

Peri-urbanisation : the situation in Europe

A bibliographical note and survey of studies in the Netherlands,
Belgium, Great Britain, Germany, Italy and the Nordic
countries

Geoffrey Caruso

Report prepared for the DATAR, *Délégation à l'Aménagement du Territoire et à l'Action
Régionale, Ministère de l'Aménagement du Territoire et de l'Environnement, France*

Peri-urbanisation : the situation in Europe

A bibliographical note and survey of studies in the Netherlands, Belgium, Great Britain, Germany, Italy and the Nordic countries

Report prepared for the *Délégation à l'Aménagement du Territoire et à l'Action Régionale* (DATAR), *Ministère de l'Aménagement du Territoire et de l'Environnement*, France

Geoffrey Caruso ⁽¹⁾
caruso@geog.ucl.ac.be

with contributions from

Cavailhès J. (2), Jean.Cavailhes@enesad.inra.fr,
Peeters D. (1), Peeters@geog.ucl.ac.be
Rounsevell M. (1), Rounsevell@geog.ucl.ac.be
Thomas I. (1), Isabelle@geog.ucl.ac.be

⁽¹⁾ *Département de Géographie*
Université catholique de Louvain (UCL)
Louvain-la-Neuve
Belgium
<http://www.geo.ucl.ac.be>

⁽²⁾ *Département d'Economie et Sociologie Rurale*
Institut National de Recherche Agronomique (INRA)
Dijon
France

FINAL REPORT

December 2001

ABSTRACT

In this report the extent of "peri-urbanisation" in Europe is analysed. The aim is to give an insight into the ways in which "peri-urban" processes are described in different European countries. The work has been undertaken for DATAR (Délégation à l'Aménagement du Territoire et à l'Action Régionale, France) as part of their ongoing study of "peri-urbanisation" in France. Urban development is one of the major concerns for the future of rural areas and ecological zones. This work contributes to the "peri-urban" debate by taking a European perspective that complements local or national case studies.

The focus is on the spatial aspects of peri-urbanisation and on its recent demographic trends. The report is divided into three parts : The first part consists of a general discussion about the diversity of concepts used to analyse peri-urban processes, and provides an overview of urbanisation typologies and global trends in the EU. In the second the spatial extent and the description of peri-urban processes is discussed for different countries: The Netherlands, Belgium, Great Britain, Germany and Italy. Some bibliographical references are also given for the Nordic countries. The third part summarises the main spatial and demographic trends and identifies some of the similarities and differences between the countries considered. A bibliography is provided at the end of the report and includes references on some additional countries.

It is shown how diverse can be the tools used to assess peri-urbanisation. Nevertheless, there is a clear diffusion of population towards commuting and rural areas of Europe. A growing share of national territories and population are concerned with this process. Changes in the urban-rural interface are driven by similar behaviour throughout Europe, but slight differences can be observed. Local geographic and demographic specificities, regional economic dynamism, historic settlements as well as spatial policies differentiate the evolution and morphology of European peri-urban areas today.

CONTENTS

ABSTRACT

FOREWORD

ACKNOWLEDGEMENTS

INTRODUCTION.....	1
Objectives.....	1
Methodology.....	2
Hypotheses.....	4
Structure of the study.....	5
I. CONCEPTS AND EUROPEAN OVERVIEW.....	6
I.1. Peri-urbanisation concepts.....	6
I.1.1. The French framework.....	6
I.1.2. A conceptual framework.....	9
I.1.3. More on the diversity of concepts.....	10
I.2. Overview of the situation at the European scale.....	13
References (part I)	21
II. ANALYSIS BY COUNTRY.....	24
Case studies choice.....	24
Structure of the analysis.....	24
II.1. The Netherlands.....	26
II.1.1. Context and spatial definitions.....	26
II.1.2. Spatial evolution and demographic trends.....	35
II.1.3. Bibliography.....	40
II.2. Belgium.....	44
II.2.1. Context and spatial definitions.....	44

II.2.2.	Spatial evolution and demographic trends.....	50
II.2.3.	Bibliography.....	55
II.3.	Great Britain.....	59
II.3.1.	Context and spatial definitions.....	59
II.3.2.	Spatial evolution and demographic trends.....	62
II.3.3.	Bibliography.....	66
II.4.	Germany.....	68
II.4.1.	Context and spatial definitions.....	68
II.4.2.	Spatial evolution and demographic trends.....	72
II.4.3.	Bibliography.....	79
II.5.	Italy	82
II.5.1.	Context and spatial definitions.....	82
II.5.2.	Spatial evolution and demographic trends.....	88
II.5.3.	Bibliography.....	98
II.6.	A bibliographical note for the Nordic countries.....	102
II.6.1.	Bibliography.....	102
II.6.2.	A selection of abstracts.....	106
III.	SYNTHESIS.....	106
III.1.	Trends and drivers of European peri-urbanisation : similarities and differences.....	115
III.2.	Conclusion.....	121
	References (part III)	122
	BIBLIOGRAPHY (by author).....	123
	LIST OF FIGURES AND MAPS.....	146
	LIST OF ANNEXES.....	147

ANNEXES

FOREWORD

This report has been prepared for DATAR (Délégation à l'Aménagement du Territoire et à l'Action Régionale, Ministère de l'Aménagement du Territoire et de l'Environnement, France). It seeks to complement the current thinking in France with respect to "peri-urban" development. Whilst the term peri-urban is commonly used in parts of Europe terms such as suburban may be used to refer to similar processes elsewhere. Thus it is necessary to clarify definitions and terminology. "Peri-urbanisation" is considered to be one of the central issues in the near future development of rural areas and ecological zones. It is important for DATAR to have a wider perspective on current understanding of peri-urban processes.

The study started in October 2000. An intermediate report was requested for the end of March 2001 and the final report was completed in December. The review was undertaken by Geoffrey Caruso, researcher in the Department of Geography in the University of Louvain (UCL), with contributions from Jean Cavailhès (INRA Dijon), Isabelle Thomas (UCL), Mark Rounsevell (UCL) and Dominique Peeters (UCL).

It is an enormous task to examine the context in different regions and in the same time to take a European point of view. It is also difficult to identify the slight differences in terminologies used by different authors with their various scientific cultures (and range of languages). The present work, therefore, is not independent of the researcher and collaborators. We are aware that a "French-speaking" point of view is perhaps dominant although the idea was to attempt to take a broader perspective. We are convinced that such a comparative analysis, despite its limitations, is useful in furthering understanding of the processes that sometimes seem common to European countries.

ACKNOWLEDGEMENTS

Here I would like to thank Jean Cavailhès from INRA in Dijon and Dominique Peeters, Mark Rounsevell and Isabelle Thomas from the Department of Geography at UCL for their support and comments.

I am also grateful to all the people I contacted who directed me to relevant publications or provided me with interesting papers. I also thank them for their advice : for the Netherlands, van Oort G. from Utrecht University; for Great Britain, Champion A.G. from Newcastle University; for Germany, Prof. Loetscher from Bochum University, Wiegandt C.C. and Schmitz S. from BBR (Bundesamt für Bauwesen und Raumordnung), Vorauer K. from Muenchen University, Mackensen R. from Berlin University and Mäding H. from DIFU (Deutsches Institut für Urbanistik); for Belgium, Halleux J.M. from Liège University and I already cited my collaborators at UCL; for Denmark, Anderssen H.T. from Copenhagen University and Nielsen B. from the Spatial Planning Department of MEM (Ministry of Environment and Energy) in Copenhagen; for Sweden, Nystrom J from Södertörn University; for Finland, Vartiainen P. from Joensuu University; for Norway, Saglie I.L. from NIBR(Norwegian Institute for Urban and Regional Research); for Spain, Serrano J.M. from Murcia University; and for Italy, Banini T. from Roma University.

My thanks go also to the DATAR who funded the study and so permitted me to undertake a project which contributes to my current work.

INTRODUCTION

The zone between urban and rural areas in Western countries has experienced large changes during the past fifty years and, as a result, the distinction between city and countryside is becoming less clear. The urban way of life has spread out of the city so that the definition of the city itself has become difficult and urban and rural land uses intermingle. If a continuous built-up area is used to depict a city, this is only a morphological definition that no longer fits the reality of human interactions. Furthermore, agriculture is no longer able to completely define a rural area. The consumption of agricultural land for residential and amenity uses has increased primarily because of the relative decrease in transport costs and the preference for greener areas, but also because of structural changes in the agricultural sector.

These processes are referred to as "peri-urbanisation" in the French-speaking literature, but are also recognised by many authors across Europe and North America independently of the name they use (ex-urbanisation, deconcentration and decentralisation, ...). Peri-urbanisation raises questions about the structure of territories and urban-rural relationships in the future. The impact of these changes on natural areas and rural societies is also a major concern.

The spatial extent, trends and processes of peri-urbanisation are reasonably well understood for specific locations or countries. Several studies have already been undertaken in this way, but there have been few attempts to compare the situation in different countries. We believe therefore that further understanding of peri-urban processes can be achieved by integrating these studies. A European point of view is assumed to complement national case studies by separating the location-specific from the global trends and processes. This is also of interest to European spatial policies that deal with the sustainable development of cities and the urban-rural partnership.

Objectives

This report aims to be an overview of research undertaken in the fields of demography, economy and geography about "peri-urbanisation" processes in Europe (the reader can find the terms of references for the project in annex A). We aim to answer two specific questions :

What is the spatial extent of peri-urban areas in Europe ?

What are the demographic trends that accompany peri-urbanisation ?

The former question needs an assessment of size, patterns and density of peri-urban development. Considering the proportion of different land uses, as well as the amount and rate of change, is also useful for the analysis. The second question depends on a knowledge of migration flows and their socio-economic characteristics such as age profiles, family structures and income levels of the resident population. In addition, travel to work flows may characterise the intensity of urban influence on peri-urban areas.

In order to address these questions for a European wide study, we have to check the comparability of the concepts used in each country and by each author. A third question is therefore important :

What are the conceptual frameworks that are used to perceive and understand the urban growth and spread around European cities ?

This is perhaps the most important aspect of the analysis because it will guide our descriptions and discussion of facts and trends.

The concept of peri-urbanisation used in this document is taken from the French literature. We will explain this choice and what it implies in the discussion (see I.1.1.). So, to begin with, we will take the term "peri-urban" as an exact translation of the term "périurbain" as it is used in the French literature. We already know that the word "peri-urban" is not often used in the English-speaking literature (or when it is used, it is a broad concept that is not often applied to Western countries).

Methodology

The report consists of a survey and discussion of existing studies. Thus we focus on reading, summarising and contrasting review articles, books, theses and statistical publications. The collection of documents mainly took place between October and December 2000.

To begin with, the main scientific bibliographical databases were searched as well as the catalogues of some universities. The intention was to find the more recent general, national, regional and comparative discussions. Databases were selected according to their accessibility (mainly through search tools available at UCL) but also in order to cover a large array of fields that were potentially interesting : environmental sciences, humanities, social sciences, economics and demographics.

The bibliographical databases included : Current Contents, EconLit, Social Sciences Citation Index, Population Index, Popline and Dissertation Abstracts. A short description of these databases is given in annex B. The catalogues of Belgian Universities at UCL and through the LIBIS network (see annex B) and the catalogue of the Faculty of Geography in Utrecht were also searched.

Searches were performed by keywords (peri-urban, suburban, exurban, ...) (for a more complete list, please refer to annex C). Because of the large number of references, "expert judgement" was then used to focus on papers that were more likely to provide quantitative information. Searches were also refined by location (countries and cities). The subject classification categories of the databases as well as searches by authors (from previous steps or indicated by contact persons) were also used.

Other bibliographies, made by researchers in the field, were also taken as a starting point : a list of references collected by Halleux from Liege University (2000, about "Transition périurbaine et immobilier résidentiel"), the bibliography of the doctoral dissertation of Duyck (1998), the bibliographical note of Aquachar (1996) (mainly French references) and finally the bibliography proposed by Vandermotten *et al.* (1999) at the end of the atlas of European cities.

A bibliography on the theme of peri-urbanisation can only be partly achieved because of the large interest in this theme over the last thirty or forty years. Thus only publications from the past ten years were taken into account. Nevertheless, for peri-urbanisation publications, this period was less prolific than the eighties. Aquachar (1996) has made the same observation for the French case study in her bibliographical note on peri-urbanisation. Thus, although the majority of references date from 1990 to 2000, it was sometimes necessary to take earlier pieces of work. The general aim was to discuss the concepts but also to capture recent evolutions in facts and trends. But even, the bibliography is still not exhaustive for this limited period of ten years. We think however that it is a good representation of recent trends in the literature and that it should be sufficient to answer the questions raised by DATAR. Sometimes the choice of literature was limited either because the interest in the debate diminished in the nineties, either because the main empirical analyses were undertaken by national institutions without published output, or simply because they were only written in national languages¹.

Secondly, publications were accessed of national institutions responsible for statistics, spatial planning, infrastructure or environment as more factual information (figures, maps, classifications, ...) is found from these sources. The language problem was more acute for this part of the review. Moreover policy options and assessments had to be separated from the more descriptive parts of these publications.

Thirdly, "national experts" were contacted from universities or national institutes (see acknowledgements) in order not to miss the more recent studies as well as to have their opinions on peri-urbanisation. They were also useful in indicating further sources of (institutional) information.

Thus, the bibliography results from the interrogation of searchable reference databases and also from more country-specific lists of publications from national authors or institutions (see annex D).

The objectives of this study have some similarities with the work undertaken by the team of Drs Rees and Kupiszewski from Leeds University for the Demographic Committee of the Council of Europe (CDPO). In each of their reports entitled "Internal Migration and Regional Population Dynamics in Europe" they undertook country-specific analyses of some European countries. Among their objectives was "... to analyse the degree to which the process of urbanization, counterurbanization and suburbanization are in train ..." (Rees *et al.*, 1998, p. iv). The detailed reports provided useful information by processing databases and maps for different countries in a more or less identical way.

Finally, a decision was made not to consider research dealing with models of peri-urbanisation processes. These approaches nevertheless could have been very useful as they would probably have indicated the perception of researchers in the different countries about peri-urbanisation issues. There is probably a lot to learn from peri-urban models, but this is certainly another study.

¹ Documents written in English, French and Dutch have been considered in this study. The author also received some useful advice from colleagues for German and Italian texts.

Hypotheses

If the report aims to give a descriptive answer to the three questions asked above, it is probably worth beginning the discussion with some hypotheses, assuming the review undertaken is able to test them reasonably.

Concerning the quantification of the spatial extent of peri-urbanisation a first hypothesis is raised after a first look at the types of papers gleaned : typologies of statistical spatial units are the most appropriate to assess the extent and the settlement patterns of peri-urbanisation. Land cover based analyses lead to different interpretations of the spatial extent of peri-urbanisation as they do not take into account socio-economic and demographical variables and therefore hide parts of the processes. This hypothesis justify the necessity to analyse demographical trends and also to pay attention to the types of criteria used to classify spatial units on an urban - peri-urban - rural "gradient".

Secondly, we would like to test the impact of the spatial and demographical characteristics proper to a country on the patterns of peri-urbanisation :

From a spatial viewpoint, we assume that the same drivers of change applied in countries different by their size and the density of their urban settlement lead to different spatial patterns so that peri-urbanisation configurations can be very different from one country to the other (e.g. coalescence or not of peri-urban areas, functional regions which are contiguous, travel to work flows taking place from one city to the other, persistence of peripheral rural areas, ...). This also mean that same definitions and criteria (e.g. population size, population density, or commuting thresholds) applied through different countries could be a non sense as not suited to the proper reality of each country.

Also the demographical characteristics of a region are assumed to be of major importance to explain the intensity of the peri-urbanisation process. We hypothesize that the total population density, the natural growth rate, the age structure combined with life cycles, the family structure, the level of income, ... design migration rates and cycles and therefore the development of peri-urbanisation.

The same kind of hypothesis holds certainly for spatial policies. The definition, implementation and respect of physical planning (land use zoning, natural area protection, ...) as well as the orientations of housing policies (city centre rehabilitation, relative weight of the public sector and private estate firms, ...) differ throughout Europe leading to differentiating urban spread, compactness of built-up areas and more or less urban influence on rural areas.

Finally, within the scope of this study, another interesting question may be raised. It concerns the diversity of the conceptions of peri-urbanisation in the literature (this point will be developed later) and leads to a last hypothesis: does the choice of different concepts by each author and within each country express different processes and realities ? Does it represent the intensity and diversity of viewpoints in inner debates ? We argue that spatial characteristics, demographical trends, land use policies, ...as well as leading authors direct (or bias) the choice of concepts and analyses. It therefore increases the complexity of European wide comparisons.

Structure of the study

The remainder of the paper is divided into three parts: we begin with a global overview of concepts and facts in Europe (part I), continue with national case study analyses (part II) and end with synthesis and conclusions (part III).

A quick analysis of conceptual approaches to the processes of peri-urbanisation takes place in section I.1: we first deal with the conceptual framework used as a reference in this study and characterize rapidly the French case (I.1.1). We go on with a discussion of the great diversity and fuzziness of concepts used in the literature (I.1.2). In section I.2, we try to depict the situation for Europe as a whole.

We follow a similar structure for each case study in part II. We first analyse the conceptual context and the national specificities, then move on to spatial aspects and demographical trends of peri-urbanisation. The following countries are considered : The Netherlands (II.1), Belgium (II.2), Great Britain (II.3), Germany (II.4) and Italy (II.5). As the discussion for each country can be quite different in size and content according to the documents available, it is quite difficult to fit a common, very precise and *a priori* detailed structure for each country. Each case study is therefore only subdivided in two parts : "Context and spatial definitions" and "Spatial evolution and demographic trend". A quick bibliographical note and some abstracts are then given for the four Nordic countries (II.6).

In section III.1, main findings are emphasised and a short comparative discussion is made in order to point out differences and similarities across Europe. Section III.2 concludes the report and tries to note the deficiencies and benefits of this survey.

The complete bibliography sorted by authors is provided at the end of the report. A bibliography for each country is written at the end of each case study in part II.

I. CONCEPTS AND EUROPEAN OVERVIEW

In this part, we first plan to undertake a discussion of conceptual approaches used to study peri-urbanisation. Actually, we need to explain our point of view and why the French example seems to be adequately suited to our idea of peri-urbanisation processes. We therefore summarise the main characteristics of French peri-urban areas and present our conceptual definition of peri-urban areas that will be used in part II in order to examine other national approaches.

We argue that the choice of concepts, as well as the choice of criteria and threshold values to define classes in different countries are all important as they may refer to different understandings of processes. We do not know *a priori* if processes analysed by authors throughout Europe are the same but we can note a great diversity of concepts and definitions. It is therefore important to have a look at these concepts and bear in mind what processes they intend to represent.

We then close this part with an overview of the situation and characteristics of peri-urbanisation at the European scale.

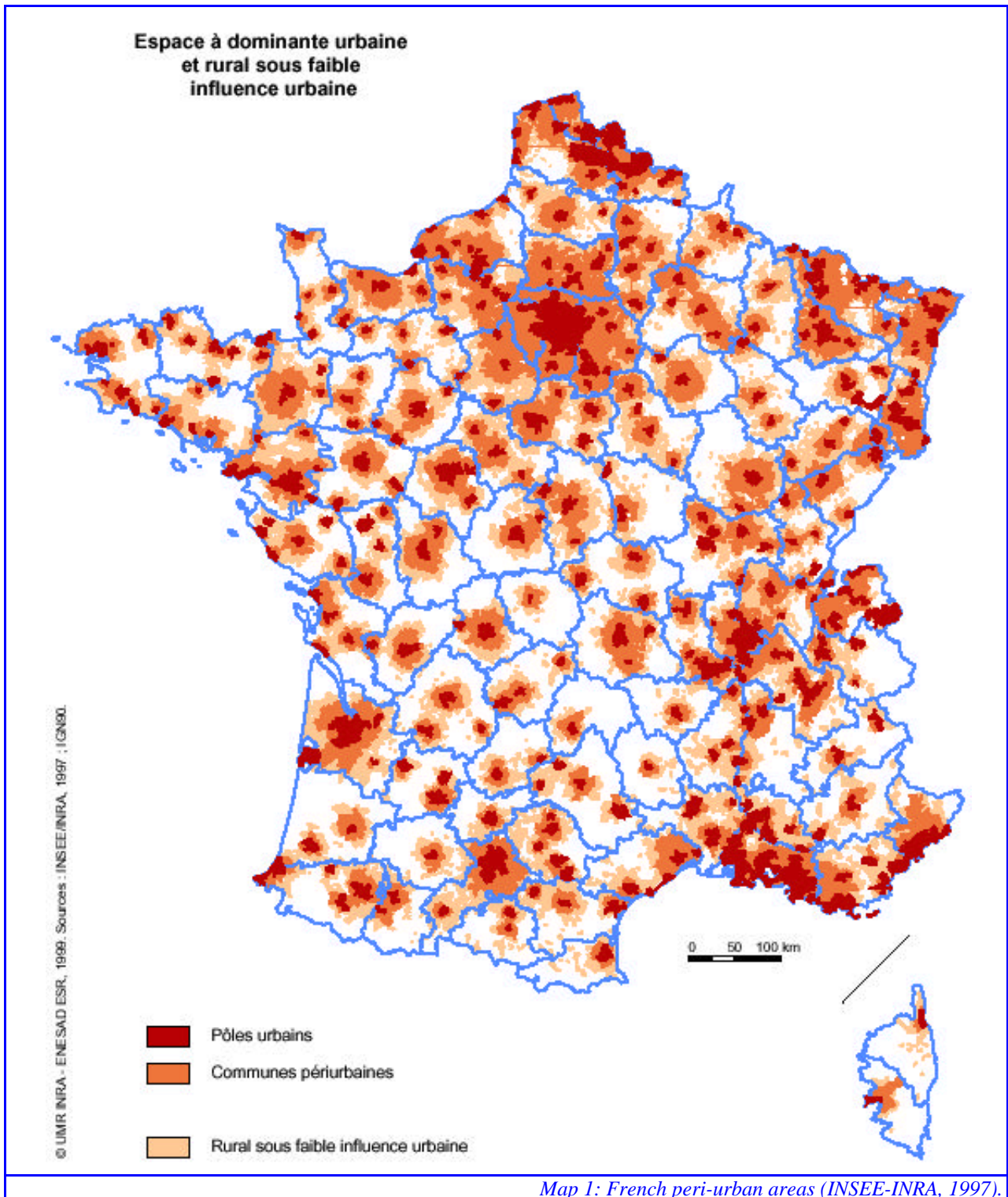
I.1. Peri-urbanisation concepts

I.1.1. The French framework

According to the spatial nomenclature adopted by INSEE (*Institut National de la Statistique et des Etudes Economiques*) in 1996, French communes are either *urban* if they belong to an *urban unit*, or *rural* if not. *Urban units* are in turn defined as a group of communes in which there is a built-up area with at least 2000 inhabitants and where the maximum distance between two dwellings is 200 metres. This clear break between city and countryside is not sufficient to represent all the diversity of urban-rural realities in France and also in other European countries. Therefore there is a need to complete this approach by defining areas composed by groups of communes and combined them according to their spatial location and their proper characteristics.

