a significant complement to ensure a wider applicability of the methodology in developed areas. Secondly, the resulting area, the Municipalities of the Ferrara Province, shows a particularly rich naturalistic and cultural patrimony and fairly good connection with other territories, therefore can be a development policy making model for other similar rural areas.

To conclude, further lines of research could be done. One can be the refinement of the work applying this approach to other Italian regions, thus to wider validate the methodology using either SLL or cluster analysis. A factor analysis could be applied too, whilst a more refined cluster analysis, for instance a eight-cluster one, did not show any value added. Moreover, a stronger conceptualization of relative remoteness and rurality can be done linking both with New and Classical Economic Geography approaches.

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Annex I – Indicators for the Local Work System (SLL)

Table 3 – Selected indicators used in the Local Work System (SLL) expert spatial analysis (Source: ISTAT, 2005)

SLL code	Name	N. of Municipalities	Distance from the higher NUTS Location (Km)	Density of the Population	Local Unit	Unemployment rate				% of the resident population daily commuting out of the Municipality of home	Empty houses	% of the Empty houses over total houses available	Dependency Index	Seniority Index	% of Elderly Population
							% Employed in Agriculture	% Employed in Industry (Manufacturing)	% Employed in other activities (Total)						
193	BOBBIO	10	45	15,25	849	3,27	9,47	14,92	61,59	9,49	7519	60,26771	94,71	606,52	41,76
194	FIorenzuola D'ARDA	13	29	80,66	5.027	3,11	10,43	26,54	52,25	22,68	5316	19,16712	55,09	210,02	24,06
195	PIACENZA	26	0	148,88	19.474	3,50	5,05	24,94	60,40	18,56	14943	15,22078	52,46	209,43	23,29
196	BEDONIA	3	79	22,64	653	3,85	7,04	31,52	48,52	15,13	2895	49,5041	63,39	335,7	29,89
197	BORGO VAL DI TARO	4	75	27,16	1.217	3,02	6,89	24,67	57,35	15,47	3713	38,97344	65,53	320,09	30,17
198	FIDENZA	10	32	134,43	7.987	2,86	7,01	28,00	54,56	21,67	4780	12,60017	54,36	205,79	23,7
199	LANGHIRANO	7	25	37,81	2.505	2,62	9,34	34,83	44,68	20,26	7041	39,84945	60,22	250,94	26,88
200	PARMA	24	0	179,10	29.201	2,98	3,94	30,59	56,98	15,20	12968	9,70056	49,75	193,31	21,9
201	CASTELNOVO NE'MONTI	8	42	45,25	2.524	2,67	10,02	24,39	52,31	16,39	8201	42,95516	62,49	236,99	27,04
202	GUASTALLA	8	29	221,85	5.494	2,54	5,55	46,29	39,83	22,94	1716	7,005797	50,93	178,54	21,63
203	REGGIO NELL'EMILIA	19	0	328,90	30.943	3,01	4,40	33,50	52,08	18,14	9034	7,318832	49,91	154,54	20,21
204	VILLA MINOZZO	3	69	27,87	826	3,14	7,29	33,10	45,55	14,31	4616	53,4383	73,54	342,98	32,81