Hence, *urban areas* have been defined as a group of contiguous communes composed by an *urban centre* and other communes where at least 40 % of the active population works in the centre (or an attracted commune). *Peri-urban areas* consist of the communes belonging to urban areas but the urban centres and include also other communes sending 40 % of workers in several urban areas (*multi-polarized communes*).

The reader will find a more detailed definition of these areas in Le Jeannic (1996) or in Annex E where definitions from Schmitt *et al.* (1998) have been reproduced (in French).



In the map above (see map1), *urban centres* and *peri-urban areas* are represented, as well as *rural areas under weak urban influence*. The latter are characterised by a threshold of 20% of commuters within the working population of the commune. This already emphasises the difficulty in choosing thresholds when defining areas : the 20 % and 40 % of commuters are likely to differ in other countries.

In 1990, peri-urban communes comprised 15.7 % of the total population against 8.9 % for weakly urban influenced rural communes. In part II of the report, we will try to compare, as far as possible, these facts with what is happening in other European countries. We will try to gather more or less the same information being conscious that this may not be such an easy task as the approaches taken in other countries could be very dissimilar. That is the reason for the following discussion (section 1.2) about the diversity of peri-urbanisation concepts and also the introductory part of each case study.

In order to further identify the main spatial aspects of peri-urban areas and the demographical trends that are undergoing in France, we invite the reader to refer to the following works : Aquachar M. (1996) who surveys the situation in France and adds an abundant bibliography; Le Jeannic (1997) for an analysis of the past evolution of peri-urbanisation with reference to the zoning system of 1990; Schmitt *et al.* (1998) for a complete description of trends affecting urban, peri-urban and rural areas based on figures of 1990; Bessy-Pietri and Sicamois (2001) for the urban part of the framework based on 1999 data; Talbot (2001) for more recent aspects of commuting; Cavailhès *et al.* (1994); and finally another, but older, piece of work in Dézert *et al.* (1991).

I.1.2. A conceptual framework

Broadly we will retain two specific characteristics of peri-urban areas: firstly, peri-urban areas are **under urban influence**. The nature of the link between peri-urban communes and the centre is functional and is characterized by commuting flows. Secondly, peri-urban areas show **rural character** due to the presence of an agro-forestry sector which counts for an important part of the total surface and therefore implies low population densities.

In economic terms peri-urban areas can be defined as "mixed" or "integrated areas" where consumption and production activities compete for the land. Residential consumers and agricultural producers co-exist (Cavailhès *et al.*, 2001).

One can remark that in the French case, peri-urban areas were not defined practically according to any threshold in population size or density neither according to contiguity of residential settlements. Peri-urban zones include therefore rural communes as well as urban units. These criteria are however often used in defining classes within an urban-rural gradient. In this definition, more than morphology, it is the functional link with the city that is important. Moreover, as rural communes constitute an important part of these areas, the rural aspect of our concept is evident. We will later further develop the discussion of concepts, but already we argue that this rural aspect is probably one of the main differences between our perception of "suburban" and "peri-urban" areas. The former should appear more agglomerated or dense.

The peri-urban concept is also different from the "urban fringe" concept which, even if its thickness is not *a priori* defined, seems to take only into account a thin strip of land around the agglomeration (this point is nevertheless questionable as there are different approaches of this concept, see e.g. the discussion of Thomas, 1990). Neither the concept is comparable with the one of "counter-urbanisation" (see e.g. Champion, 1989 or Fielding, 1989 with, among others, an example for France) which deals with evolution in the urban hierarchy due to migration flows to medium and small-sized cities. We further discuss meanings and diversity of peri-urbanisation concepts in the next point (I.1.3).

Already, the French classification is considered to be a way to practically apply our conception of peri-urbanisation. In this report, every time we use the term peri-urban we mean this concept with its dual characteristics: urban influence and rural morphology. It also seems to be a reasonable choice to use the French classes for comparisons as the approach has the originality of accounting for urban as well as rural aspects.

I.1.3. More on the diversity of concepts

From the diversity of concepts used to describe and analyse urbanisation schemes comes the difficulty to carry out a comparative study at the European scale. It is not intended here to undertake a thorough discussion of all the concepts. It is out of our scope to assess their precision, efficiency and enter into a large debate. We have just to make sure of their comparability in order to understand what is represented by the figures and processes in each document considered.

Let us assume there are two leading literatures: the first one is English-speaking and is also mainly used in the Northern part of Europe. The second one is French-speaking or more characteristic of Southern Europe. The heterogeneity in the scientific culture among European countries has already been underlined particularly concerning the issue of urban-rural relations (Coll *et al.*, 2000). In their reports to the DATAR about SPESP (Study Programme on European Spatial Planning) the authors noticed that, on the urban-rural issue, works like the one of INSEE are in advance of the discussion taking place in other countries.

It is even interesting to point out that this difference in conceptual approach could also correspond to a delay in processes. The spread of urbanisation into rural areas appeared later in France and Southern Europe than in Great Britain, Benelux and Germany (Hall, 1997). It is maybe just a coincidence but this shows the relevance of our hypothesis that the choice of a concept is not independent of the reality and characteristics of processes occurring in different regions. We recognise however that this is difficult to test in practice.

In both literatures, some concepts dominate the debate: on the one hand, "suburbanisation" and "counter-urbanisation" and on the other hand "peri-urbanisation" is more widespread. Also the term "rurbanisation" has been used in French but seems to vanish from the literature (Aquachar, 1996).

Facing these concepts, we can identify several problems: First, there is no exact translation of the concepts from one approach (and language) into another. Considering "périurbain" we decided to translate it into "peri-urban" but this is clearly never used in the English-speaking literature for European situations. Conversely, "suburban" has several times been translated into "suburbain" but it does not seem to cover completely the French concept defined above. Moreover, and this tends to do a disservice to the clarity of the debate, some authors differentiate "suburbain" from "périurbain" (often more distant from the city) in the same study and others do not (Vandermotten, 1991). The differentiating criteria can be, for example, the transport mode: individual car for peri-urbanisation and public transport for suburbanisation (Halleux, 2001).

Secondly, within one literature (English or French-speaking), different authors do not use the same terminology in the same sense. Yet, a consensus may now exist in the French literature for the term "peri-urbain" due probably to the precision of its definition by INSEE. Regarding processes, "Suburbanisation" and "Périurbanisation" are roughly used for decentralisation or urban expanse (or spread) while counter-urbanisation (sometimes translated as "contre-urbanisation", sometimes as "rurbanisation" in French) identifies deconcentration which benefits to smaller urban areas. It has however been doubted whether "counter-urbanisation" is a separate concept of "suburbanisation" (Nelson, Sanchez, 1999). This point has also been largely discussed in the first chapter of Duyck's thesis (Duyck, 1998). The author uses another concept called "extended suburbanisation" to deal with

the non contiguity of settlements accompanying decentralisation processes. In economic terms, this concept moves closer to our conceptual framework as it introduces preferences for rural attribute consumption.

The reader may see here that problems of comparisons between "peri-urban", "suburban" and "counter-urban" concepts reside in terminology and translation difficulties but, more importantly, also in the way processes are considered. This point has still to be explained. After having looked at different European situations, it might perhaps be possible to give some kind of an answer.

The problem of concept definition is probably as ancient as the recognition of the processes themselves. Kurtz and Eicher in 1958, already attempted to differentiate "fringe" and "suburb" (in Thomas, 1990). The "urban fringe" concept constitutes another important part of the literature mainly in the USA but also, later in Europe (Van Oort, 1996). Even if the urban fringe definition is similar to the peri-urban concept because it deals with a mix of urban and rural functions within the same geographic zone (Lucas, Van Oort, 1993), one can decide (in agreement with our discussions with Cavailhès and Van Oort) that, as mentioned earlier, the extent of urban fringe is too limited to account for all peri-urban processes. Urban fringe is more focused on land conversion at the "limit" of the agglomeration (in our mind, a continuously built-up area).

Bourne (1996) discusses the complexity and diversity of the "Suburban" concept. He mentions ten different interpretations and points to differences in the USA and Europe, especially for the UK. Some of these interpretations can be linked to peri-urbanisation as they emphasise agent preferences for more space and natural amenity consumption in their residential choice, as well as the connection to an urban core (see Bourne, 1996, table3). On the whole, of the concepts used as keywords in this work, the root "suburb-" has certainly been the most frequently referred. This indicates how widespread it is but also that a lot of interpretations may exist.

The term "rurban" (contraction of "rural" and "urbain") and its English counterpart "rurban" (less employed) often refers to the transformation of countryside areas by the urban way of life. *"... the agricultural landscape is few or not transformed ... but demography and housing are modified by the addition of population coming from cities and by urbanisation of the rural way of life. ... The rurban phenomenon is not specifically related to the existence of a city ..."* (translated from Dézert *et al.*, 1991). The last sentence in this definition is important as it differentiates the "rurbanisation" from the "peri-urbanisation" concept. The former does not take into account precisely any functional link with the city through for example commuting. A statistical definition of "rurban" households can be found in Schmitt *et al.* (1998). The concept was defined earlier by Bauer and Roux (1976) and is also discussed, for Belgium, in Duyck (1998).

The urban dispersion into rural areas has also been divided into two processes, namely deconcentration and decentralisation (Gofette-Nagot, 2000). The former one is characterised by growth rates in small and medium sized cities that are higher than in larger cities (the concept is close to the counter-urbanisation one). The second is the enlargement of urban areas with decreasing urban densities (this tends to refer to the suburbanisation concept). In her paper, Gofette-Nagot (2000) argues that in France peri-urbanisation does not refer to suburbanisation as the population growth areas are rural peripheries (beyond the contiguous built-up area) so that the term "exurbanisation" is preferred to translate peri-urbanisation. In another discussion of suburbanisation against exurbanisation, Nelson and Sanchez (1999) show, after an analysis of American cities, that these concepts should not be separated. However, the sense given to exurbanisation in these two studies appears to be a little different as in the last case it is similar to counter-urbanisation.

Finally, an interesting approach, treating the evolution of spatial development patterns both in developed and developing countries, attracted our attention. The "differential urbanisation theory" (Geyer, 1996) considers different concepts within a time sequence (and avoids therefore the controversial debate about counter-urbanisation turnaround and its reversal). Three processes (urbanisation, polarisation reversal and counter-urbanisation), running not in phase for each type of cities (primate, intermediate and small sized), drive the evolution of urbanisation and the development of the settlement pattern. This approach is interesting as it aims to consolidate different parts of the urbanisation literature.

Given the diversity of all these concepts and the fuzziness of their relative meanings, it seems impossible in the context of this research to say *a priori* that we will not consider the literature of one of these particular concepts. All of these are presumably interesting to describe and understand peri-urbanisation. As they all refer to different viewpoints, we might think they are all relevant to a European wide study and each would indicate a part of the processes. So, there are different tools available to us, but we still do not know *a priori* if processes are the same everywhere. The challenge therefore is to summarise facts and processes expressed through different viewpoints and within different backgrounds.

This section has been mainly a survey of conceptions and definitions rather than a reflection on real processes. It seems impossible to do otherwise as the acceptance of these processes as universal concepts is still very much in debate. Our conception of peri-urbanisation is certainly not the more widespread, even at the European scale. (The national experts we contacted often asked us to further describe what we mean by "peri-urbanisation"). However, we continue the analysis of urbanisation patterns with the following guide : **peri-urban areas are mixed areas**, they are urban because of a **commuting** link and rural because of **agricultural land use**.

I.2. Overview of the situation at the European scale

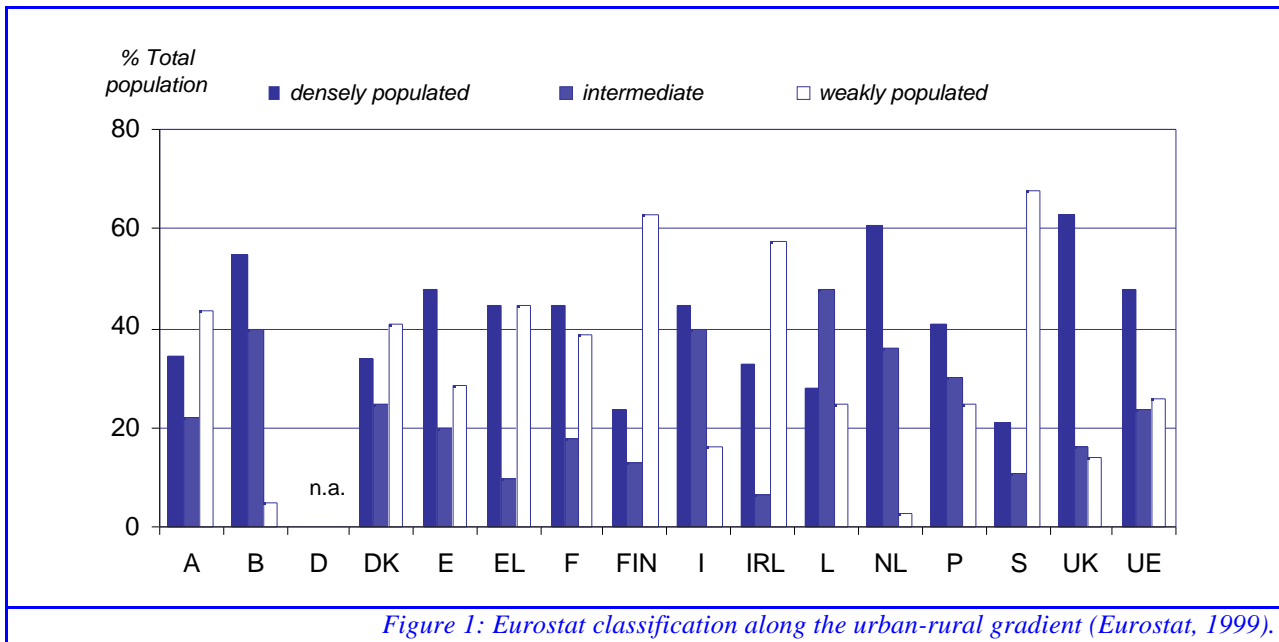
After this review of concepts used across Europe and more generally throughout developed countries, in this second section, we tackle the problem of assessing the extent of peri-urban areas at the European scale and look at the main trends. In the country by country analyses, we will continue with the same discussions.

To assess the spatial extent of peri-urbanisation, it seems that constructing territorial typologies has always been a good way. These are built from land cover characteristics or from diverse spatial units and socio-economic variables.

The use of European wide typologies applied to an urban-rural gradient is reviewed below. Regionalisation is either urban oriented, or rural aspects are emphasised. We do not know any attempt at the European scale which covers our concept of peri-urbanisation and therefore deals with functional aspects through commuting and, at the same time, with a mix of agents and land uses. Still, some related works exist and we describe some of them below :

Eurostat (1999), dealing with the recent evolution in the process of urbanisation in the European Union, treats the definition of urban agglomerations (named conurbations by Eurostat). Looking for an operational definition of urbanisation, the authors notes the difficulty in finding an accepted definition that would be uncontroversial throughout Europe. Eurostat defines 3 types of areas: The "densely populated areas" are defined as groups of territorial units (NUTS 5) with more than 50,000 inhabitants and composed by units each with a population density of over 500 inhab./km². The "Intermediate areas" are groups with more than 50,000 inhabitants or contiguous to a "densely populated area" and within which units present a population density of over 100 inhab./km². The remaining areas are the "weakly populated areas". The percentage of population for each class is presented below at the country level (Fig. 1).

According to these definitions, some striking differences can be seen between different European countries. The share of rural population (through the *weakly urbanised areas*) is most significant in the Scandinavian countries (above 60 % in Finland and Sweden). The opposite situation occurs for the United Kingdom and for the Netherlands which concentrate their population (more than 60 %) in the *densely urbanised areas*. The Benelux countries and Italy are the most peri-urbanised in the sense of the *intermediate zones* whilst Greece and Ireland are (still in that sense) the less peri-urbanised countries.



Despite the fact that this intermediate zone has been defined in the classification and covers "... rural character situations but overall an urban structure based on small and medium size agglomerations ..." (Eurostat, 1999 p.2) there is nothing about a functional link with the city centre. This still seems necessary to consider the process of peri-urbanisation. The following definition treats this problem, but the classification has only been made for some large metropolitan areas.

Vandermotten (1999) also underlines the increasing complexity of the urban phenomenon and thus the need for definitions of urban areas based on simple criteria for the sake of comparison between European cities. He gives therefore three overlaying definitions: morphological agglomerations, functional urban areas and administrative urban areas. The former is defined according to a density threshold (650 inhab./km₂). The second corresponds to the workforce catchment area where at least 10 % of the active population works in the agglomeration. On this basis, Vandermotten (1999) compares the situation of seven North-West European cities in the early 1990's. We will use this comparison to make an assessment of the extent of peri-urbanisation in the last part of the report when discussing similarities and dissimilarities between countries

The definition of cities varies throughout Europe (Le Gléau *et al.*, 1996). Defining a city either statistically, based on population threshold, density, ... or by its spatial extent is an important issue encountered at each geographical scale. The reader may refer to Pumain *et al.* (1992) for a comparison of the different European definitions of urban units and also find a discussion of the methodology used to define an agglomeration (morphological city) in Berquin *et al.* (1999) for the Brussels case study. These kinds of studies will also be considered in more detail in the country by country analysis. In a very diversified European context, Pumain argues that it is an impossible mission to build an operational definition of urban units based on all the functional features constituting a city (Pumain *et al.*, 1999). On the other hand, despite their variety, a characteristic of European cities, compared with North American cities, is the general pattern of concentric

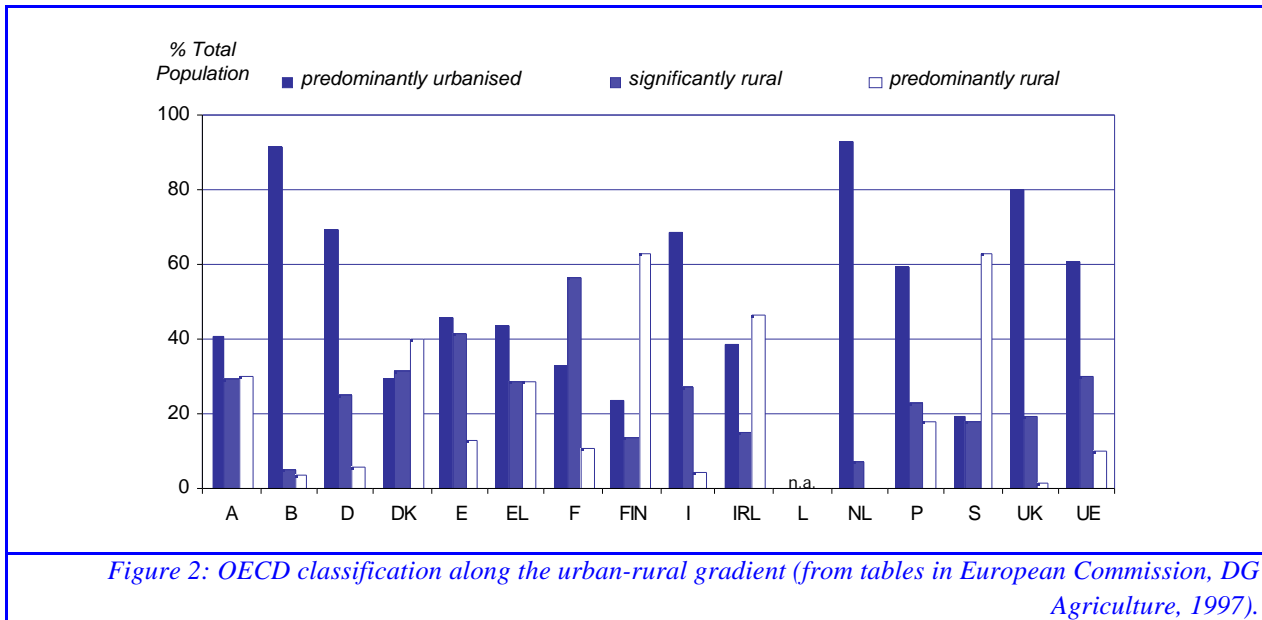
development: an older central core, a continuous built-up area more or less concentric and peripheral extensions

From the rural viewpoint, a lot of typologies also exist. A discussion of the rural concept is undertaken in the report "Situation and outlook : rural developments" (European Commission, DG Agriculture, 1997). The authors also point to the impossibility of having a unequivocal definition of what is rural. Mostly population size and density thresholds are used as criteria.

An example of a classification is given by the OECD (similar to the Eurostat regionalisation above), which identifies rural communities as spatial entities (at NUTS 5 level) where population density is below 150 inhab./km₂. Then (at the NUTS 3 level) three types of areas are defined : "predominantly rural" (at least 50 % of the population live in rural units), "significantly rural" (15 % to 50 %) and "predominantly urban" (less than 15%).

This classification, as well as the Eurostat example, suggests (as shown in fig.1 and fig.2) that the urban-rural dichotomy varies a lot from one country to another in Europe (for maps see European Commission, DG Agriculture, 1997). We assume that peri-urban areas should therefore encounter the same type of diversity. This would justify our methodological approach and the choice to analyse case studies independently, but with the same conceptual guidelines.

The urbanised aspects of the Netherlands and Belgium but also of the United Kingdom, Germany and Italy are more strongly highlighted in the OECD classification, (these countries also correspond to the case studies discussed further in this report). On the contrary, a lower relative share of the most rural class may indicate here that mixed or intermediate areas are of great importance. France shows the highest value for the significantly rural areas whilst in this case Sweden and Finland are more characterised by predominantly rural areas.



Other attempts to classify rural areas try to account for characteristics other than just density or population such as accessibility and urban pressure (e.g. Blunden *et al.*, 1998). Furthermore, the degree of integration with the national economy (European Commission, 1988 cited in European Commission, DG Agriculture, 1997) seems to be also quite suited to the peri-urbanisation concept as an "integrated rural areas" class is defined and characterised by "... *growing population, employment basis in the secondary and tertiary sectors but with farming still a key use of land ...*". Another attempt includes (among others) the impact of urban sprawl or the lack of relations with urban areas combined with different scenarios (successful, urban pressure and weak rural areas) (Boscacci, 1999). Of course, the more criteria there are, the more difficult it is to implement at the European level due to data problems.

Both aspects, rural and urban, have been taken into account in the part of the Study Program on European Spatial Planning (SPESP) focused on regions and urban-rural relationships. The report points to the diversity of urban-rural relationships throughout the European territory due to variations in number, density, spacing and function of settlements as well as the type and importance of agriculture. Classifications have to face problems of scarcity and lack of comparability of data (commuting but more accurately other flows), but also problems of definition of areal units. In the report (SPESP, 2000) an urban-rural regional context typology has been defined by combining indicators of urban-rural spatial patterns in a cluster analysis (indicators and map are in annex F). A hierarchy of cities, travel times to the cores and a distinction between monocentric and polycentric areas has been used for a second typology of urban rural relations (see annex G).

Other spatial typologies are discussed in the same report. An important one seeks to define *European Functional Urban Areas (EUFA)* and is based on the UN definition of built-up areas applied to NUTS5 units and on a threshold of 40% of people commuting to the core among the active population. (See SPESP (2000) report, p.22 to 31 for further details and other classifications).

Let us just mention that similar works exist in the USA, e.g. metropolitan counties (part of Metropolitan Statistical Areas (MSA)) and non metropolitan counties (with a subclass of commuting counties) or, without taking administrative boundaries into account : Commuting zones (CZ) and Labour Market Area (LMA) also based on commuting patterns (Tolbert, Sizer, 1996). Classes along an urban-rural continuum have been defined according to population size and adjacency to metropolitan areas (Butler, Beale, 1993) as well as rural-urban commuting areas (RUCA's) based on measures of urbanisation, population density and daily commuting (Morill *et al.*, 1999).

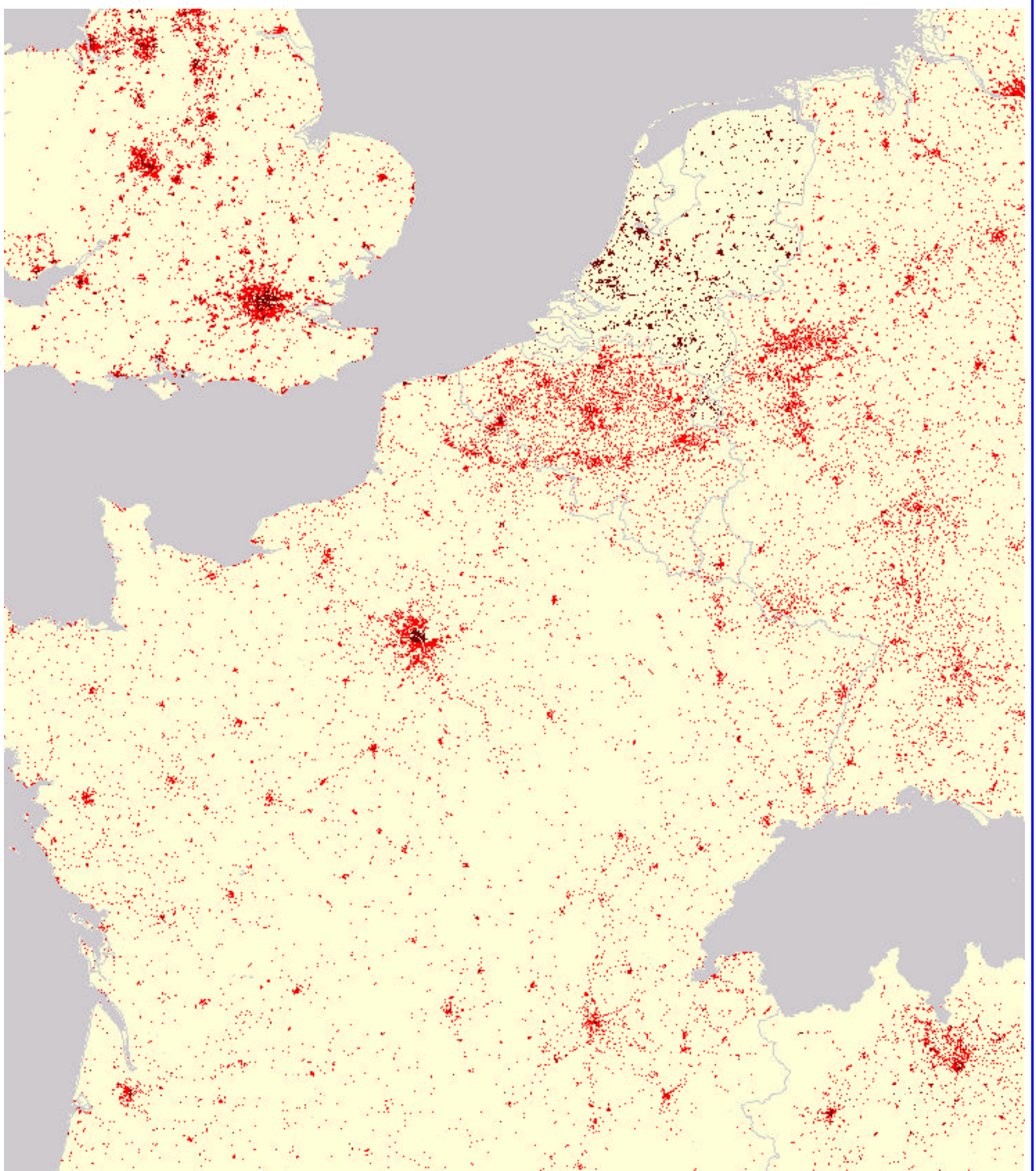
As will be discussed in the second part of the report, each country in Europe has its own or often several typologies of space, some are functional, others not. They do better correspond to local circumstances and therefore are less suited to comparisons between EU members. Classifications of spatial units according to the degree to which they are influenced by an urban centre and according to the degree of their rural character are a way to evaluate the spatial extent of peri-urbanisation. That is one of our hypotheses. The variables used to assess these degrees (on the one hand commuting flows, market areas, proximity to services, ..., on the other, rural employment, dwelling density, proximity to green areas, ...) may vary from one country to another due to the author's objectives.

The Corine Land Cover geographical database has been processed in order to have a quick appreciation of urban and peri-urban patterns in Europe. These data have also been used in Vandermorten (1999, or GEMACA, 1996) for a set of European agglomerations. The two urban classes are represented below and presented in graphic form (Map 2 and Fig.3).

According to fig.3 processed from this database, the diversity of spatial organisations around the cities is emphasised. The size of the residential settlements, their density, their shape and their dispersion through the non-built-up area constitute certainly an indicator of the spatial processes that are current (and in fact, overlay processes that occurred in previous times). In Europe, taken as a whole (EU 15 except Austria and Sweden), continuous urban land represents 0.37 % of the territory and discontinuous urban land uses 2.56 %.

The zoom to which the land use map is set (map 2 shows an extract) has been chosen to show some striking features and to raise some questions. For example, the almost non-existence of dispersed urban patterns in the Netherlands is remarkable compared with the situation in Belgium. Both are the most densely populated countries in Europe but their settlement patterns are very different. This contrasting situation between two neighbours is not perceptible through the previous aggregated classifications. However the patterns result from very different spatial planning policies. We will later go into more details about particular cases and the "compact city" policy of the Netherlands. One could argue for an artefact of the classification¹ but the differences are so clear that we prefer to think that the micro organisation is really different (the resolution is 250*250 m). Of course, non continuous urban patterns do not mean peri-urban settlements, but nevertheless, from the evidence of this picture, we could argue that peri-urbanisation processes in both countries should differ strongly.

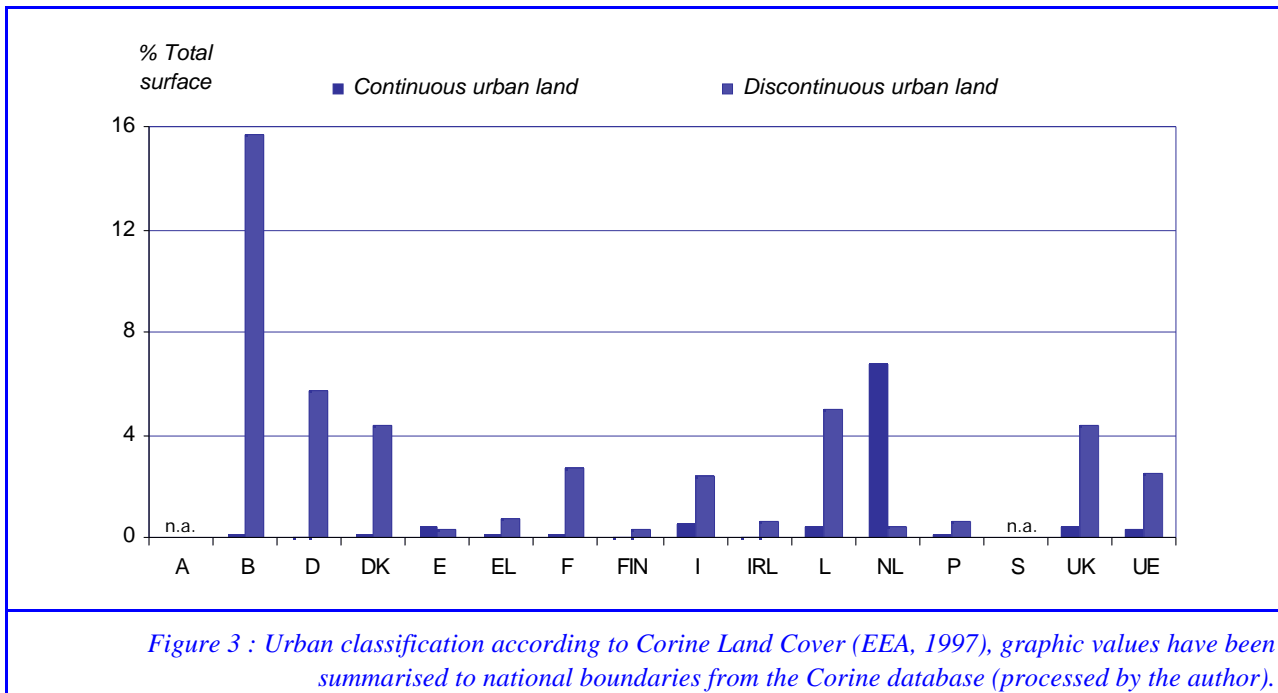
¹ It may be argued that some methodological artefacts could exist in this classification as the methodology included a photographic interpretation of the image by national experts (EEA, 1993). We do think that the range of differences, however, remains striking.



Map 2: Urban classification from Corine Land Cover (EEA, 1997) (continuous urban land in maroon and discontinuous urban land in red, resolution 250m).

The French case also contrasts with the other two, and emphasises the importance of rural areas. If the reader compares the map of France shown earlier (map 1) with the part presented here (map 2), the conclusion would be that the land cover classification misses parts of the peri-urban reality (the commuting is not directly included and the size of small commuter settlements is maybe hidden by the resolution of the map). Therefore it may be interesting to estimate what would be the same classification as INSEE for Belgium or the Netherlands. The complexity of using the "right" methodologies (statistically based or based on land cover maps or even both²) and criteria (urban unit definition, share of commuters, population thresholds, ... resolution and number of classes) to assess the spatial extent of peri-urbanisation for a set of different countries is underlined here.

Also, if the processes and trends driving peri-urbanisation share similarities across Europe, the differences among spatial patterns that are shown above invite us to think in terms of dissimilarities for the spatial aspects of peri-urbanisation. Therefore, generalisation is expected to be difficult from the spatial viewpoint. Nevertheless our approach, by applying the same conceptual framework to different countries and within their own studies should deliver interesting findings and a better understanding of ongoing spatial processes.



² Arguing that the processes that are leading peri-urbanisation are globally the same in Europe (still to be demonstrated) and given the heterogeneity of spatial patterns and regulations, an integration of regional database and land cover data in the same framework should lead to more understanding of the way urbanisation develops in rural areas. A similar approach has been undertaken within the SPESP when dealing with pressures on land uses (Getimis P. *et al.*, 1999)

Already from these observations, European peri-urban areas appear with a diversity of spatial structures. It is also a reasonable hypothesis to argue that this diversity results from different geographical and demographical contexts. Nevertheless one has to be cautious when considering these classifications. In addition to the lack of functional variables already underlined, comes the problem of the delimitation of spatial units to which the statistics are delivered or to which the morphological information is aggregated. There is a wide range of sizes, and national aggregations afford for large internal differences.

The European project called “Urban Pressure on Rural Areas : Mutations and Dynamics of Peri-urban Rural Processes” (NEWRUR), currently in progress, seeks to perform a typology of the diversity of peri-urban areas at a European scale (Bertrand, 1999). It may be able to overcome some of the shortcomings mentioned above and the unequal treatment of information that can be observed through national studies surveyed in the second part of this report. France, Germany, Great Britain, Greece and Spain are especially considered in NEWRUR. Peri-urbanisation is analysed according to a more rural viewpoint and the existing forms of peri-urbanisation are questioned as well as the characteristics of the transformations and conflicts occurring in these areas.

Finally, concerning evolution trends, an overview of demographical characteristics in Europe and their impact on the urbanisation processes until the beginning of the nineties has been undertaken by Champion (1992). The author shows that changes in population structure are important for the analysis of the evolution of the settlement patterns because the demographical trends affect population *in situ* as well as migration behaviour. Europe is ageing, families are of a new type, the household size is reducing, ... this leads to rapid changes in the urban and regional distribution of the population.

Regarding the diversity between European countries and the rate of changes observed, many questions and uncertainties remain for the future (Champion, 1992). Spatial effects are very different from one country to the other due to the types of regions. This diversity of situations between European countries has to be emphasised because it brings into questions the utility of a European wide study (Champion, 1998). Some studies contrasted observations from different countries in Europe. They demonstrated that countries are not in phase with processes of centralisation, decentralisation and recentralisation (Cheshire, 1995) or processes of exurbanisation (deconcentration) and slowdown in deconcentration (turnaround) (Champion, 1998).

References

(References cited in part I)

- Aquachar M., 1996. *Le périurbain : note de synthèse et bibliographie*. Direction de l'Architecture et de l'urbanisme, CIEU, Université de Toulouse-Le Mirail.
- Bauer G., Roux J.M., 1976. *La rurbanisation ou la ville éparpillée*. Seuil, Paris.
- Berquin P., Thomas I., Tulkens H., 1999. Critères pour la délimitation des frontières de Bruxelles. Rapport adressé au Ministre de l'Aménagement du Territoire, des Travaux Publics et des communications de la Région Bruxelles-Capitale.
- Bertrand N. (Coord.), 1999. *NEWRUR, Urban Pressure on Rural Areas, Mutations and Dynamics of Peri-urban Rural Processes*. Proposal Document of the Research Project provided to European Commission, Key Action 5. Cemagref Grenoble.
- Bessy-Pietri P., Sicamois Y., 2001. "Le zonage en aires urbaines en 1999. 4 millions d'habitants en plus dans les aires urbaines", *INSEE-Première*, 765.
- Blunden J.R., Pryce W.T.R., Dreyer P., 1998. "The Classification of Rural Areas in the European Context: An Exploration of a Typology Using Neural Network Applications" *Regional Studies*, 32(2), 149-160.
- Boscacci F. (Dir.), 1999. *A typology of rural areas in Europe*. SPESP (Study Programme on European Spatial Planning) Italian working group report.
- Bourne L.S., 1996. "Reinventing the suburbs: old myths and realities" in "Contemporary Perspectives on Urbanization" *Progress in Planning*, 46, 163-184.
- Butler M.A., Beale C.L., 1994. *Rural Urban continuum codes for metro and non metro counties*. USDA-ERS-USDA, AGES 9425
- Cavailhès J., Dessendre C., Goffette-Nagot F., Schmitt B., 1994. "Change in the French countryside: some analytical propositions" *European Review of Agricultural Economics*, 21, 429-449.
- Cavailhès J., Peeters D., Sekeris E., Thisse J.F., 2001. *La ville périurbaine*. Working document. 26p.
- Champion A.G. (Ed.), 1989. *Counterurbanization – The Changing Pace and Nature of Population Deconcentration*. Arnold, London. 266p.
- Champion A.G., 1992. "Urban and regional demographic trends in the developed world" *Urban Studies*, 29, 3-4, 461-482.
- Champion A.G., 1998. "Population Trends of Small and Medium-Sized Towns in Non-Metro Regions" *Revue de Géographie de Lyon*, 73, 1, 5-16.
- Cheshire P., 1995. "A New Phase of Urban Development in Western Europe? The Evidence for 1980s" *Urban Studies*, 32, 7, 1045-1063.
- Coll J.L., Grasland Cl., Pumain D., Saint-Julien T., 2000. *Préfiguration de l'observatoire en réseau de l'aménagement du territoire européen*. Paris, GDR Libergeo. Rapport DATAR.
- Dézert A., Metton A., Steinberg J., 1991. *La Périurbanisation en France*, SEDES, Paris.
- Duyck X., 1998. *Configurations spatiales suburbaines: le cas de la périphérie namuroise*. Thèse de doctorat, UCL, Louvain-la-Neuve.

- EEA (European Environment Agency, European Topic Centre on Land Cover), 1993. *Corine Land Cover, Guide Technique*. Office des publications officielles des Communautés Européennes, Luxembourg, 1993, 144p.
- EEA (European Environment Agency, European Topic Centre on Land Cover), *Corine Land Cover database*, 1997.
- European Commission, 1988. *The future of rural society*, COM(88) 501 final.
- European Commission, Directorate General for Agriculture (DGVI), 1997. *Situation and Outlook: Rural Developments*. CAP2000, Working Document.
- Eurostat, 1999. "Les zones densément peuplées de l'Union Européenne: Essai de délimitation et caractérisation des agglomérations urbaines" *Statistiques en Bref* (Thème 1,2).
- Fielding A.J., 1989. "Migration and urbanisation in Europe since 1950" *The Geographical Journal*, 155, 1, 60-69.
- GEMACA, 1996. *Les régions métropoles de l'Europe du Nord-Ouest*. Atlas GEMACA. IAURIF, Paris.
- Getimis P., Spanidis N., van den Born G.J., Kroon H.J.J., 1999. *Land use pressure indicators*. SPESP (Study Programme on European Spatial Planning) Background Report.
- Geyer H., 1996. "Expanding the Theoretical Foundation of Differential Urbanization" *Tijdschrift voor Economische en Sociale Geografie*, 87, 1, 44-59.
- Goffette-Nagot F., 2000. "Urban Spread beyond the City Edge" in Huriot J.M., Thisse J.F. (Eds), *Economics of Cities. Theoretical Perspectives*. Cambridge, Cambridge University Press.
- Hall P., 1996. *Cities of Tomorrow*. Blackwell, London. 513p.
- Hall P., 1997. "The Future of the Metropolis and its Form" *Regional Studies*, 31, 3, 211-220.
- Halleux J.M., 2000. *Transition périurbaine et immobilier résidentiel*. Document de travail, bibliographie.
- Halleux J.-M., 2001, " Mobilités quotidiennes et évolutions intra-urbaines : construction d'un espace géographique urbain de référence et analyse des processus évolutifs " *L'Espace Géographique*, 30, 1, 67-80.
- Kurtz H.A., Eicher J.B., 1958. "Fringe and suburbs" *Social Forces*, 37, 32-37. (cited in Thomas, 1990).
- Le Gléau J.P., Pumain D., Saint-Julien T., 1996. "Villes d'Europe : à chaque pays sa définition" *Economie et statistique*. 294-295, 4-5, 9-23.
- Le Jeannic T., 1996. "Une nouvelle approche territoriale de la ville" *Economie et statistique*. 294-295, 4-5, 25-45.
- Le Jeannic T., 1997. "Trente ans de périurbanisation : extension et dilution des villes" *Economie et statistique*. 307, 7, 21-41.
- Lucas P., Van Oort G., 1993. *Dynamiek in een stadrandzone: werken en wonen in de stadrandzone van de agglomeratie Utrecht*. Koninklijk Nederlands Aardrijkskundig Genootschap, Faculteit Ruimtelijke Wetenschappen. Rijksuniversiteit Utrecht.
- Morill R., Cromartie J., Hart G., 1999. "Metropolitan, urban, and rural commuting areas : toward a better depiction of the United States Settlement System", *Urban Geography*, 20, 727-748
- Nelson A.C., Sanchez T.W., 1999. "Debunking the Exurban Myth: A Comparison of Suburban Households" *Housing Policy Debate*, 10(3), 689-709.