205	CARPI	6	23	328,64	12.977	3,09	4,81	46,73	41,02	17,38	2783	5,705324	47,88	161,98	20,02
206	FANANO	3	68	37,52	939	4,63	8,68	22,88	53,62	12,66	6267	67,16322	62,85	292,83	28,77
207	MIRANDOLA	10	35	148,44	8.944	3,09	7,41	42,03	41,24	21,30	3168	7,827827	52,64	195,77	22,83
208	MODENA	14	0	475,82	32.462	3,35	3,56	31,91	57,02	17,47	12562	9,046326	48,82	171,94	20,74
209	PAVULLO NEL FRIGNANO	4	45	75,77	2.706	3,31	8,47	34,06	47,03	15,48	6557	36,32687	57,03	176,34	23,18
210	PIEVEPELAGO	4	81	25,66	750	7,18	6,56	23,57	54,89	11,54	6964	76,53588	66,46	277,92	29,36
211	SASSUOLO	11	19	263,52	14.932	2,84	3,22	49,06	39,64	26,79	6354	10,05889	44,3	112,09	16,23
212	ZOCCA	4	53	54,60	1.375	3,35	11,15	28,93	47,60	20,50	7337	54,7619	60,37	224,06	26,03
213	BOLOGNA	32	0	353,43	80.748	3,13	2,64	24,86	66,00	20,67	22560	6,45464	50,84	221,39	23,22
214	GAGGIO MONTANO	10	65	57,41	3.215	3,31	3,17	35,09	52,06	27,90	14516	46,48541	53,91	194,44	23,13
215	IMOLA	8	48	180,81	7.587	2,75	8,18	30,48	53,35	18,07	3300	8,52559	52,57	181,05	22,2
216	ARGENTA	3	34	83,62	3.937	3,78	13,97	28,81	48,05	21,13	1833	8,681855	55,23	276,71	26,14
217	CENTO	7	45	229,09	6.431	3,46	5,47	39,45	47,21	25,38	1897	6,527873	48,48	177,08	20,87
218	COMACCHIO	7	52	70,14	5.674	7,14	14,29	22,46	49,46	17,51	29319	57,30284	46,42	223,09	21,89
219	COPPARO	6	21	92,05	2.609	4,43	13,17	31,62	46,73	22,27	1781	10,0559	51,76	303,85	25,66
220	FERRARA	10	0	238,60	16.069	4,03	6,78	21,63	63,95	13,84	5972	7,37466	51,22	281,3	24,99
221	MESOLA	2	82	99,99	1.650	5,98	34,48	21,32	34,48	14,19	326	6,658497	46,4	243,72	22,47
222	FAENZA	6	47	136,80	7.513	3,07	15,10	25,66	52,22	14,72	2740	7,657481	55,07	213,79	24,2
223	LUGO	9	29	198,19	8.782	3,23	13,07	29,18	49,81	21,43	2502	6,054593	56,53	264,33	26,2
224	RAVENNA	3	0	218,93	18.253	4,69	6,88	17,96	64,49	7,84	31401	30,14573	48,63	211,1	22,2
225	BAGNO DI ROMAGNA	2	67	23,17	906	3,15	9,44	21,51	55,69	13,13	2076	39,70926	56,62	217,85	24,78
226	CESENA	6	20	177,66	11.761	3,36	14,76	20,98	55,23	13,45	5543	11,04381	47,72	177,52	20,66
227	CESENATICO	9	39	459,92	10.588	4,88	11,27	23,85	54,32	23,96	12918	28,46378	44,42	129,72	17,37
228	FORLI'	5	0	305,87	15.219	3,30	6,37	25,84	59,02	11,29	4256	6,862634	51,18	215,18	23,11
229	MODIGLIANA	2	37	37,06	507	2,38	11,05	44,99	36,82	16,42	777	23,38952	52,12	214,98	23,38
230	ROCCA SAN CASCIANO	3	28	30,51	432	2,35	8,70	32,51	49,70	18,48	373	15,88586	63,11	235,62	27,16
231	SANTA SOFIA	4	40	26,28	970	2,72	13,54	31,29	42,77	18,04	1458	23,96056	60,48	233,2	26,38
232	CATTOLICA	12	23	292,76	7.742	6,55	3,75	27,19	58,16	26,39	7694	24,54461	47,72	153,9	19,58
233	RIMINI	8	0	629,38	25.514	6,05	3,35	18,88	68,94	13,35	14520	15,09638	46,66	151,15	19,15