- Pumain D., Mathian H., Rozenblat C., 1999. *A regional typology of rural-urban patterns*. SPESP working group report.
- Pumain D., Saint-Julien T., Cattani N., Rozenblat C., 1992. *Le concept statistique de la ville en Europe*. Eurostat, Opocé, Ined, Equipe Paris CNRS. Nurec.
- Rees P., van Imhoff E., Durham H., Kupiszewski M., Smith D., 1998. *Internal migration and regional population dynamics in Europe: Netherlands case study*. Report prepared for the Council of Europe and for the European Commission.
- Schmitt B., Perrier-Cornet P., Blanc M., Hilal M. (Eds), 1998. *Les campagnes et leurs villes*. INSEE-INRA, coll. Contours et caractères. Paris. 203p.
- SPESP, 2000. *Study Programme on European Spatial Planning*. Final report. 58p+annexes.
- Talbot J., 2001. "Les déplacements domicile-travail. De plus en plus d'actifs travaillent loin de chez eux", *INSEE Première*, 767, 2001.
- Thomas D., 1990. "The Edge of the City" *Transactions of The Institute of British Geographers*, 15, 131-138.
- Tolbert C.M, Sizer M., 1996. *U.S. Commuting zones and Labor Market Areas : a 1990 update*. ERS-USDA (Economic Research Service, US Dept of Agriculture) Staff Paper No AGES 9614.
- Van Oort, 1996. "Rural-urban fringes: another approach" in Singh S.B., *New perspectives in urban geography*. New Dehli, M.D. Publications PVT Ltd. 97-112.
- Vandermotten C., 1991. Editorial in "Les Franges Périurbaines" *Espace, Populations, Sociétés*, 2, 257-258.
- Vandermotten C., Vermoesen F., De Lannoy W., De Corte S., 1999. "Villes d'Europe – Cartographie Comparative" *Bulletin trimestriel du Crédit Communal*, 207-208.

II. ANALYSIS BY COUNTRY

Case studies choice

The terms of reference for this project asked for a wide range of situations in Europe to be covered. At least the United Kingdom, Germany, the Netherlands and Belgium, as well as one Southern country (Spain or Italy) and one Northern country (Denmark, Finland or Sweden) should be analysed. Some further comments can be added for other European countries or North American case studies.

Thus, this report will consider the Netherlands, Belgium, Great Britain, Germany and Italy where sufficient information has been collected to undertake a commented survey. For the Northern countries, some insights are given for Denmark, Finland, Norway and Sweden collectively in a short bibliographical note and a couple of abstracts (as less papers have been obtained by country).

Structure of the analysis

For each case study, the analysis is handled so that similar points are discussed.

The beginning of the discussion deals with the scientific context in which peri-urban processes are handled within the country. The concepts mainly used in the literature are therefore discussed and compared to the peri-urbanisation concept taken as a reference (see earlier). However, it is quite often difficult to separate the discussion of the concepts from the operationalisation of these definitions into spatial classifications. For the Dutch case both elements can be easily separated, but for the other case studies this seems not straightforward.

The spatial context is also considered. The geographical aspects needed to provide a good understanding of peri-urbanisation processes are discussed. They deal with urban structure, types of regions but also planning policies (for the Dutch and British cases essentially). Again geographical structures can also appear from the examination of spatial typologies of the rural-urban gradient.

The second step thus seeks to emphasise the trends affecting the country in question. Once the spatial extent of peri-urbanisation is examined through spatial typologies, commuting patterns or land use statistics for example, its evolution through time can be considered in terms of distributed population growth or land use dynamics.

At the end, the main demographical characteristics of peri-urbanisation such as the age and family structure, the intensity and types of migrations, ... are also observed .

The last part provides the cited references related to the country as well as some other bibliographical resources.

Following the available information for each case study, it is not possible to further structure the different analyses. Actually, the collected information is quite different in each country. It depends probably on the dynamic of the debate during the considered period but also on the diversity of authors and the significance of one or two frameworks within the case studies. For example, in the Netherlands the debate is raging and the policies often emphasised but no spatial typology appears as a reference as in France or in Belgium (but in a less established manner). Moreover, planning actions are more discussed in the British and German cases and often intermingle with the more quantitative descriptions. Finally, for Italy, the regional differences are put forward while only a few national scale studies are provided. Discussions may therefore not be of the same volume nor of exactly the same content for each case.

II.1. The Netherlands

II.1.1. Context and spatial definitions

It is axiomatic that the geography of the Netherlands is largely driven by planning policies. This first case study is thus strongly influenced by the planning issue that occurs within the scientific literature treating urban-rural aspects. Also, the vigour of spatial and housing policies has shaped the spatial organisation of the Netherlands and limited the residential expanse particularly in the western part of the country. No less important is the high level of population density that also characterises the country.

In the Dutch debate, the term “suburbanisation” seems mainly to be employed by authors as a process of population movement from central city centres to “greener” locations with single family dwellings. This process reflects actual trends in the location wishes of the population (Wassenberg *et al.*, 1994 cited in Priemus, 1996). Although not clearly defined, the concept seems closely related to the term rurbanisation as discussed previously. Only the process is emphasised and nothing is said about its spatial extension. The term "suburban" is probably not as large as our referential "peri-urban" but this is understandable because density is important and "compacting" now a widespread policy in the country. So, when comparing suburban areas with French peri-urban ones, the former would have a more urban character. In fact, it is not clear if peri-urban areas in Netherlands could refer to areas where "suburban" processes, as used by most Dutch authors, exist. It could also be equivalent to the existence of new dwellings in the countryside, knowing that the "real countryside" (where the next cluster of housing occurs at 20 or 30 km) no longer exists in the Netherlands (Part 9, VROM, 2000). In that sense, one could argue that nearly the whole of the Netherlands is peri-urban. However, our definition of peri-urban areas does not account directly for the sparse aspects of the settlement but only for a mix of land uses and an urban influence. There are areas in the Netherlands, mainly in the Northern and Eastern parts of the country, where the urban influence is weak and therefore these areas could be characterised as rural. Moreover, some classifications based on morphological indices also describe the existence of rural areas (as we will see further).

In the Dutch context where land is so restricted and where residential developments does not seem too diffuse, studies oriented towards "urban fringes" (*stadrandzone*) may provide us with some useful insight. For example, the term peri-urban zone (*peri-urbaan gebied*) has been used in this literature (Lucas, van Oort, 1993, p.37 or Bryant, 1982): in their schematic representation of a city and its surroundings, the "peri-urban area" is a zone contiguous to the agglomeration (the latter is the continuously built-up area) and integrates, in its part nearer to the city, the "urban-fringe" (*stadrandzone*). One can also find in this peri-urban area suburban municipalities, new towns and growth centres.

Finally, the concept of "living environments" (*woonmilieus*) brings another interesting viewpoint in the conceptual debate. A typology in five classes has been defined (Part 3, VROM,

2000) which accounts for the environment of the dwelling and not only its own characteristics. This classification is used to analyse residential preferences, and scenarios have been built to predict housing increases in the different types of living environment, with a view to applying appropriate policies (VROM, 2000).

About demographical and geographical context, the Netherlands are characterised by a high population density (over 400 inhab/km₂) especially in the Western part, the Randstad Holland which comprises the main four Dutch cities: Amsterdam, The Hague, Rotterdam and Utrecht. These cities, with six smaller ones constitute a ring of urban area around a "green area" called the Green Hart. "...These cities and the Green Heart forms one whole; for instance, approximately 150,000 people commute between the Green Heart and one of the Randstad cities. The Green Hart has some 670,000 inhabitants, about 10 % of the population of the Randstad area. ... Rural land use predominates. Density of population is 470 persons per km₂, as against 1,680 in the surrounding city regions..." (Van der Cammen, Witsen, 1995, cited in Faludi, Van der Valk, 1996.). From this definition, it can be noticed that this area shares the main characteristics of peri-urban areas: urban influence (commuting) and rural morphology (even if manmade in this case). The interesting part about it is the reversal of the concentric pattern as the peri-urban area is in a central position and surrounded by the city.

The main spatial planning conceptions that have driven land use but which have also evolved according to changing processes (Jansen *et al.*, 1997, Dewailly, Meur-Ferec, 1995) are briefly summarised below. From the 1950's to the end of the 1970's, the planning policies encouraged geographical deconcentration (firstly extensive, then grouped to avoid sparse distribution) of the population to counter rural exodus, a population boom and the surplus of migrants in the big cities. This resulted in a spontaneous suburbanisation and deterioration of centres. Policies of urban renovation then occurred to curb suburbanisation and are still in course, and after the middle of the 1980's, the compact city became the objective (Kruythoff *et al.*, 1992). It is accompanied by a defence of the Green Hart and more recently with the fourth report on land use planning (Vierde Nota over de Ruimtelijke Ordening) by its consideration as an integrated zone (combining agriculture, leisure, residential, transport uses). Growth centres have been established by the government to receive the new residential constructions in order to face household growth and control urban spread. (See e.g. *Vinex* (contraction of *Vierde Nota Extra*) development areas where 650,000 houses will be built in the period 1995-2005 (Priemus, 1998)). Also, buffer zones (*tussenzones*) have been kept in the Randstad ring to avoid coalescence of the different cities (but these are not strictly defined and seem very attractive for commuters (Wassenberg, 1996)). Nine other cities in the country received funds to implement such policies. So that thirteen "urban nodes" (Stedelijke Knoop-punten), concentrating growth, are defined (Jansen *et al.*, 1997).

The physical planning has had an indubitable impact on peri-urbanisation, but so does the housing policy. Dutch cities are very dense. This compactness is notably related to the physical particularity of the Netherlands for which the sea level is above important parts of the land surface. Drainage constraints limit therefore the urban extensions in the peripheries of some cities (e.g. for Amsterdam) because servicing costs are very important and can only be supported by the public sector.

Therefore, for the last forty years, most building has taken place on land supplied by municipalities. This is quite unique for a market economy. Municipalities carry out land development (services) which is then made available for building by the private or the public sector. This gives greater control to the planning authorities (Needham, 1997), but also gives rise to some contradictions including (Priemus, 1998): an artificial shortage of new housing land and a tension between urban density and consumer preferences (preferences for land quality and village type living environment (Van den Berg, Wintjes, 2000; Part 9, *VROM*, 2000; Wassenberg *et al.*, 1994.).

An important part of the Dutch housing stock is in the social rented sector (41%, Dieleman 1996) which benefits from lower as well as mean income households. Since the beginning of the 1990's, less public subsidies were provided and, therefore, less housing is now available at a lower price (Dieleman, Musterd, 1997). As a consequence of this evolution, Dieleman and Musterd (1997) emphasise the risk of more segregation in suburban areas: new suburban areas (e.g. *Vinex* sites) for higher incomes and older ones for poorer households. There is also the question of whether *Vinex* buildings (a compromise between urbanisation and suburbanisation) correspond to the wishes of the potential population in terms of living environment (Priemus, 1996).

In the context of compact city planning, residential pressure and scarcity of land, the debate is also raging about the permanence of the Green Hart. For example, Lörzing (1996) considers the concept as obsolete and argues that already the reality is not a sharp limit between city and countryside but a blurred transition zone. He highlights the existence of an important road network going through the Green Hart (with much commuting). He argues for protection of only the more ecologically valued parts. Priemus (1996) also questions the need for the Green Hart because people prefer "exurbanisation". Moreover, the area contains two types of "green" zones: agricultural and ecological. Future urban extension should take this into account through "canalised suburbanisation" (*gekanaliseerde suburbanisatie*).

Throughout this discussion, it has been briefly shown how much the future development in peri-urban areas (e.g. like the Green Hart) are dependent on changes in planning and housing policies in the Netherlands. This policy context has to be kept in mind when describing the extent of peri-urbanisation and the accompanying demographical trends. However, despite these policies, peri-urbanisation trends are maintained, particularly for the middle classes and young families. The integrity of the Green Hart is also difficult to preserve because of the extension of activities and transport networks (Vandermotten *et al.*, 1999). This is demonstrated by examining land use change in the Green Hart which shows an increase in the built-up areas by 5.8 % between 1993 and 1996 (Lengkeek, 1999).

In the next discussion, the peri-urbanisation extent will be examined through different classifications mainly defined for the whole country. Then (in section 1.2) demographical aspects will be discussed in relation to the peri-urbanisation process. Demographical trends either characterise or explain the spatial situation. In addition to location decisions and migrations of the workforce, commuting patterns have also to be assessed. An important part of the following discussion has been inspired by the analysis of internal migration and regional population dynamics by Rees *et al.* (1998). We also consider further studies by Dutch authors regarding these issues to complete and better answer our questions.

Several urbanisation classifications exist in the Netherlands, either official or developed by researchers in relation to their specific purposes. We consider some of them below as we think they are useful in an assessment of the peri-urbanisation extent in the country.

The evolution of the distribution of the population since the sixties between urban-rural classes has been analysed through the following two classifications: The first has been used by Slegers (1987, cited in Rees *et al.*, 1998) to analyse migration flows between the following settlement types : "urban core", "urbanised municipalities", "other municipalities in a city region" and finally "outside city regions". This demonstrated that urban cores encountered a fall in their growth rate, gained mainly by other urbanised municipalities, through migrations during the 1960's and 1970's. This suburbanisation (which corresponds to the deconcentration phase mentioned above) has been stronger among more central regions (the Randstad cities). The second classification has been used to describe redistribution between three settlement types for the 1978-1992 period (Goordijn, Eichperger, 1996) : the population losses characterising the "centres" (municipalities with above 100,000 inhab.) continue and benefits mainly to "rings" (commuters municipalities and small towns) and then only to peripheries (small villages with agrarian population). The rate of deconcentration slowed down sharply at the beginning of the 1990's.

Official regionalisations also deal with urban-rural categories. They are interesting because they consider either a functional link to the city, the morphological characteristics through density (like the ones cited above) or add information on working sectors and commuting.

The first divides the whole of the Netherlands into 40 urban regions (called COROP regions) and gives information on the general settlement organisation and urban influence of the centres. Each part of the country is then polarised towards a city or a group of cities. Peri-urbanisation processes cannot be assessed at this very aggregated level but, it is nevertheless interesting to note that the most remote rural settlements are also linked to an urban centre.

The other two official classifications have been defined by the Central Office of Statistics in the Netherlands (CBS):

Municipalities are classified into five urbanisation categories based on the density of addresses (the average number of addresses in a 1 km radius) ranging from "very strongly urbanised" (2500 addr./km₂) to "not urbanised" (less than 500 addr./km₂) (Den Dulk *et al.*, 1992) (see map 3a). It is

thus purely a morphological classification indicating a degree of urbanisation¹. Following this, 500 municipalities out of 647 (77%) are weakly or not urbanised. Given the general high density of the country, these figures point to the compactness of urban settlements and tend to disprove the idea of a peri-urbanised country (which could be interpreted from the COROP classification). The regulation strategy of the Netherlands is certainly emphasised by this map.

Strijker and Sijtsma (1996) use the last class to define the "countryside". It covers 90.6 % of all of the administrative classified area. They further subdivide this countryside into a "green area" (consisting only of agriculture, natural areas and disseminated dwellings). The remainder (3.2 % of the total surface) consists rural settlements (villages and small towns).

Another classification is needed to better understand urban-rural relationships and peri-urbanisation as neither the urban influence nor the importance of agricultural activities are taken into account in the last classification. The most suited classification therefore for our purpose is probably the CBS classification of urbanisation categories : "rural", "urbanised rural" and "urban municipalities" with different degrees in each classes. (see figure 4 and map 3b). The criteria here are the percentage of the workforce in the agricultural sector, the population size of the largest residential nucleus, commuting and the size of urbanised nucleus. The main problem is that it is based on the last Dutch census in 1971 and at this period of time, a process of suburbanisation was current (see above).

Rees *et al.* (1998) (following a similar objective) updated this classification by adding a typology of urban agglomerations (also from CBS) and completed it by "expert judgement". Unfortunately, they also simplified it and only four settlement types remain: core, secondary core, ring and periphery. They focused on the urban settlements and therefore their last class ("periphery") is too aggregated to account for peri-urban processes so we prefer to refer to the CBS classification for the "urbanised rural" and "rural areas" classes. In figure 4, the Rees classes are also presented because some of their findings about demographical trends are based on these classes (see the map in annex H).

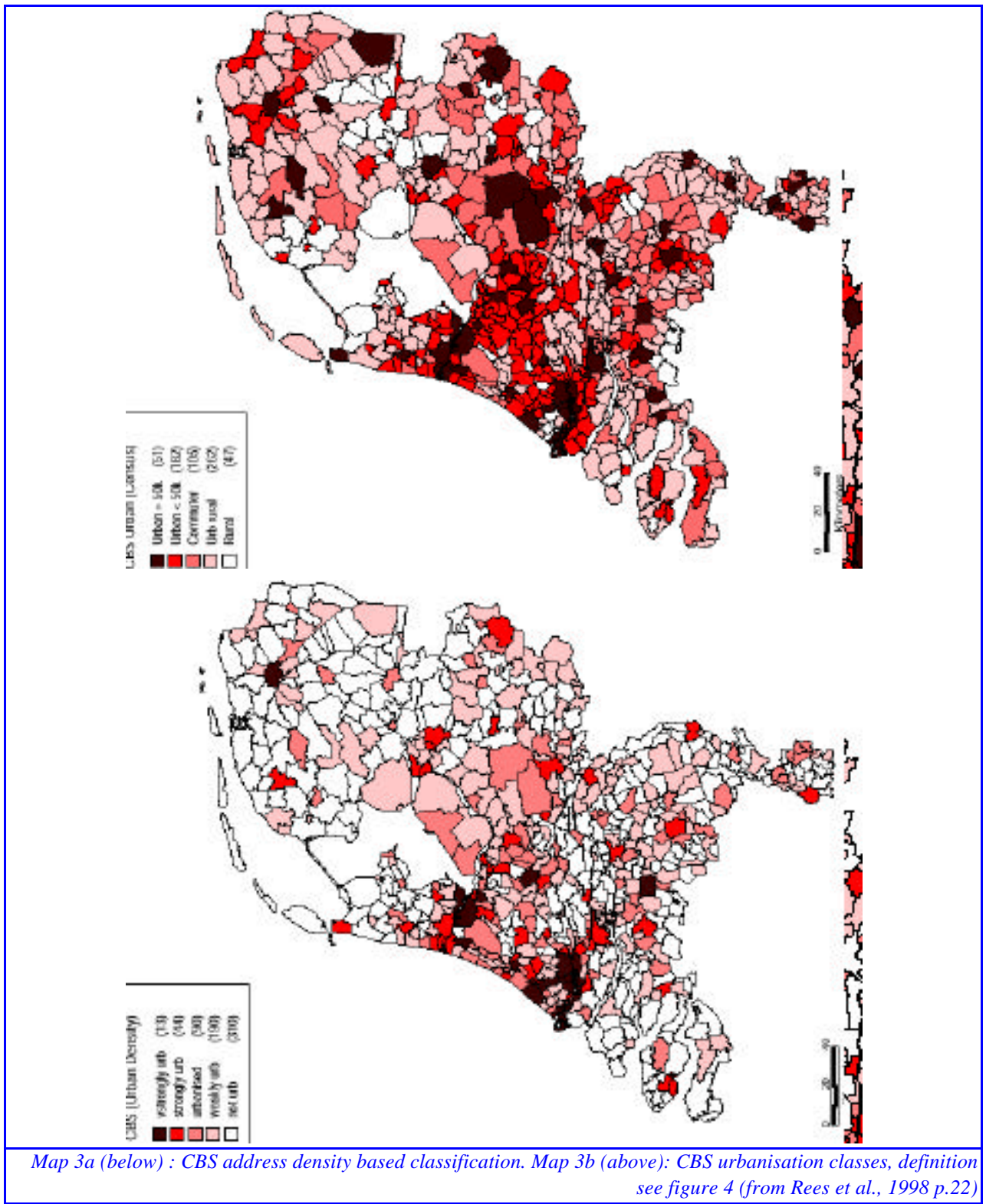
There are few differences between the Rees classification and the CBS for the Randstad zone as there are only a few rural zones. The peri-urban character of the Green Hart is emphasised by comparing both maps: On the one hand, a mix of urban, urbanised rural and rural areas in the CBS map can be interpreted as a diversity of land uses. On the other hand, the map annexed shows the peripheral aspect of the area and its commuting characteristic (rings).

For the rest of the country, even if it is known that the population density remains very high (as discussed above with the density classification) and if therefore the majority of units are classified in urbanised rural in map 3b, the situation remains quite diversified with some rural areas (where at least 20 % of the workforce is in agriculture), and more or less concentric patterns of decreasing urbanisation types around bigger cities. Still, following the discussion of the address density map (map 3b), urban-rural interfaces are assumed to be sharper than shown by map 3b. Moreover, the situation should certainly be analysed at an infra-municipal level knowing the particularity of the spatial regulation system and also to avoid problems of spatial unit choice. The urbanised-rural class of map 3a remains, in practice, quite ambiguous.

¹ Van Dam F. and Huigen P.P. (1997) consider that a limit of 1000 addr./km_ points to "rural municipalities" and

In summary, it can be concluded from the analyses of these maps that the Netherlands are not peri-urbanised morphologically. This is certainly due to the spatial planning policy. For the functional part of the peri-urbanisation definition it is less evident. But, considering the definition of the urbanised rural class, agriculture is no more the main activity and therefore the relationship with cities through commuting is probably important.

However it is better to remain careful about this conclusion. It is based only on classifications with *a priori* chosen criteria and spatial units. The discussion needs to go further by showing on results and remarks from other authors.



Map 3a (below) : CBS address density based classification. Map 3b (above): CBS urbanisation classes, definition see figure 4 (from Rees et al., 1998 p.22)

Urbanization category CBS (1971 census)		Definition	Classes used on the map 3b (number)	Rees classes (definitions are simplified)
A Rural municipalities	A1	50% or more labour force in agriculture	Rural (47)	Periphery = <i>rest of the country</i>
	A2	40%-<50% in agriculture		
	A3	30%-<40% in agriculture		
	A4	20%-<30% in agriculture		
B Urbanized rural municipalities	B1	less than 20% male labour force in agriculture, largest residential nucleus less than 5,000 inhabitants	Urbanised rural (262)	Periphery = <i>rest of the country</i>
	B2	less than 20% male labour force in agriculture, largest residential nucleus between 5,000 and 30,000 inhabitants		
	B3	Specific commuter municipalities		
C Urban municipalities	C1	2,000 - <10,000 inhabitants in urbanized nucleus	Commuter (105)	Ring = <i>commuter towns</i> Periphery = <i>rest of the country</i> Periphery = <i>rest of the country</i>
	C2	10,000 -<30,000 inhabitants in urbanized nucleus	Urban < 50 k (182)	except 7 municipalities in Ring and 4 in Secondary Core most in Secondary Core = <i>large freestanding towns</i>
	C3	30,000 -<50,000 inhabitants in urbanized nucleus		
	C4	50,000 -<100,000 inhabitants in urbanized nucleus	Urban > 50 k (51)	Core for the rest most in Core = <i>main centres of urban agglomerations</i> Secondary Core for the rest most in Core = <i>main centres of urban agglomerations</i>
	C5	100,000 or more inhabitants in urbanized nucleus		
				Secondary Core for the rest

Figure 4 : CBS urbanisation classes and Rees classes (reprocessed from Rees et al., 1998 p.21).

Problems of defining classes *a priori* along an urban-rural gradient are very complex as no limit exists in reality. Choices of thresholds and variables lead to very different representations. Some Dutch authors point to an urban-rural dichotomy which is becoming blurred (Van den Berg, Wintjes, 2000). Rural areas are increasingly becoming consumed for housing, but also used for their amenity value, instead of agricultural production (van Dam, Huigen, 1997). The authors indicate the integration between urban and rural zones by saying that neither the economic structure nor the socio-cultural characteristics allow neat distinctions to be made between urban and rural areas. He adds that given the extreme urbanisation, "ruralness" should receive another meaning. Why not peri-urban, therefore (for part of them at least) ? Van Dam and Huigen (1997) also underline the counter-

urbanisation process (also named "rurban" migration in its article) that occurred in the Netherlands and ended in the late 1970's. In the 1980's rural municipalities encountered a positive emigration, but since 1993, even the peripheral rural areas have a positive migratory balance. Deconcentration is thus still an active force and justifies the need for sufficiently discriminated classes to understand causes and consequences of processes.

A methodological conclusion of Kruythoff's work (Kruijthoff, 1991) is also important for our purpose : in "*...a priori classifications, developments may be obscured by the lack of homogeneity of the various area types*". Whatever the extent of peri-urban areas, they may cover a large set of different realities (intra-variation). Again this result is not in contradiction with our conception of peri-urbanisation which may include towns, villages, agriculture or leisure areas,

Kruijthoff (1991) used a different methodology (a cluster analysis) but limited her analysis to the Randstad municipalities. The aim of the author was to identify homogenous zones using a set of variables characterising housing (age) and households (age and socio-economic aspects). Demographical aspects were used to assess spatial characteristics. She found 4 (or 5) zones which were characterised as "metropolitan", "urbanised", "least urbanised" and "growth areas". It is interesting to note the difference between her classification and the CBS. Utrecht, for example, is not set at the same level of urbanisation compared with the other three big cities of the Randstad Holland. Also some growth centres with high levels of resident owners, well-off households and low rise dwellings are characterised as least urbanised. Already we can imagine from this result that peri-urban areas show differences in socio-economic structures and cover different realities.

The above classification has been used in order to evaluate the types of development occurring in each zone (Kruijthoff, 1991) but also other aspects of social characteristics of households with regard to their urban or suburban location (Kruijthoff, 1993). The main results will be discussed in section 1.2.

At a finer geographical resolution, two maps (at a 250m resolution) are provided within an analysis seeking to prove the utility of satellite images for the analysis of urban processes (URU, OTB, 2000). The first map is very interesting because it deals with the "living environment" concept mentioned above (see II.1.1) and shows the compactness of urban settlements as well as differences between the Randstad zone and the other regions. A map of the intensity of urbanisation is also delivered and, when compared to the CBS classes, can enlighten the intensity of peri-urbanisation processes. Also, given the size of municipalities (compared with France) and the type of planning regulation in the Netherlands, this study allow details to be perceived at a finer scale.

II.1.2. Spatial evolution and demographic trends

The focus in this section is on the demographical patterns accompanying peri-urban process. Some aspects of this have already briefly been considered earlier, but are discussed here in more detail. The intensity, reasons, origins and destination of migrations flows need to be described. Also demographical characteristics have to be considered with respect to their relative locations. The discussion first addresses general demographics and their spatial characters, then the age (life cycle) and family structure, the differences in incomes and consecutive locations and finally the importance of commuting in relation to jobs locations. All these themes may overlap during the discussion as they are not independent from one another.

During the past decades, the Netherlands have encountered rapid demographic growth. In 1999, the population reached 15.75 million, which is one million more than 10 years previously. The natural increase is general throughout the country except for some municipalities (Rees *et al.*, 1998).

This growth in the total population constitutes an important feature for the analysis of urbanisation processes, but the ongoing growth in the number of households and their increasing diversity is more significant. More and more single- and two-persons households are to be found because young people postpone marriage and having children and because of the increase in life expectancy and the ageing of the population (Van Kempen, Van Weesep, 1998).

Even in the context of low fertility, the population of some municipalities may be affected by high birth rates because the proportion of the young population can be important. The role of internal migration has to be combined with the effects of natural growth in the different locations.

Concerning internal migrations, patterns of gain and losses among municipalities are intricate so that the examination of local factors is needed (Rees *et al.*, 1998). Following the study of aggregate flows between urbanisation classes and settlement types by the team of Rees P., it was found that "very strongly urbanised" and "not urbanised" (map 3a) municipalities endured a strong emigration that benefited the middle urbanised municipalities in the mid 1980's.

In the mid 1990's, these flows are weaker and even, the rural classes (classes A2 to A4 of the figure 4 and map 3b, for which there are 20 to 50 % of farmers in the labour force) encounter immigration. In the four class typology (as defined by Rees *et al.*, see figure 4), "rings" continue to gain population but at a lower rate than in the eighties and the "periphery" moves from losses in 1984 to gains in 1994.

In bigger cities such as Amsterdam and Rotterdam, international immigration compensates for losses due to internal migrations (Rees *et al.*, 1998).

From 1950 to 1980, a deconcentration phase took place in the Netherlands, as discussed earlier with the policy context. The major centres were losing population to peripheries and more distant municipalities. It was shown that this process intensified during the eighties and early nineties, as smaller centres also encountered losses. Finally, whilst there is a depopulation of the more remote

rural areas, the more accessible ones are showing a certain attractiveness (Rees *et al.*, 1998). Thus globally, there is no rural depopulation in the Netherlands.

The general pattern depicted above can potentially hide differentiated patterns due to the age structure of the different municipalities and the location behaviour at different stages in the life cycle. The impact of the population age structure on migration flows is discussed below.

The population of the Netherlands is actually one of the youngest in Western Europe, but it will be one of the most rapidly ageing population in the coming years.

	2000	2010	2020	2030
0-19	24	23	22	22
20-64	62	61	59	56
65+	13	15	18	22

Figure 5 : Ageing of the population. Scenario from Nota Wonen (VROM, 2000).

Bonnerman and Hooimeijer (1997) emphasise the differentiated patterns of ageing in the country and their relationships with the housing and spatial planning policies. Peri-urban municipalities are ageing because the young households who migrated from 1950 to 1985 are becoming older. Planning policies have driven this migration and today speed up the ageing. As already mentioned above, the Dutch government encouraged deconcentration during the 1950's and a grouped deconcentration from 1966 to 1985. Since 1985, deconcentration has been replaced by the compact city policy in order to curb the use of cars, increase the number of inhabitants in the cities and preserve the environment. The social housing policy was abandoned in peri-urban areas, the new housing construction sites (*Vinex* sites) are located in urban or fringe areas and, peri-urban communes restrict strongly the building of new houses. Therefore, the migration of young households is stopped in peri-urban areas. Conversely, cities are becoming younger and the difference with the peri-urban area is increasing. Van Kempen R. and Van Weesep J. (1998) also point to the ageing contrasts between central cities and suburban zones

Inside of the peri-urban communes differences are also noticed whereby communes that have encountered migration later age more quickly. For the moment, only the ancient migration zones have an older population than the cities, but the trends are reversing.

Consequently, tensions arise in the housing market. Peri-urban houses, attractive for young households, are not accessible for them given the lesser residential mobility of older people who occupy the peri-urban zones and who are not likely to return to the city. The demand is therefore increasing for more spacious houses newly built at the urban fringe. Among the population, preference for single family housing is the more widespread (Wassenberg *et al.*, 1994). Given the policy (single family housing construction at the border of the cities only, but little inexpensive new housing), only the more well-off households will achieve their preference (Van Kempen, Van Weesep, 1998). This shortage is even more crucial in the Western part of the country where the

exurbanisation of older people to rural areas out of the Randstad is debated (as their decision is independent of the jobs location) (Hooimeijer, Nijstad, 1996).

When divided along life stages, which correspond to different residential mobilities, global migration patterns deliver other interesting information. The migration patterns of families and children, searching for more space, are different from the migration of older people as discussed above.

The Rees *et al.* study showed that, everywhere in the Netherlands, but more accurately in the Western part, families tend to deconcentrate and that the process has intensified in the mid nineties. Recently retired people follow more or less the same pattern. The more contrasting migration pattern is, by far, that of young adults (see figure 6). They leave low densities for urban centres. The municipalities that gain are the large cities, particularly those with universities. This immigration of young people to the main cities, as well as the arrival of foreigners, compensate partially for the urban deconcentration.

In the Randstad, the daily mobility of young adults between the cities is high. Often they do not tend to leave the social sphere of one city for another. This process is eased by the rate of change in jobs, by the fact that their partners may have another job location and also by the communication network between the cities (from a discussion with Van Oort).

In the future, the Netherlands will see a continuous increase of two-income households because the participation of women in labour-markets is for the moment still less than that of nearby countries (Van Kempen, Van Weesep, 1998). More two-earner families also means an increase in commuting as both jobs could take place into different locations.

Kruithoff (1993) studied the residential choice of two-earner households. She found that there is no relationship between the presence of two salaries in a household and the location choice in a more or less urbanised area or in a growth centre. That could be explained by the fact that services can be found as easily in less urbanised areas as in an urban environment (and thus there is no gain in time when living in the city). Nevertheless there are differences between urban and peri-urban types of two-earner households according to their socio-economic characteristics : married or not, with children, age, level of education,

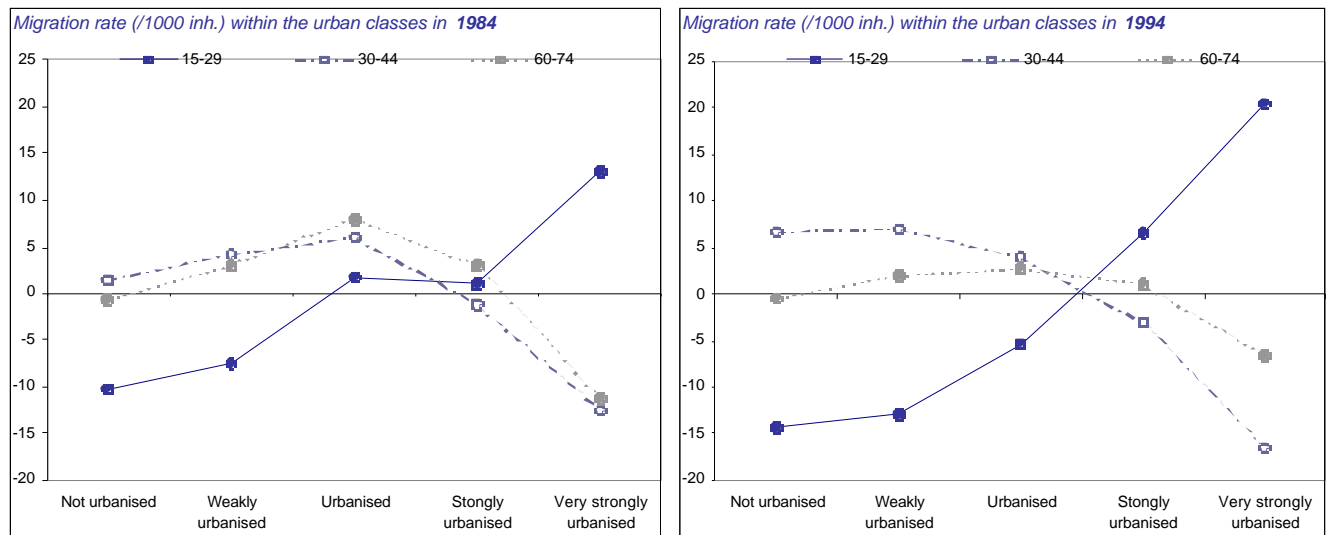


Figure 6 : Net internal migration rates by age in 1984 and 1994 (from tables in Rees et al., 1998).

The level of income also contribute to contrasting patterns between peri-urban areas and the city. Except for some redeveloped parts of cities, Van der Veer (1994) argues for the existence of a social cleavage between the city and the rest of the metropolitan area (in accordance with experience in the United States). The difference is nevertheless not as deep as in the US as Dutch suburban areas are not only higher income residential areas. The cleavage is also shown to be more important for the more early urbanised cities, which have encountered substantial population loss (Van der Veer, 1994).

In rural areas, the socio-economic structure and the level of income is high compared with the city. (in contrast to what happens in France). The causes are the high degree of urbanisation, a dense communication network and proximity to services. Villages are always close to one another or to a city. Given the attractiveness of "greenness" and the lower price of land in rural areas, half of the Dutch population lives in a nucleus with less than 25,000 inhabitants (little cities, villages or disseminated dwellings) (VROM, 2000).

In order to assess the degree of urban influence on peri-urban areas, it is worth looking at the commuting patterns characterising the Netherlands. The Daily Urban System (DUS, equivalent to Functional Urban Region) of the Netherlands is analysed by Van der Laan (1996) through the analysis of the volume of commuting. Commuting amounted to 30 % of the active force by municipality in 1971, 37 % in 1985 and 52 % in 1990.

Applied to the different types of regions, it is shown that there is more commuting in the urbanised parts, but that the limit is not sharp with rural areas. Only the very peripheral rural areas have lower rates of commuting. The new towns, set by the spatial planning as the growth centres have the higher percentage and can be considered as "dormitory" towns. Still it is important to emphasise in this discussion that these centres, for example located at the limit of the Green Hart, might have a more rural character. Even if the agricultural sector is weak, there are "artificial" green spaces.

In the daily urban system, factors other than employment also attract commuters. This characteristic is related to the observation of Van Kempen and Van Weesep (1998) that the growth rate of employment in the big cities lag behind that of suburban areas. This leads to a decrease of the weight of commuting for the suburban population.

Finally, Van der Laan demonstrates that suburban municipalities have a very high degree of mobility even out of the Randstad region and particularly in the Southern part of the country. As the author includes in his suburban concept more urbanised and rural areas, and given their "mobility", we assume we are in the presence of peri-urban areas.

When considering demographic data and despite of planning policies, a sort of peri-urbanisation seems appropriate to the Netherlands. The main difference with our concept of peri-urbanisation resides maybe in the compactness of the settlements, as assessed in the previous section. For Rees *et al.*, the evolution of the Netherlands has more to do with suburbanisation process than with counter-urbanisation because the developments share a strong relationship with commuting fields. We agree with this conclusion but given the growth of less urbanised areas or of rural areas that still have a relationship with cities, we argue that the processes correspond to our definition of peri-urbanisation.

II.1.3. Bibliography

(One can find here the references cited above and other bibliographical orientations about the country)

- Atzema O., Kruyt B., Van Weesep J., 1992. "The Randstad today and tomorrow. Urban networks research program" *Tijdschrift voor economische en sociale geografie*, 83, 243-329.
- Blauw P.W., 1986. "Suburbanistie en sociale contacten" *Nederlandse Geografische Studies*, 17. Amsterdam.
- Bonnerman F., Hooimeijer P., 1997. "Le péri-urbain : intégration dans le système urbain" in Van Oort G. (Coord.), "Pays Bas: Dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, 106-114.
- Bootsma H.G., 1998. *The myth of reurbanization. Location dynamics of households in the Netherlands*. Tilburg, 193p.
- Bryant C.R., Russwurm L.H., McLellan A.G., 1982. *The city and its countryside: land and its management in the rural urban fringe*. Longman, London.
- Burgers J., Kreukels A., Mentzel M. (Eds), 1993. *Stedelijk Nederland in de Jaren negentig*. Van Arkel, Utrecht.
- Clark W.A.V., Kuipjers-Linde M., 1994. "Commuting in Restructuring Urban Regions" *Urban Studies*, 31, 3, 465-483.
- Cortie C., 1997. "Planning Doctrine and Post-Industrial Urban Development: The Amsterdam Experience" *Geojournal*, 43, 4, 351-358.
- Den Dulk C.J, Van de Stadt H., Vliegen J.M., 1992. "Een nieuwe maatsstaf voor stedelijkheid: de omgevingsadressen-dichtheid" *CBS maandstatistiek van de bevolking*, 92/7, 14-27.
- Dewailly J.M., Meur-Ferec C., 1995. "Le coeur vert de la Randstad Holland: l'adaptation d'un concept aux exigences du développement" *Hommes et Terres du Nord*, 222-230.
- Dieleman F.M., 1996. "The quiet revolution in Dutch housing policy" *Tijdschrift voor Economische en Sociale Geografie*, 87, 3, 275-283.
- Dieleman F.M., 1997. "Planning compact urban form: Randstad Holland 1965-1995" *Environment and Planning A*, 29, 10, 1711-1715
- Dieleman F.M., Hamnett C., 1994. "Globalisation, World Cities and the Randstad" *Urban studies*, Special Issue, 31, 357-564.
- Dieleman F.M., Musterd S., 1997. "Les villes: l'habitat comme clef centrale de l'aménagement urbain" *Hommes et Terres du Nord*, 2, 92-98.
- Faludi A., Van der Valk A., 1996. "Planners come out for the Green Hart" *Tijdschrift voor Economische en Sociale Geografie*, 87, 5, 448-452.
- Floor H., Goetgeluk R., Van Kempen R., 1996. "Migratiestromen uit de Randstad" *Geografie*, 5, 2, 12-16.
- Goordijn H., Eichperger L., 1996. "The Netherlands : from interregional to international migration" in Rees P., Stillwell J., Convey A., Kupiszewski M. (Eds) *Population migration in the European Union*. Wiley & Sons, Chichester. 247-259.