Annex II – Cluster Analysis at NUTS 5 level

Table 4 - List of the Municipality (NUTS 5) resulting in each cluster.

CLUSTER 1 Industrial Belt	CLUSTER 2 Rural Areas	CLUSTER 3 Metropolitan line	CLUSTER 4 Mountain Rural Area
Cadeo	Agazzano	Piacenza	Bettola
Calendasco	Alseno	Parma	Bobbio
Caorso	Besenzone	Reggio nell'Emilia	Caminata
Carpaneto Piacentino	Borgonovo Val Tidone	Modena	Cerignale
Castel San Giovanni	Castell'Arquato	Bologna	Coli
Castelvetro Piacenti	Cortemaggiore	Ferrara	Corte Brugnatella
Fiorenzuola d'Arda	Gazzola	Ravenna	Farini
Gossolengo	Lugagnano Val d'Arda	Cesena	Ferriere
Gragnano Trebbiense	Monticelli d'Ongina	Forlì	Gropparello
Podenzano	Piozzano	Rimini	Morfasso
Pontenure	Ponte dell'Olio		Nibbiano
Rivergaro	San Giorgio Piacenti		Ottone
Rottofreno	San Pietro in Cerro		Pecorara
Sarmato	Villanova sull'Arda		Pianello Val Tidone
Vigolzone	Ziano Piacentino		Travo
Collecchio	Albareto		Vernasca
Colorno	Borgo Val di Taro		Zerba
Felino	Busseto		Bardi
Fidenza	Calestano		Bedonia
Fontanellato	Lesignano de' Bagni		Berceto
Fontevivo	Neviano degli Arduin		Bore
Fornovo di Taro	Polesine Parmense		Compiano
Langhirano	Roccabianca		Corniglio
Medesano	Salsomaggiore Terme		Monchio delle Corti
Mezzani	Sissa		Palanzano
Montechiarugolo	Soragna		Pellegrino Parmense
Noceto	Terenzo		Tizzano Val Parma
Sala Baganza	Baiso		Tornolo
San Secondo Parmense	Canossa		Valmozzola
Solignano	Toano		Varsi
Sorbolo	Vetto		Busana
Torrile	Finale Emilia		Collagna
Traversetolo	Guiglia		Ligonchio
Trecasali	Pavullo nel Frignano		Ramiseto
Varano de' Melegari	Prignano sulla Secch		Villa Minozzo
Zibello	Serramazzoni		Fanano
Albinea	Zocca		Fiumalbo
Bagnolo in Piano	Borgo Tossignano		Frassinoro
Bibbiano	Casalfiumanese		Lama Mocogno
Boretto	Castel del Rio		Montecreto
Brescello	Castel San Pietro Te		Montefiorino
Cadelbosco di Sopra	Castiglione dei Pepo		Montese
Campagnola Emilia	Crevalcore		Palagano
Campegine	Fontanelice		Pievepelago
Carpineti	Galliera		Polinago

CLUSTER 1 Industrial Belt	CLUSTER 2 Rural Areas	CLUSTER 3 Metropolitan line	CLUSTER 4 Mountain Rural Area
Casalgrande	Granaglione		Riolunato
Casina	Grizzana Morandi		Sestola
Castellarano	Imola		Camugnano
Castelnovo di Sotto	Loiano		Castel d'Aiano
Castelnovo ne' Monti	Medicina		Lizzano in Belvedere
Cavriago	Molinella		Portico e San Benede
Correggio	Monghidoro		Premilcuore
Fabbrico	Monterenzio		Verghereto
Gattatico	Monzuno		
Gualtieri	San Benedetto Val di		
Guastalla	San Pietro in Casale		
Luzzara	Savigno		
Montecchio Emilia	Argenta		
Novellara	Berra		
Poviglio	Bondeno		
Quattro Castella	Codigoro		
Reggiolo	Comacchio		
Rio Saliceto	Copparo		
Rolo	Formignana		
Rubiera	Goro		
San Martino in Rio	Jolanda di Savoia		
San Polo d'Enza	Lagosanto		
Sant'Ilario d'Enza	Masi Torello		
Scandiano	Massa Fiscaglia		
Vezzano sul Crostolo	Mesola		
Viano	Migliarino		
Bastiglia	Migliaro		
Bomporto	Ostellato		
Campogalliano	Poggio Renatico		
Camposanto	Portomaggiore		
Carpi	Ro		
Castelfranco Emilia	Tresigallo		
Castelnuovo Rangone	Vigarano Mainarda		
Castelvetro di Moden	Voghiera		
Cavezzo	Alfonsine		
Concordia sulla Secc	Bagnacavallo		
Fiorano Modenese	Brisighella		
Formigine	Casola Valsenio		
Maranello	Castel Bolognese		
Marano sul Panaro	Cervia		
Medolla	Conselice		
Mirandola	Cotignola		
Nonantola	Faenza		
Novi di Modena	Lugo		
Ravarino	Riolo Terme		
San Cesario sul Pana	Russi		
San Felice sul Panar	Solarolo		
San Possidonio	Bagno di Romagna		
San Prospero	Borghi		