- Hamnett C., 1994. "Social Polarisation in Global Cities : Theory and Evidence" *Urban Studies*, 31, 3, 401-424.
- Hooimeijer P., Nijstad R., 1996. "De Randstad als 'roltrapregio' ". *Geografie*, 5, 2, 5-8.
- Jansen L., Kreukels T. Spit T., 1997. "L'aménagement du territoire néerlandais : vue d'ensemble de l'évolution des idées" in Van Oort G. (Coord.), "Pays Bas: Dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, 67-73.
- Khan D., Van der Plas G., 1999. "City profile : Amsterdam" *Cities*, 16 ,5, 371-381.
- Kreukels T., Pollé E-J., 1997. "Urbanization and spatial planning in an international perspective" *Netherlands Journal of Housing and the Built Environment*, 12, 1, 135-163.
- Kruythoff H., 1991. "Homogeneity and diversity in the Randstad : developments in residential environments 1981-1986" *Netherlands Journal of Housing and the Built Environment*, 6, 2, 79-99.
- Kruythoff H., 1993. "Urban and suburban types of two-earner households in the Randstad" *Netherlands Journal of Housing and the Built Environment*, 8, 2, 211-236.
- Kruythoff H., Jobse R.B, Musterd S., 1992. "Migration and the socio economic structure of the four big Randstad cities and their daily urban systems" *Tijdschrift voor Economische en Sociale Geografie*, 83, 3, 181-195.
- Lengkeek W., 1999. *Land use statistics in the Netherlands*. Netherlands official statistics. CBS.
- Lörzing H., 1996. "It's time to redefine the Green Hart" *Tijdschrift voor Economische en Sociale Geografie*, 87, 5, 452-457.
- Louisse A.F., 1998. "Rural towns and villages of the Netherlands' Green Heart : is a healthy survival possible ?" *Journal of architectural and planning research*, 15, 1, 73-84.
- Lucas P., Van Oort G., 1993. *Dynamiek in een stadrandzone: werken en wonen in de stadrandzone van de agglomeratie Utrecht*. Koninklijk Nederlands Aardrijkskundig Genootschap, Faculteit Ruimtelijke Wetenschappen. Rijksuniversiteit Utrecht.
- Meijer H., 1997. "Bibliographie française sur les Pays-Bas 1980-1996" in Van Oort G. (Coord.), "Pays Bas: Dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, 124.
- Needham B., 1997. "Land Policy in the Netherlands" *Tijdschrift voor Economische en Sociale Geografie*, 88, 3, 291-296.
- NRLO (National Council for Agricultural Research), 1998. *Rural Areas put on the Map - Knowledge and Innovation Priorities; Aspirations for the 21st century*. NRLO Report 98/19E, Nationale Raad voor Landbouwkundig Onderzoek, The Hague.
- Priemus H., 1996. "De Randstad in het spanningsveld tussen urbanisatie en suburbanisatie" *Rooilijn*, 29, 1, 28-32.
- Priemus H., 1998. "Contradictions between Dutch Housing Policy and Spatial Planning" *Tijdschrift voor Economische en Sociale Geografie*, 89, 1, 31-43.
- Rees P., van Imhoff E., Durham H., Kupiszewski M., Smith D., 1998. *Internal migration and regional population dynamics in Europe: Netherlands case study*. Report prepared for the Council of Europe and for the European Commission. (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 98/06, School of Geography, University of Leeds. 78p.

- Sleegers W.F., 1987. *Regional population dynamic and migration in the Netherlands*. Doctoral Dissertation. Dpt Geography. Erasmus Universiteit Rotterdam.
- Strijker D., Sijtsma F., 1996. "Rural areas: definition and economic structure" *Tijdschrift voor Economische en Sociale Geografie*, 87, 1, 80-85.
- URU, OTB, 2000. "Stedelijk ruimtegebruik" *Monitoring verstedelijking*. Report to the Rijksplanologische Dienst, URU (Urban Research, Universiteit Utrecht) and OTB (Onderzoek Instituut, TU Delft).
- Van Dam F., 1996. "The turnaround after the turnaround after the turnaround ? The urban-rural migration wave in the Netherlands, 1973-1994" *28th International Geographical Congress*, The Hague.
- Van Dam F., Huigen P., 1997. "L'espace rural aux Pays-Bas: un changement fondamental" in Van Oort G. (Coord.), "Pays Bas: Dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, 115-123.
- Van den Berg L., 1993. "Patterns of Harmony and Conflict between Horticulture and Urban Growth in The Netherlands" *Geography Research Forum*, 13, 32-45.
- Van den Berg L., Wintjes A., 2000. "New rural lifestyle estates in the Netherlands" *Landscape and Urban Planning*, 48, 169-176.
- Van der Cammen H., Witsen P.P., 1995. Hartelijke groeten uit het Groene Hart : Tweeëntwintig vaak gestelde vragen over het Groen Hart-beleid. Ministerie van Volkshuisvesting Ruimtelijke ordening en Milieubeheer. Den Haag.
- Van der Laan L., 1996. "Changing urban systems : an empirical analysis at two spatial levels" *Regional Studies*, 32, 3, 235-247.
- Van der Veer J., 1994. "Metropolitan government and city suburban cleavages – differences between old and young metropolitan-areas" *Urban Studies*, 31, 7, 1057-1079.
- Van Kempen R., Bottenberg Y., Hooimeijer P., 2000. "Viva Vinex ? wonen in Leidsche Rijn" *Leidsche Rijn Monitor 2000*. Utrechts Nieuwsblad, Berenschot, Universiteit Utrecht. 69-90.
- Van Kempen R., Van Weesep J., 1997. "Les villes: mutation des populations urbaines" in Van Oort G. (Coord.), "Pays Bas: Dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, 81-91.
- Van Kempen R., Van Weesep J., 1998. "Ethnic residential patterns in Dutch Cities: backgrounds, shifts and consequences" *Urban Studies*, 35, 10, 1813-1833
- Van Oort G. (Coord.), 1997. "Pays-Bas : dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, numéro spécial.
- Van Oort G., Lucas P., 1997. "La frange urbaine : une analyse des processus de conversion" in Van Oort G. (Coord.), "Pays Bas: Dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, 99-105.
- Van Staalduine J., Drexhage B., 1995. "The state of the nation after five years of national spatial planning" *Tijdschrift voor Economische en Sociale Geografie*, 86, 2, 191-196.
- Van Uum E., 1998. "Spatial planning scenarios for the Netherlands" *Tijdschrift voor Economische en Sociale Geografie*. 89, 1, 106-116.
- Vandermotten C., Vermoesen F., De Lannoy W., De Corte S., 1999. "Villes d'Europe – Cartographie Comparative" *Bulletin trimestriel du Crédit Communal*, 207-208.

- VROM (Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer), 2000. *Nota Mensen, Wensen, Wonen - hoofdstuk 3: Analyse van de woonopgave 2000-2010*. VROM. 22p.
- Wassenberg F.A.G., Kruythoff H., Leliveld T.A.L., Van der Heijde J.E.H., 1994. *Wonen op niveau: de marktverrag voor vinex-locaties in de Randstad gepeild*. VROM (Ministerie van Volkshuisvesting Ruimtelijke ordening en Milieubeheer), Den Haag.
- Wassenberg F., 1996. "Weg uit de Randstad" *Geografie*, 5, 2, 10-11.

II.2. Belgium

II.2.1. Context and spatial definitions

As for the urban areas defined by INSEE, the *urban regions* and *urban residential complexes* (Van der Haegen and Al, 1996, Leemans and Al, 1989) are the principal framework used to account for the extension and evolution of urbanisation processes in Belgium taken as a whole. This framework makes it possible to avoid the terminological discussions between suburbanisation and peri-urbanisation. Both terms are used nearly indifferently in order to account for urban developments in the Belgian case, although there are some exceptions (e.g. Halleux, 2001). The term *rurban*, is used to refer to places further away from cities. However the growth of these places depends to some extent on accessibility (often by motorways) and therefore they are regarded as the continuation, in more remote areas, of the peri-urbanisation processes that are occurring at the periphery of agglomerations (Christians, 1987, Jehin, 1998).

The country comprises 17 *urban regions (régions urbaines)* (Van der Haegen *et al.*, 1996). These are made up of several spaces defined by the combination of a variety of functional, morphological and dynamic criteria. Compared to INSEE, the Belgian classification includes a larger number of variables.

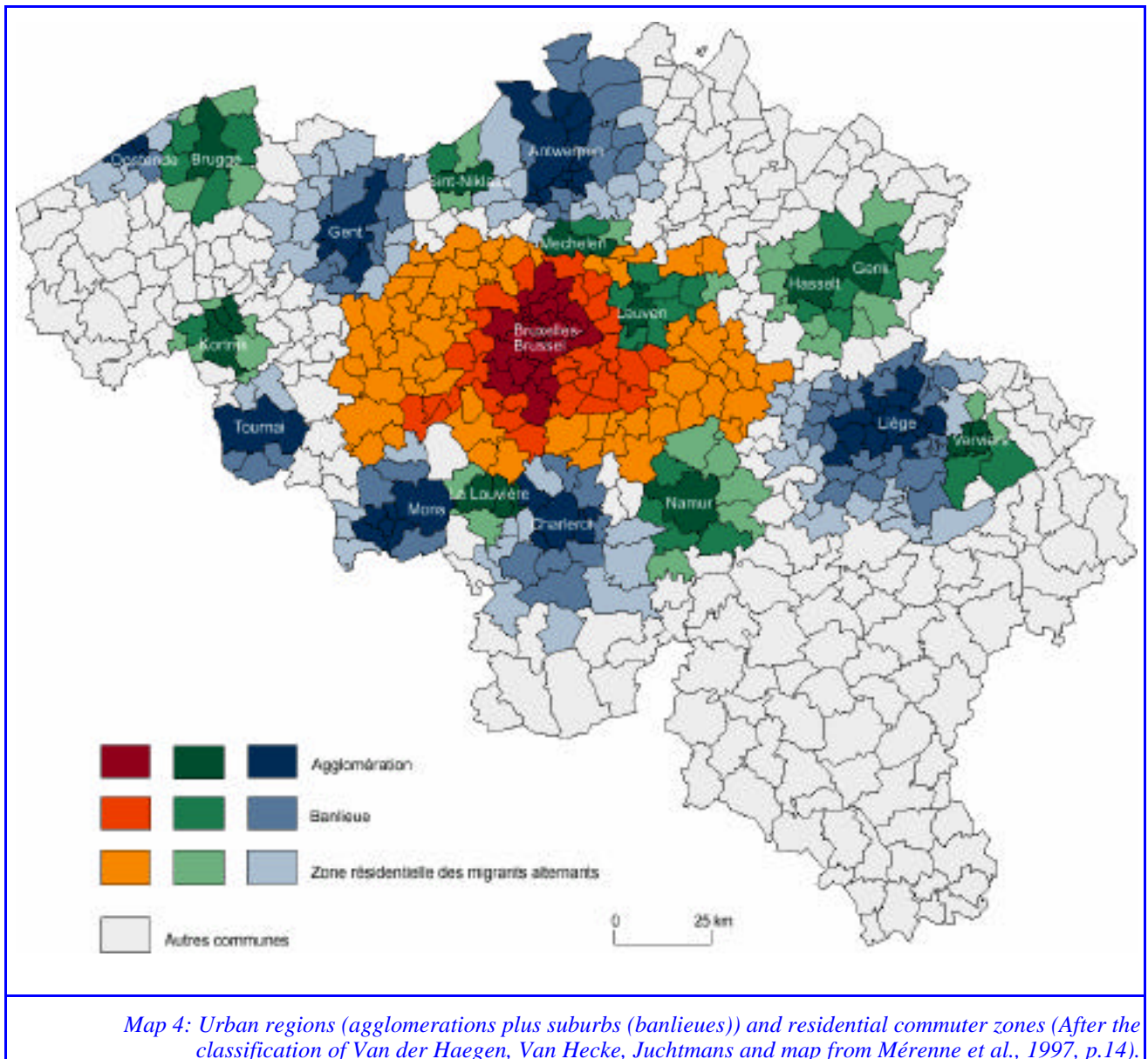
First, a *morphological agglomeration* is defined by the continuity of residential dwellings (the threshold is 250 metres) around a *central city*, itself characterized by a certain concentration of shops and services, a given density of population as well as the age and size of its dwellings.

The term *suburb (banlieue)* is then used to define an area around the *morphological agglomeration*. Its definition is based on the growth of the population, the median income (relative to the district income), the importance of residential migration from the agglomeration, the travel to work and school flows, and finally the evolution of build-up surfaces. Contrary to its usage in France, the term suburbs can be considered as a peri-urban area in the sense of our definition: "*On the functional level, suburbs are urban; however, morphologically speaking, they may sometimes seem rural*" (translated from Mérenne *et al.*, 1997, p.14)

Next, an *urban region* is defined and composed by both areas: the *morphological agglomeration* plus its *suburb*.

Finally the *urban region* is integrated into a larger unit called the *urban residential complex*. A *commuter residential zone* is coupled with the urban region to form this complex. The commuter zone contains the communes where 15 % of the working population migrate daily towards the morphological agglomeration. For the authors, while the *suburbs* (also called *urban fringe*) refer to the process of *suburbanisation*, the term *rurbanisation* of former countryside areas is used when the residential zone of commuters is considered (Mérenne *et al.*, 1997). For a more detailed description of the classification procedure, the reader may refer to Van der Haegen *et al.* (1996). The resulting map is presented below (Map 4).

Before the evaluation of the spatial extent of peri-urbanisation according to the urban region framework, it is worth adding a few words about another classification which also demonstrates the importance of the peri-urban process in Belgium. This classification accounts for the hierarchical structure of communes. 103 urban communes and their urban fields (“*aires d’influence*”) are defined (Van Hecke, 1999). Given the hierarchical structure of this typology, the analysis of the relative evolution of these communes would better suit the counter-urbanisation concept. Nevertheless, the observed decrease in the population of the biggest cities and the slower growth of the other urban communes compared to the evolution of the non-urban communes is also a good an indicator of peri-urbanisation. Moreover, in 1997, the urban communes accounted for only 45 % of the total population against 62 % of the jobs. This indicates a stronger concentration of employment than population and again the necessity to account for a functional relationship when dealing with urban growth.



The classification outlined above can be considered as a reference to define urbanisation processes and to clarify the Belgian concepts, but of course it can also be used to evaluate the spatial extension of the peri-urban area.

For Van der Haegen (1991), the peri-urban area comprises the suburb (banlieue) of the urban region on the one hand and the commuter zone on the other hand. Both areas can broadly be distinguished according to a different threshold of commuter migrants. When defined in this way, the peri-urban areas represent 34 % (1991) of the population (14 % in the suburban part and 20 % in the

commuter zone) and about 40 % of the surface (16 % and 24%). The agglomerations account for 43 % of the population.

The map shows the supremacy of the Brussels residential complex which attracts the majority of the communes belonging to the centre part of the country and is surrounded by the other big cities and their peri-urban areas. If the zoning is kept constant (1991), few changes can be observed in the population distribution in 2000 : during this period the population in the residential complex had grown by 2 %. The evolution of the different part of the complex will be analysed further (in section II.2.2).

The classification that is considered is based (for operational purposes) on the communal scale. One should therefore keep in mind that infra-communal differences are hidden and that peri-urban areas can be included within a commune classified as an agglomeration. This is for example the case of Namur where the whole morphological agglomeration is included in one commune. Parts of the commune, beyond the continuously build-up area, provide different environmental amenities typical of peri-urban areas (Reginster, 1998, INS, 1996).

Moreover, the population density of the agglomerations and suburban areas varies across the country. The average density is 1297 inh/km₂ (in 1991) for the agglomerations and 289 for the suburban areas. But, while the density of the whole urban region is about 280 inh/km₂ for Tournai and 335 for Namur, it reaches 1060 for La Louvière or 1050 for Brussels. It is also worth noting that 26 % of the population active in the primary sector live in an urban region. This emphasises quite well the possible "rural character" of the suburban areas.

The whole country is not covered by the urban regions and commuter zones framework. A threshold of at least 80 000 inhabitants is required to define an urban region. Nevertheless it seems possible that other cities, smaller ones, are also experiencing a deconcentration process and their surrounding communes would thus share some peri-urban characteristics.

Two further studies can help to complement the previous observations. The first one deals with the distribution and volumes of the agglomerated population, *population in cores* or *localities*, and the importance of the *dispersed population* (outside cores) (Halleux *et al.*, 1998a). The second study seeks to combine morphological and functional aspects of urbanisation in order to obtain a new classification of the communes (Halleux *et al.*, 1998b).

Population cores are defined according to a morphological criteria corresponding to a contiguity of dwellings. Their shape and size may be very different from one place to the other. They include cities, small towns, villages as well as ribbon type developments. The latter are often observed along Belgian roads (Van der Haegen *et al.*, 1981).

In 1991, 75 % of the localities were constituted of less than 1000 inhabitants but strong regional differences exist between the Northern and Southern subdivisions of the country. Wallonia (South) accounts for 71 % of these *very small cores* while Flanders (North) accounts for the majority small and medium size cores (82 % of the localities bigger than 1000 inhabitants to 50 000 inhabitants). These cores are also more densely populated in the Flemish Region. The biggest cities (above 100 000 inhabitants), are equally distributed throughout Belgium: 3 cities in both regions plus Brussels. Finally, the volume of population living in dwellings outside the cores, the *dispersed population*, is much more important in the Northern part. The figure below gives some further details on the relative volume of population in each type of settlement for 1981 and 1991 at the aggregate level of the 3 Belgian regions.

% of the regional population		>100 000	from 50 000 to 100 000	from 20 000 to 50 000	from 10 000 to 20 000	from 5 000 to 10 000	from 1 000 to 5 000	< 1000	Dispersed population
Flanders	1981	22.2	7.8	8.4	12.0	10.9	17.6	6.4	14.7
	1991	21.1	7.5	8.7	12.0	11.6	17.9	6.1	15.1
Wallonia	1981	31.0	7.7	5.3	6.9	6.3	15.3	17.9	9.4
	1991	29.2	7.4	6.4	5.6	6.2	15.6	18.3	11.3
Brussels	1981	99.9							0.1
	1991	99.7							0.3
Belgium	1991	32.9	7.0	6.5	9.1	8.3	15.1	9.5	11.6
	1981	31.3	6.8	7.1	8.8	8.7	15.4	9.5	12.4

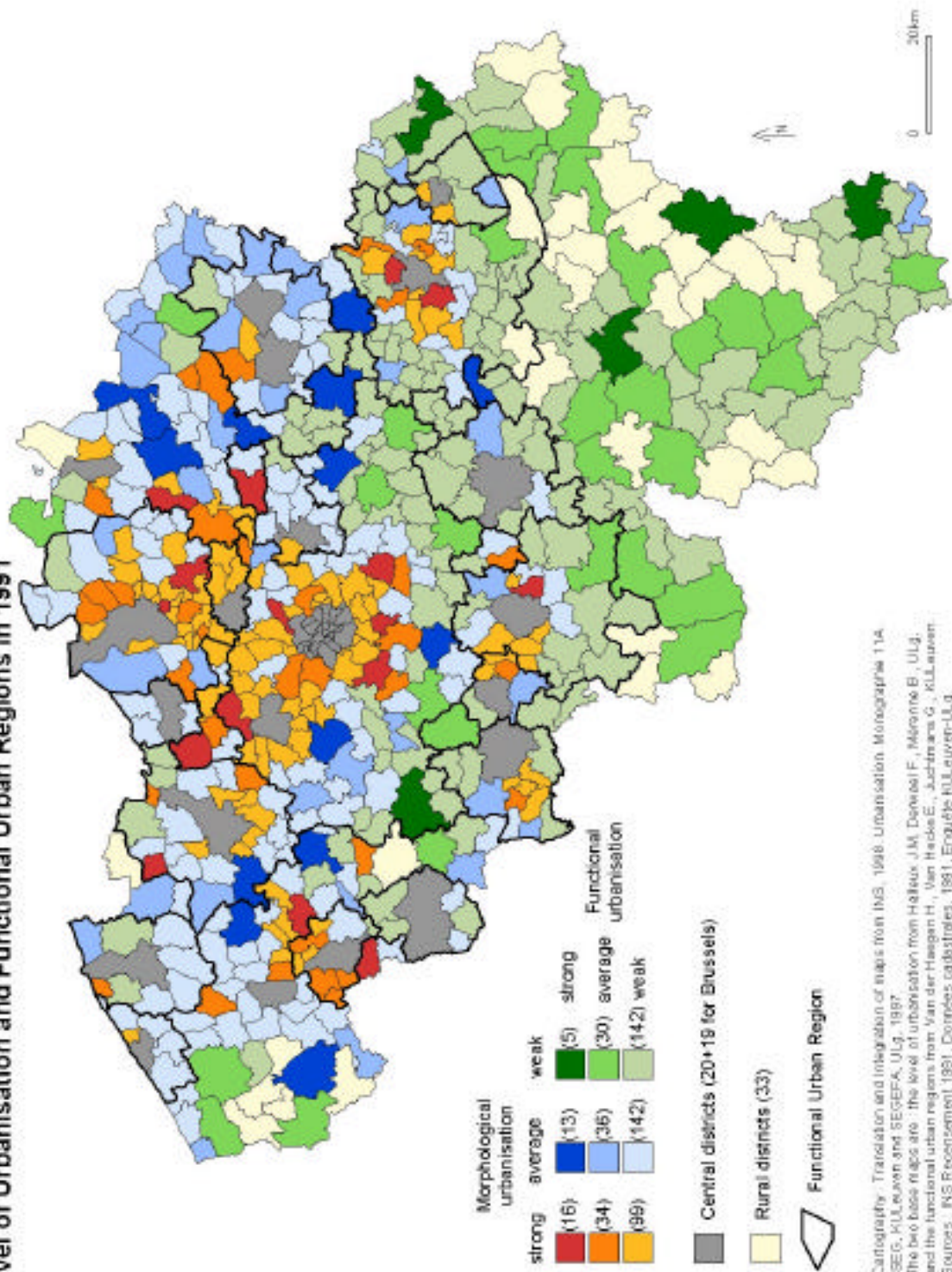
Figure 7 : Relative share of population according to the different size of the cores (Recalculated from tables in Halleux et al. 1998a).

The second classification seeks to combine two cluster analyses using morphological attributes on the one hand (population density, % of build-up surfaces) and functional variables on the other hand (number of shops, schools, jobs). This classification, as presented in the map (see map 5), shows a more densely urbanised North both in morphological and in functional terms. The area within the diamond-shaped area Gent-Brussels-Antwerpen-Leuven is strongly urbanised and, moreover, the proximity to Brussels increases the importance of travel to work flows and enhances the dispersed population (the number of commuters living outside population cores) (Halleux, 1998a).

Morphologically, Wallonia is less urbanised than the majority of the Flemish territory where urbanisation benefits from the existence of a dense urban system (lots of urban centres). There are few functional centres in the Southern part except along the W-E urban axis comprising Mons, Charleroi, Namur and Liège. The area can be depicted as less peri-urbanised and contains most of the rural communes (the definition of rural communes depends on the importance of the agricultural sector).

The limits of the urban residential complexes, or peri-urban areas, have been superimposed on the map. It is striking to observe how diverse the peri-urban zones can be for the different cities. Sometimes it accounts mainly for communes that are weakly urbanised both morphologically and functionally, sometimes the morphology can be strongly urban for most of the attracted communes. This is quite a good argument in favour of considering a combination of morphology and functionality when peri-urbanisation is studied. Finally it can be observed that 60 % (84 out of 142) of the communes with weak morphological and functional urbanisation are part of an urban residential complex. Also, 94 % of the communes defined as rural are outside any of the complexes.

Level of Urbanisation and Functional Urban Regions in 1991



Map 5: Functional and morphological urbanisation in Belgium. The term functional region refers here to the limit of the urban residential complex as defined in Van der Haegen et al. (1991).

II.2.2. Spatial evolution and demographic trends

When taking a dynamic viewpoint to assess the extent of peri-urbanisation, a slowing down of the surface consumption rate by urbanisation is observed during the period 1980-1995 compared to 1950-1980. During the 80's and the first half of the 90's, urbanisation occurred over the whole country, but was much stronger in Flanders (29 % in 15 years) than in Wallonia (20 %). In the latter region, the disparities among sub-regional parts are also more significant (Jehin, 1998, Jehin, Mérenne, 1998).

In fact, the decrease in peri-urbanisation that occurred in the 1980's was less strong in Flanders but this region underwent less peri-urban growth during the 1950's and 1960's (Jehin, Mérenne, 1998). Further away from the centres, a movement of "re-urbanisation" (as mentioned by Christians, 1987, Jehin, 1998) spreads to nearly all the villages led by good communication axes.

The evolution of residential surfaces is even stronger than urbanisation taken more broadly (i.e. including other land uses such as infrastructures, shops, offices, ...) with a 40 % increase in 15 years. This represents an additional consumption of 3.1 % of the Flemish territory and 1.2 % of Wallonia during this period. The mean residential consumption has, therefore, increased from 174 to 229 m²/inhab. and certainly reflects an increase in standard of living (Jehin, 1998) as well as decreasing size of households.

The Belgian agglomerations, and some of their immediate periphery, were characterised by population growth and positive migratory balances during the 1950's. At that time, only the city of Brussels was overflowing its morphological agglomeration (Christians, 1987). The 1960's experienced clearer peri-urbanisation and the *suburban areas* became covered by detached houses (Van der Haegen, 1991). During the 1970's and 1980's the residential commuter zones experienced significant urbanisation, but in contrast the agglomerations had population falls.

From the very start of the 1980's however, urban movements seem to disappear : progress was less important in the peripheries and, in parallel, losses were less significant in the urban centres (Christians, 1987, Eggerickx, 1999). The slowing down of the peri-urbanisation processes is thought to be related to the economic situation (Leemans *et al.*, 1989, Eggerickx, 1999). It also raises questions about a real behavioural change implying a return of preference for the city. However and in spite of the fluctuations, the peri-urban zone remains a very attractive residential environment (Eggerickx, 1999).

A discussion of the "return to the city" has been handled by many authors. For Vandermotten and Vandewattijne (1985), this "re-urbanisation" process is related to transport costs which were too high and a search for urban interaction. Eggerickx (1999), but also Bootsma (1998, in relation to the Dutch case) and Voyé earlier (1985) argue that peri-urban families do not migrate back to the city but that the figures just reflect a lack of departures from the city. After observation of the migrations rates, one could say that the desire to settle in a peri-urban areas has dwindled, but people are also not leaving more the peri-urban zone (Eggerickx, 1999) : e.g. : in the period 1980-1985 a decrease of immigration is observed for the peri-urban areas of Brussels and Wallonia but no increase of out-

migration has been observed. During the period 1985-1990, the demographic growth in peri-urban areas arose from less out-migration and a constant in-migration. Since 1989, both rates have evolved in parallel with in-migration always above out-migration, and, thus increasing peri-urbanisation. Reduced residential mobility has therefore been observed during the 1980's. Plausible explanations of this process are perhaps linked to an improvement in commuting facilities and an exurbanisation of jobs.

During the 1970's, the redistribution of the population mainly benefited population agglomerated in cores, but this trend reversed during the 1980's as the share of the dispersed population increased. Furthermore, the increase in this diffusion of the population has been stronger in the South than in the North where dispersion is more traditional. The settlement structure between both areas therefore tended to homogenise. At the same time, the 16 larger cities were encountering population losses, and average-sized cores (20 000 to 50 000 inhabitants) were increasing in the North (counter-urbanisation ?) while decreasing in the South. The cores situated in the periphery of the largest cities were growing in Flanders and in the Southern peri-urban area of Brussels (as seen on the map annexed (annex I) from Halleux 1998a, p.31.).

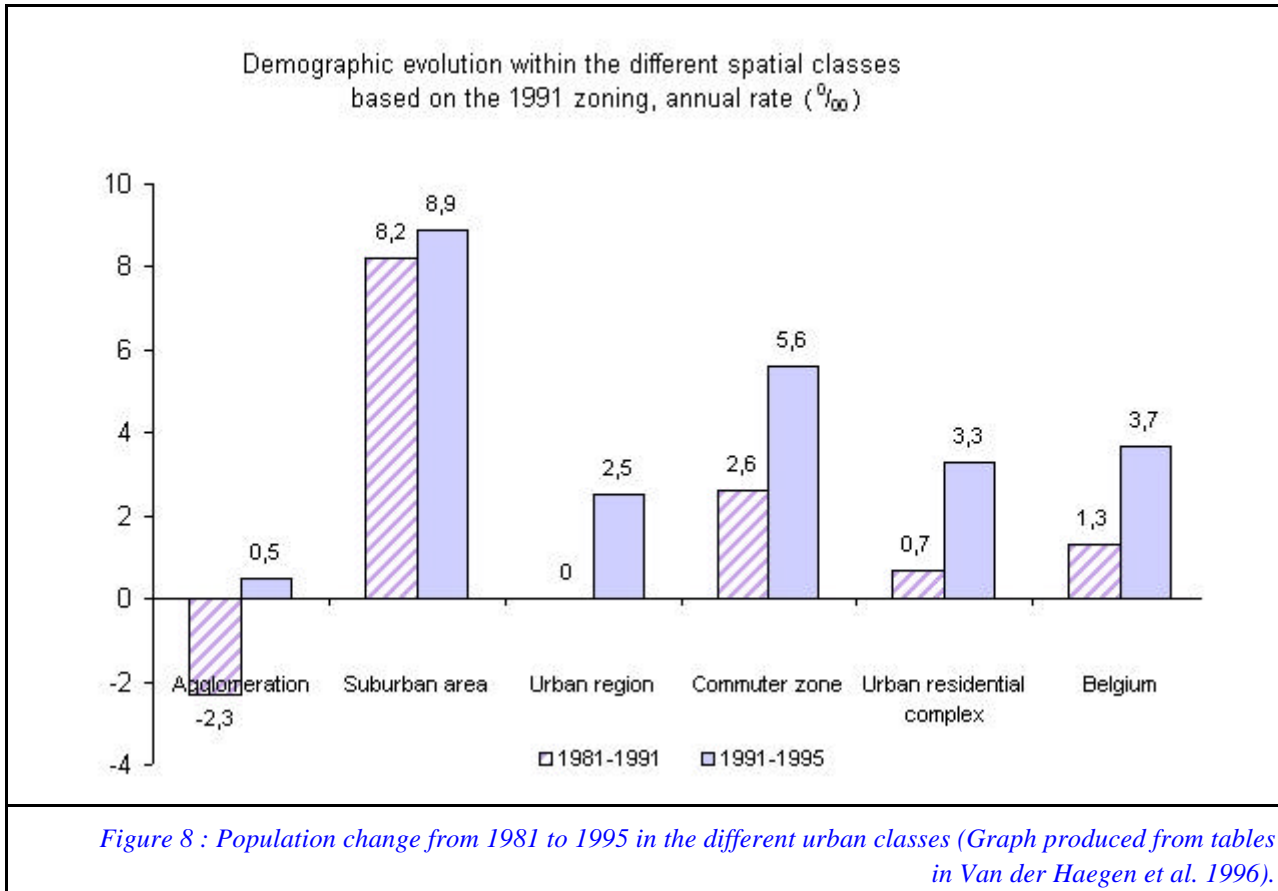
The evolution since the 1970's can be summarised : The 1970's were globally characterised by urbanisation (growth in cores) and a counter-urbanisation process (relatively growth higher in small cores). This has led to more spatial concentration and a weakening of the urban hierarchy. Then, during the 1980's, the evolution involved peri-urbanisation and counter-urbanisation processes. This led to more spatial deconcentration and, again, a weakening of the urban hierarchy. With respect to the original settlement pattern, these changes tended to hide the regional specificities of the residential distribution. The demographic evolution demonstrates a strong tendency towards the urbanisation of the less urbanised parts of the territory during the 1980's but a weakening of this process (also called "ex-urbanisation) from the beginning of the 1990's.

Coming back now to the *urban region and residential complexes* framework, the most recent demographic characteristics and change are analyses in more detail.

The Belgian population increased by 250 000 inhab. between 1991 and 2000 and now reaches a total of 10.24 million (INS, 2000). Belgium is therefore in a growth period ,although it is less strong than in the Netherlands. In this context, the migratory movements have a very particular importance in the study of the spatial redistribution of the population (Eggerickx *et al.*, 2000).The characteristics of the migrants, their origin and their destination will therefore determine the social composition of the peri-urban areas.

Following the analysis of Van der Haegen (1996), *urban regions* increased by 7 % and *urban residential complexes* by 1 % between 1981 and 1991. This redistribution benefited the *suburbs* and the *residential zone of commuters* and indicates the dispersal of residents. Considering a constant zoning (based on 1991 figures), growth always remains the strongest for the *suburbs* between 1981 and 1995. Furthermore, the demographic growth of the *commuter zones* accelerates while the agglomerations has experienced positive figures since 1991 (as mentioned before from the analysis of cores). The latter trend seems to continue as the natural balance of Brussels today is well above the natural balance of the remainder of the Kingdom (2.81 ‰ against 0.84 ‰ in 2000) whereas it was similar in 1992 (INS, 2000).

The graph below (Fig.8) represents the evolution of the different types of areas within the two periods, from 1981 to 1991 and 1991 to 1995, on the basis of the delimitation of 1991.



Between 1993 and 1998, more than 51 % of the people arriving in the peri-urban zone came from the agglomerations and 38 % from other parts of the peri-urban area. Also, 54 % of the peri-urban out-migration was directed towards the agglomeration and 35 % towards the peri-urban area (Eggerickx, 1999). Intra-peri-urban exchanges are thus numerous but the link with the city remains very solid. Within these flows, different behaviours, in particular related to the age and the type of migrant, must be distinguished. The analysis of the migratory balance in peri-urban areas (Eggerickx, 1999) shows a largely positive balance for the ages from 30 to 44 and from 5 to 14 years thus representing families with children. The only negative balance, which moreover is very significant, is related to young people, from 20 to 29 years, attracted by the agglomerations. The characteristics of the other age groups are less significant but in a general way, early retired and retired people are also attracted by the peri-urban areas. Finally, married couples do not migrate a lot when compared to their important share in the peri-urban areas.

A younger peri-urban space results from these migratory behaviours (an average of 38.6 against 40.0 in the agglomerations), which is explained by the share of young couples with children. Nevertheless peri-urban areas are ageing more quickly than urban centres especially when the peri-urbanisation is recent. (also see Halleux (1999b) and the concept of *peri-urban transition*). The average size of households is also larger in peri-urban areas than in the agglomerations. In fact, for the latter, a stronger reduction in the size of households partly explains their relative decrease in terms of population (Van der Haegen, 1991).

With respect to social differences, one can observe that the peri-urban area is also a socially privileged space (Eggerickx, 1999): the share of owner occupiers is higher, as are incomes and houses are newer and thus better equipped. (See for example the gradient of housing quality in Brussels in Van der Haegen, 1991).

Finally, if there is no strict separation between the locations of the various socio-economic groups inside an urban region (Van der Haegen *et al.*, 1998), there are differentiations according to land values. For zones in growth, where the incomes are higher, the increase in the housing costs is higher than the increase in wages. Access to housing in communes that have been peri-urbanised for a longer time is made difficult to the less well-off young couples. Through the mechanism of differentiated migrations (along the age structure) explained before, these communes are encountering further ageing and thus, relative to other peri-urban communes, are losing their population (CPDT, 2000).

The peri-urbanisation process is thus accompanied by a certain dichotomy between cities and peri-urban areas but also within peri-urban areas themselves. Jehin (1998) measured and compared the relationship between the urbanisation rate, the population growth rate and the income growth rate. He found that urbanisation is more related to the growth of income than to the growth of population. This certainly underlines the importance of the local economic conditions in the differentiation of the dynamics of different peri-urban areas.

Other important questions and problems, related this time to spatial planning policy, arise from the observation of strong consumption of space by residential land use mainly at the expense of agriculture (Jehin, 1998). The division of agricultural parcels because of the construction of large housing estates, at the height of the peri-urbanisation process, is another concern. Many parcels that were intended for residential development within estates remain empty. This is because of a decrease in demand for housing caused by a slowdown in peri-urbanisation during the 1980's (Christians, 1987).

Residential development is strongly diffused throughout Belgium due to the peri-urbanisation process that occurred throughout the last decades. From this angle, it may be useful to underline the high density of the communication networks and the role of a policy which, in order to avoid rural to urban migration, sets up a local railway network ("*chemins de fer vicinaux*") and a system of subscription by season tickets (Van Der Hertem, 1999) already at the end of the 19th Century.

"Rurbanisation" (Juchtman, 1999) is, therefore, an early process and explains part of the discontinuous aspect of residential settlements in Belgium. Today, the car has of course replaced this railway system and allows for longer and longer commuting distances (on average 14.6 km in 1981, and 17.6 km in 1991) (Mérenne *et al.*, 1999).

We can also refer again to the Corine Land Cover classification and compare Belgium with the other European countries : 16 % of the Belgian surface is occupied by "discontinuous urban land" while the average for the EU (11 other countries) is about 2.5 %. Vandermotten mentions a "peri-urban tradition" for Belgium in his comparative atlas (Vandermotten *et al.*, 1999).

At different rates and in different geographical and economic contexts, peri-urbanisation is characteristic of the country. In the North, the process is augmented by a dense network of cities and settlements were traditionally more dispersed. In the South, the importance of peri-urbanisation is largely related to regional dynamics and the proximity to the Brussels agglomeration. In contrast to the Netherlands, the political framework was much less restrictive in Belgium. The policy tools that have been implemented appear not to be very constraining and have, therefore, not limited peri-urbanisation.

II.2.3. Bibliography

(One can find here the references cited above and other bibliographical orientations about the country)

- Berquin P., Thomas I., Tulkens H., 1999. *Critères pour la délimitation des frontières de Bruxelles*, Rapport adressé au Ministre de l'Aménagement du Territoire, des Travaux Publics et des communications de la Région Bruxelles-Capitale.
- Bootsma H.G., 1998. *The myth of reurbanization. Location dynamics of households in the Netherlands*. Tilburg, 193p.
- Brulard T., 1996. "Les villages du Brabant Wallon confrontés à l'extension de la périphérie bruxelloise" *Bulletin de la Société Géographique de Liège*, hors série: Recherches de géographie humaine, hommage au professeur C. Christians., Liège. 13-18.
- Christians C., 1987. "Rurbanisation et périurbanisation en Belgique: phénomènes actuels ou dépassés à Bruxelles et en Wallonie ?" *Bulletin de la Société Géographique de Liège*, hors série: Recherches de géographie urbaine, hommage au professeur J.A. Sporck, 43-59.
- CPDT, Conférence Permanente du Développement Territorial, 2000. *Thème 7.1 Evaluation des coûts de la désurbanisation*. Rapport final de la subvention 1998-1999, Université Libre de Bruxelles (GUIDE), Université catholique de Louvain (CREAT), Université de Liège (LEPUR). Ministère de la Région Wallonne.
- CPDT, Conférence Permanente du Développement Territorial, 2002 (forthcoming). *Les coûts de la désurbanisation*. Etudes et Documents - Aménagement du territoire, Ministère de la Région wallonne, Direction générale de l'Aménagement du Territoire, du Logement et du Patrimoine, Jambes.
- Crédit Communal de Belgique (coord.), 1985. "La cité belge d'aujourd'hui: quel devenir ?" *Bulletin trimestriel du Crédit Communal*, numéro spécial, 39, 154.
- De Brabander G., Verbist G., 1992. "Housing and Employment in the Antwerp Urban Region" *Journal of Housing and the Built Environment*. 343-355.
- De Brabander G., Witlow F., 1991. "Les Relations Economiques à l'Intérieur d'une Région Urbaine: l'exemple anversoïse" *Bulletin trimestriel du Crédit Communal de Belgique*. 178, 33-52.
- De Keersmaecker M.L., 2001. "Approche des coûts de la désurbanisation sous l'angle du développement durable" *Les cahiers de l'urbanisme*, 34, 19-27
- Debuisson M., Eggerickx T., Poulain M., 1993. "Démographie des grandes agglomérations urbaines en Wallonie" *Courrier Hebdomadaire du Centre de Recherche et d'information socio-politiques (C.R.I.S.P.)*, 1422-1423. 57p.
- Denis J., 1992 (Dir.). *Géographie de la Belgique*. Crédit Communal de Belgique, Bruxelles.
- Duyck X., 1998. *Configurations spatiales suburbaines: le cas de la périphérie namuroise*. Thèse de doctorat en sciences, UCL, Louvain-la-Neuve. 252p.
- Eggerickx T., 1999. "Le mouvement de périurbanisation en Wallonie et à Bruxelles. Son impact socio-démographique" *Chaire Quetelet: Populations et défis urbains*, Louvain-la-Neuve.

- Eggerickx T., Poulain M., 2000. "Les lotissements résidentiels et leurs implications socio-démographiques" *Les Cahiers de l'Urbanisme*, 29.
- Eggerickx T., Poulain M., Mérenne B., 1999. *Recensement général de la population et des logements au 1^{er} mars 1991: La mobilité spatiale de la population*, Monographie 2, Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles.
- Goossens L., Thomas I., Vanneste D., 1999. *Recensement général de la population et des logements au 1^{er} mars 1991: Le logement, réalités socio-économiques et géographiques 1981-1991*, Monographie 10, Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles. 309p.
- Goossens M., 1994. "Verstedelijkingsprocessen in de Antwerpse Banlieue" *Acta Geographica Lovaniensia*, Liber Amicorum H. Van der Haegen, 34, 321-339.
- Gouvernement de la Région Wallonne, 1999. *Schéma de Développement de l'Espace Régional*. 206p.
- Halleux J.-M., 1999a. "Articulations entre valeur foncière et croissance spatiale de l'urbanisation : mise au point d'une méthode de collecte de données et premiers résultats" *Bulletin de la Société géographique de Liège*, 36, 65-80.
- Halleux J.M., 1999b. "Transition périurbaine et structure par âges: la situation en Belgique et en Wallonie" *Chaire Quetelet: Populations et défis urbains*. Louvain-la-Neuve.
- Halleux J.-M., 2001, "Mobilités quotidiennes et évolutions intra-urbaines : construction d'un espace géographique urbain de référence et analyse des processus évolutifs" *L'Espace Géographique*, 30, 1, 67-80.
- Halleux, J.M., Derwael F., Mérenne B., 1998a. "Les Noyaux d'habitat en Belgique : situation en 1991 et évolution depuis 1970" in Mérenne B., Van der Haegen H., Van Hecke E., *Recensement général de la population et des logements au 1^{er} mars 1991: Urbanisation*, Monographie 11A., Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles. 9-78.
- Halleux, J.M., Derwael F., Mérenne B., 1998b. "Typologie des communes selon leur degré d'urbanisation" in Mérenne B., Van der Haegen H., Van Hecke E., *Recensement général de la population et des logements au 1^{er} mars 1991: Urbanisation*, Monographie 11A., Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles. 149-186.
- INS (Institut National des Statistiques), 2000. "Bruxelles attire de nouveau la population" *Communiqués-population*, 28/8/2000.
- Jehin J.B., 1998. "La périurbanisation et la rurbanisation à travers la consommation d'espace", *Bulletin de la Société Géographique de Liège*, 34, 45-52.
- Jehin J.B., Mérenne B., 1998. "Urbanisation et consommation d'espace en Belgique. Tendances démographiques récentes" *Acta Geographica Lovaniensia*, 37, 171-183.
- Kesteloot, C., 1993. "Vlaams-Brabant als stedelijke periferie, een globale interpretatie van een lokale problematiek" *Leuvense Geografische Papers*, 6, 1-16.
- Kesteloot, C. *et al.*, 1993. "Vlaams-Brabant, residentieel noodgebied?" *Planologisch Nieuws*, 13, 298-316.