CLUSTER 1 Industrial Belt	CLUSTER 2 Rural Areas	CLUSTER 3 Metropolitan line	CLUSTER 4 Mountain Rural Area
Savignano sul Panaro	Cesenatico		
Soliera	Civitella di Romagna		
Spilamberto	Dovadola		
Vignola	Galeata		
Anzola dell'Emilia	Meldola		
Argelato	Mercato Saraceno		
Baricella	Modigliana		
Bazzano	Montiano		
Bentivoglio	Predappio		
Budrio	Rocca San Casciano		
Calderara di Reno	Roncofreddo		
Casalecchio di Reno	Santa Sofia		
Castel di Casio	Sarsina		
Castel Guelfo di Bol	Sogliano al Rubicone		
Castello d'Argile	Tredozio		
Castello di Serraval	Gemmano		
Castel Maggiore	Mondaino		
Castenaso	Montefiore Conca		
Crespellano	Montescudo		
Dozza	Saludecio		
Gaggio Montano			
Granarolo dell'Emili			
Malalbergo			
Marzabotto			
Minerbio			
Monte San Pietro			
Monteveglia			
Mordano			
Ozzano dell'Emilia			
Pianoro			
Pieve di Cento			
Porretta Terme			
Sala Bolognese			
San Giorgio di Piano			
San Giovanni in Pers			
San Lazzaro di Saven			
Sant'Agata Bolognese			
Sasso Marconi			
Vergato			
Zola Predosa			
Cento			
Mirabello			
Sant'Agostino			
Bagnara di Romagna			
Fusignano			
Massa Lombarda			
Sant'Agata sul Sante			
Bertinoro			
Forlimpopoli			

CLUSTER 1 Industrial Belt	CLUSTER 2 Rural Areas	CLUSTER 3 Metropolitan line	CLUSTER 4 Mountain Rural Area
Gambettola			
Gatteo			
Longiano			
San Mauro Pascoli			
Savignano sul Rubico			
Bellaria-Igea Marina			
Cattolica			
Coriano			
Misano Adriatico			
Monte Colombo			
Montegridolfo			
Morciano di Romagna			
Poggio Berni			
Riccione			
San Clemente			
San Giovanni in Mari			
Santarcangelo di Rom			
Torriana			
Verucchio			

Table 5 – Rurality of Municipalities (NUTS5) in each cluster per Provinces (NUTS3)

NUTS 3	Total n. NUTS 5 in the given NUTS 3	cluster 1 Industrial Belt	%	cluster 2 Rural Areas	%	cluster 3 Metropolitan Line	%	cluster 4 Mountain Rural Area	%
Piacenza	48	15	31%	15	31%	1	2%	17	35%
Parma	47	21	45%	12	26%	1	2%	13	28%
Reggio Emilia	45	35	78%	4	9%	1	2%	5	11%
Modena	47	28	60%	6	13%	1	2%	12	26%
Bologna	60	36	60%	20	33%	1	2%	3	5%
Ferrara	26	3	12%	22	85%	1	4%	0	0%
Ravenna	18	4	22%	13	72%	1	6%	0	0%
Forlì-Cesena	30	7	23%	18	60%	2	7%	3	10%
Rimini	20	13	65%	6	30%	1	5%	0	0%

Table 6 – Means of each indicator used for each cluster

					Total Group
Indicators	<i>Cluster 1/2</i>	<i>Cluster 2/4</i>	<i>Cluster 3/4</i>	<i>Cluster 4/4</i>	<i>Mean</i>
	Mean	Mean	Mean	Mean	
Total area in Km ²	41,06	75,41	274,34	78,24	64,62
Rural areas in %	85,72	95,15	85,37	96,56	90,56
Utilized agricultural area/total area in Km ² %	2,29	1,18	0,23	0,79	1,62
Total roads in Km/ total municipality area	29,30	1,88	2,92	2,18	15,06
Total population 2001	9322,64	7127,11	157272,60	1828,43	11756,13
Density of population (ab/kmq)	285,48	95,52	797,10	26,53	196,18
Population balance/inhabitants (times 1000)	18,77	11,72	10,69	-5,63	12,36
Per capita disposable income (Euro, 2001)	16227,85	15272,43	18360,70	16760,87	16051,03
Seniority index	160,20	221,14	209,64	486,20	232,87
Dependency index	49,44	55,11	51,37	79,98	56,15
Local Units/inhabitants %	8,97	8,03	9,08	9,87	8,80
Agricultural employment %	6,21	12,65	4,53	11,25	9,12
Industrial employment %	45,81	39,71	29,83	38,99	42,21
Other activities employment %	48,01	47,64	65,65	49,77	48,67
employment/total population %	47,82	44,29	42,92	35,31	44,54
Total employment	4361,79	3104,22	67321,10	668,74	5210,00
Unemployment rate	3,64	4,30	4,71	4,26	3,99
Vacant houses %	10,56	20,50	9,65	54,67	20,74
Families with one component %	23,41	27,49	29,26	42,82	27,97
Families with 6 or more components %	50,31	38,04	51,25	7,09	53,01
Daily commuters (outside the municipality)/total population	28,63	24,29	8,01	14,65	24,39
Daily commuters (towards the municipality)/ total population	22,14	10,45	17,39	5,27	15,44