- Leemans S., Pattijn M., Rousseau S., Van der Haegen H., 1989 "Les régions urbaines belges en 1981", *Etudes Statistiques*, 5-25.
- Meert H. (Ed.), 1993. "Vlaams-Brabant: wonen en werken in de schaduw van Brussel" *Leuvense Geografische Papers*, 6. Instituut voor Sociale en Economische Geografie, K.U.Leuven.
- Mérenne B. (Dir.), 1999. "Quantification de la désurbanisation en Région Wallonne" Conférence Permanente du Développement Territorial, *Thème 7.1 Evaluation des coûts de la désurbanisation*, Rapport final de la subvention 1999, , Université Libre de Bruxelles (GUIDE), Université catholique de Louvain (CREAT), Université de Liège (LEPUR). Ministère de la Région Wallonne.
- Mérenne B., Van der Haegen H., Van Hecke E., 1997. "La Belgique. Diversité territoriale", *Bulletin trimestriel du Crédit Communal*, 202.
- Mérenne B., Van der Haegen H., Van Hecke E., 1998. *Recensement général de la population et des logements au 1^{er} mars 1991: Urbanisation*, Monographie 11A., Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles.
- Mérenne B., Van der Haegen H., Van Hecke E., 1999. *Recensement général de la population et des logements au 1^{er} mars 1991: Migrations de travail et migrations scolaires*, Monographie 11B, Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles.
- Oris M., 2000. "Périurbanisation et rurbanisation en Wallonie" *Les Cahiers de l'Urbanisme*, 29, 56-58.
- Pootemans J., 1993. "Een eigen woning in Vlaams-Brabant: een geografische kijk op de markt van residentieel vastgoed" *Leuvense Geografische Papers*, 6, 37-49.
- Reginster I., 1998. Qualité de l'environnement urbain et choix de localisation résidentielle: construction d'une méthodologie et analyses. Thèse de doctorat en sciences, UCL, Louvain-la-Neuve. 181p.
- Schoonbrodt R., Maréchal L., 2000. *La ville, même petite*, Collection Quartier Libre, Bruxelles, 93p.
- Thomsin L., 1998. "L'apport du concept de contre-urbanisation au cas de la Belgique" *Bulletin de la Société Géographique de Liège*, 35, 57-66.
- Thomsin L., 1999. *Contribution à l'étude de la rurbanisation en Wallonie. Interrogation d'avenir du processus en Europe continentale du Nord-Ouest*. Thèse de doctorat en sciences, ULG, Liège.
- Thomsin L., 2000. "La reprise démographique rurale en Wallonie et en Europe du Nord-Ouest" *Espace, Populations, Sociétés*, 1, 83-99.
- Van der Haegen H., 1991a. "Les franges périurbaines en Belgique : quelques éléments de recherche concernant leur délimitation, leur population et leurs caractéristiques sociales" *Espace, Populations, Sociétés*, 2, 259-269.
- Van der Haegen H., 1991b. "Migrations métropolitaines, reflet du cycle de vie. L'exemple de Bruxelles Capitale" in Pumain D., Saint-Julien T., Van der Haegen H. (Eds). "Villes en mouvement" *Acta Geographica Lovaniensia*, 31, 96-107.
- Van der Haegen H., Pattijn M., Rousseau S., 1981. "Dispersion et relations de niveau élémentaire des noyaux d'habitat en Belgique, situation en 1980", *Bulletin Statistique*, n°5-6.

- Van der Haegen H., Van Hecke E., Juchtmans G., 1996. "Les régions urbaines belges en 1991" *Etudes Statistiques*, 104, 42p.
- Van der Haegen H., Van Hecke E., Juchtmans G., 1998. "Les régions urbaines" in Mérenne B., Van der Haegen H., Van Hecke E. *Recensement général de la population et des logements au 1^{er} mars 1991 : Urbanisation*, Monographie 11A., Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles. 79-148.
- Van der Hertem B., 1999. "Les chemins de fer vicinaux et le désenclavement des campagnes belges (1865-1913)", *Bulletin trimestriel du Crédit Communal*, 209, 19-40.
- Van Hecke E., 1992. "Ruimtelijke analyse van de migraties naar leeftijd" *Bevolking en Gezin*, 3, 77-103.
- Van Hecke E., 1991. "Migrations et dynamique de l'espace belge" *Bulletin de la Société Belge de Géographie*, 2, 159-211.
- Van Hecke E., 1992. "Evolution de l'agriculture en Belgique" , *Courrier Hebdomadaire du Centre de Recherche et d'Information Socio-Politiques (C.R.I.S.P.)*, 1346-1347.
- Van Hecke E., 1996. "L'agriculture dans les régions urbaines belges" in *Recherches de géographie humaine, hommage au professeur C.Christians*. Société Géographique de Liège, Liège. 223-229.
- Van Hecke E., 1999. *De stedelijke hiërarchie in België*. Paper of the Instituut voor Sociale en Economische Geografie, KULeuven, 1999.
- Vandermotten C. (Ed.), 1991. "Les Franges Périurbaines" *Espace, Populations, Sociétés*, 2, 257-300.
- Vandermotten C. (Ed.), 1994. "Gestion des métropoles: Bruxelles" *Revue Belge de Géographie*, 118, 1-92.
- Vandermotten C., Vermoesen F., De Lannoy W., De Corte S., 1999. "Villes d'Europe – Cartographie Comparative" *Bulletin trimestriel du Crédit Communal*, 207-208.
- Vandermotten C., Vandewattijne P., 1985. "Les étapes de la croissance et de la formation des armatures urbaines en Belgique" in "La cité belge d'aujourd'hui, quel devenir" *Bulletion du Crédit Communal*, 41-61.

II.3. Great Britain

II.3.1. Context and spatial definitions

Once again it is difficult to find in the literature a concept of peri-urbanisation that corresponds more or less to the definition used in this report. The literature that treats demographic mobility on a national scale refers more often to the concept of counter-urbanisation than to peri-urbanisation. However, migration "towards the bottom of the urban system" (downward movements) are also evaluated against movements "out of the system" (outward movements) i.e. towards residential hinterlands or towards the rural zones.

The difference between this latter movement and the suburbanisation process is not necessarily obvious, but Champion (1989) for example considers that the centrifugal movements in Great Britain took place far beyond the suburbanisation process or a local decentralisation of urban centres towards the peripheries of their functional areas (also called *extended suburbanisation* and which seems to fit quite well the concept of peri-urbanisation).

There are a variety of regionalisations available in Great Britain along the lines suggested by our conceptual approach. In order to study these internal movements, the spatial classification nearest to the one defined for France is probably the *local labour market areas* and *functional regions* framework established by Coombes *et al.* (1982) from the Centre for Urban and Regional Development Studies (CURDS) at the University of Newcastle upon Tyne. Nevertheless, only very little data that can be provided for these areas except from small-area census statistics because these are not based on any official statistical areas.

Official *travel to work areas* have also been produced by CURDS for the government in order for example to publish unemployment data. The basic units are the electoral or census wards. This classification is based purely on commuting patterns, without explicit reference to urban centres.

Finally, the census authorities for England and Wales distinguish urban areas on a mixture of physical criteria and population thresholds. There are also classifications of the types of census wards and local government districts (about 450 for Great Britain) based on a range of characteristics including commuting. The reader should refer to the report of Rees *et al.* (1996) for a more detailed analysis of these classifications and of their demographic dynamics.

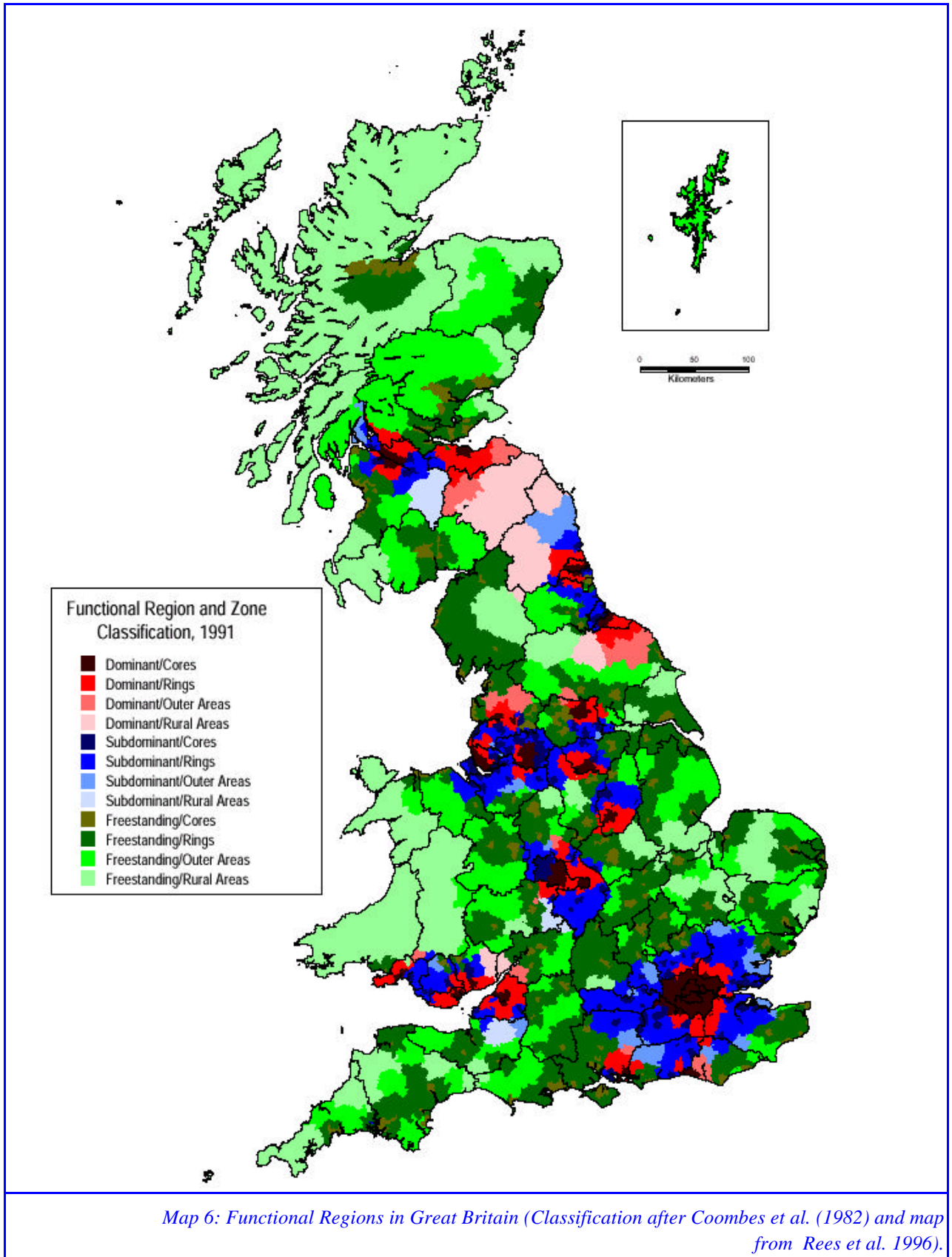
Following the *functional regions* approach, data about the location of employment and daily migration is used in order to determine the poles and their commuter zones. The *urban centres* are defined according to a minimum threshold of employment and shop concentration. These *urban centres* are then extended to the *urban cores* by including the continuously built-up area. A commuter zone (*ring*) is attached to the urban core, which sends at least 15 % of its resident working population towards the core. The urban core plus its ring together form the *Daily Urban System*. Finally the

remainder of the country is connected to the centre towards which it sends the most daily migrants by forming the *Outer Areas*.

In contrast, therefore, to the Belgian and French classifications, the entire territory is covered by an urban partition. The British classification does not account for an urban-rural gradient but defines independent functional entities called *Local Labour Market Areas* (LLMA). The distinction urban-rural occurs only at a second step and is built at an aggregate level: the *Rural Areas* are the LLMA's in which the daily urban system comprises less than 50 000 inhabitants. The other LLMA's are called *Urban Areas*. Each rural area is finally attached to the urban area towards which the commuting intensity is the most significant. All together, this unit forms a *Functional Region* (Champion *et al.*, 1987).

Clearly, the concept of *rings* is the most relevant to represent a peri-urban area in the sense given in the first part. Looking at the criteria used to define the rings (15 % of commuters within the working population), it seems closer to the definition of the residential zone of commuters as used in Belgium or to the French rural communes that are said to be *under a weak urban influence* (20 % of commuters), than to the French peri-urban communes.

On the map presented below (see map 6), the functional regions are also classified according to the functional link they share one another. Thus, *Subdominant Regions* send 7.5 % of their active population in a *Dominant Region*. The other functional areas are called *Freestanding Regions* and thus function "in isolation" from the point of view of employment.



More like the Dutch case and contrary to the Belgian case, spatial planning policies also play an important role in the patterns of residential development in Great Britain. These are quickly considered below.

Since the end of the Second World War, spatial and urban planning policies have aimed at containing the growth of the urban zones by the installation of *Green Belts* and, beyond those, by the concentration of the new developments in small cities and villages (particularly the less attractive ones).

These policies have consequently minimized the conversions of rural land into urban use. However, they have also had other consequences (Hall, 1997): first, an increase of suburbanisation (or peri-urbanisation) which has been expressed by an increasing distance between the new residential zones and the employment centres; second, it has led to a strong inflation in land values. The latter was faster than the evolution of incomes and the evolution of the price index (Evans, 1988 in Hall, 1997).

Yet, with respect to home-to-work distances, Great Britain shows however relatively shorter distances compared to the countries discussed previously: on average, commuting distances were about 13.0 km in 1997 (and 9.8 km in 1985, DETR, 2000). (In France, the equivalent value was 13.1 km in 1982, 14.1 km in 1990 and 15.1 km in 1999 (Talbot, 2001). In Belgium, this was 14.6 km in 1981, and 17.6 km in 1991 (Mérenne *et al.*, 1999))

It may be that the high concentration of the population in the cores (60 % in 1991) and in particular in London, as well as the emergence of employment sub-centres could partly explain this commuting distance. In England, 88 % of the total population is settled in 8 % of the territory, i.e. in the cores of more than 1000 inhab. (DETR, 1998) (in Belgium by comparison, the equivalent is 78 % of the total population).

II.3.2. Spatial evolution and demographic trends

The consumption of space for residential development is still in progress: urbanisation occupied 10.6 % of the English surface in 1991 (with a prediction of 11.9 in 2016). This evolution occurs mainly at the expense of agriculture (experiencing 40 % of these changes in 1998) but more and more slowly (8 000 ha in 1987 against 6 500 in 1992) (DETR 1999).

Planning (through the *Planning Policy Guidance*, PPG) has managed to prevent undifferentiated developments in the countryside. The Green Belts (PPG 2, DETR, 1998) protect 12 % of the English territory. These surfaces are not entirely covered by natural areas but are rather made up of residential, forest and agricultural land uses. The density of the new dwellings is lower in the Green Belts than in other areas and the consumption of space is reduced and mainly due to transport uses and services (only 1 % of the changes have been for residential use (DETR, 1999)).

Moreover, policy encourages the re-use of the areas already consumed by urbanisation (PPG3). Thus 47 % of new developments in 1998 (41 % in 1988) took place on land previously developed

(the objective is to reach 60 % by 2008). The highest rates of land-recycling are characteristic of the zones having a strong population density. The policy also aims to avoid the development of new settlements that are not likely to reach 10 000 residences in 20 years. These developments, in order to be sustainable, must be close to and well connected with urban areas (DETR, 1998).

In London, the continuously built-up area can be easily observed because of the planning regulations, but comprises a quite complex functional entity. Its structure is explained in particular by the spatial planning and the creation of satellite towns and non contiguous developments, which intermingle with the expansion of the neighbouring cities located beyond the Green Belt.

To seek a definition of the London peri-urban area is also to question its delimitation as a region. London is regarded more as an integrated regional territory rather than as an expanding metropolis. It extends its influence to the whole of the South-East region of England and even beyond. This process is also encouraged by the improvement of the motorway access (in particular the peripheral M25, just beyond the Green Belt) (Mogridge, Parr, 1997).

As for previous case studies, the demographic growth of the country is limited and thus the changes in the distribution of the population are due primarily to internal movements (Rees *et al.*, 1996).

According to the *Regional Functions* framework, the analysis of the demographic changes indicate a reduction in the population in the *cores* and an increase of the population in the *outer areas*, *rings* and *rural areas* throughout the 1980's. This trend however has been weaker than in the previous decade. The rural areas represented, for example, 5.4 % of the total population in 1991 against 5.1 % in 1981. In the meantime, the *cores* passed from 61.7 % in 1981 to 60.1 % in 1991 showing a moderate continuation of the deconcentration process (Rees *et al.*, 1996).

Population change during the last two decades is presented below (Fig. 9) according to the 3 functional region types and zones within the functional regions.

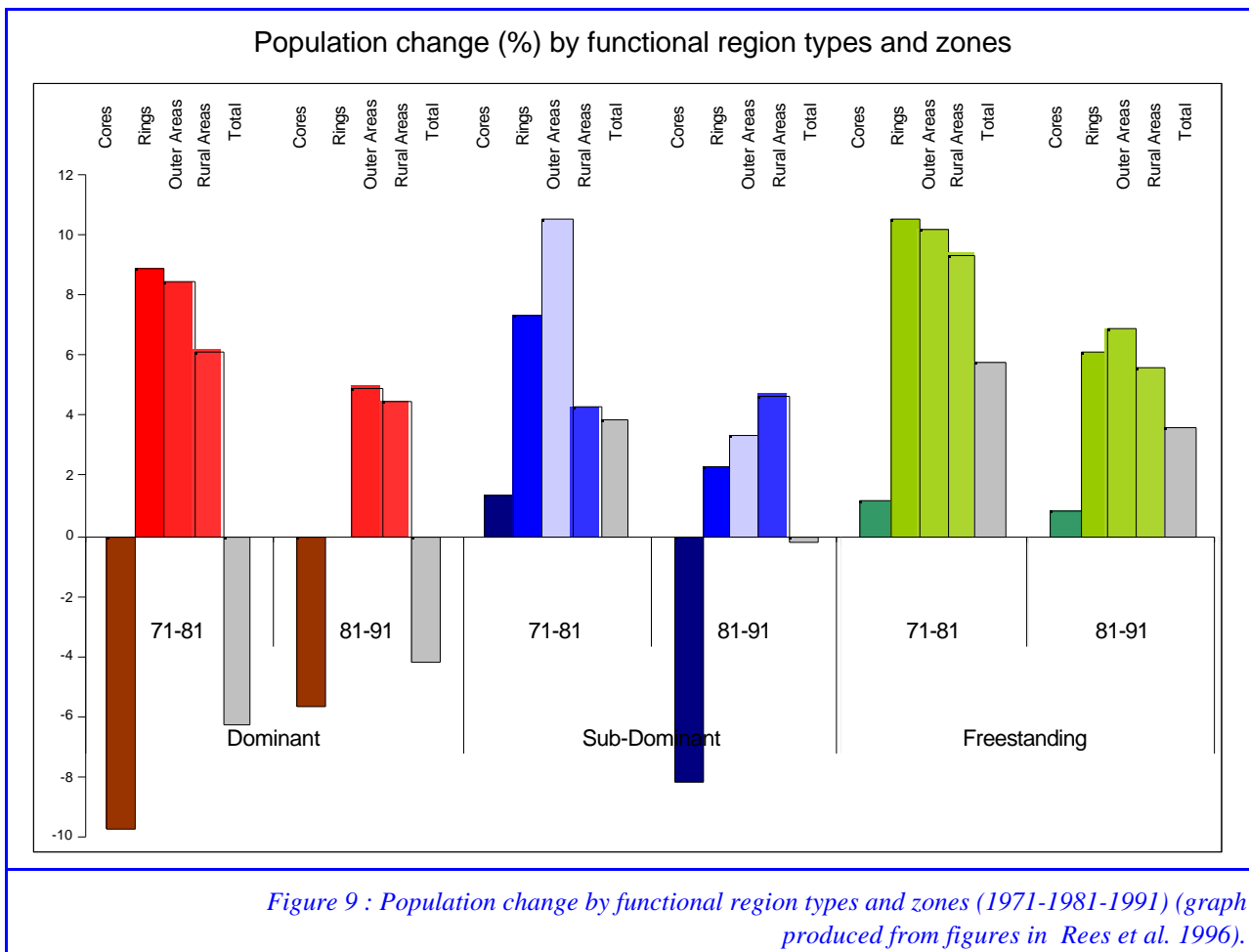


Figure 9 : Population change by functional region types and zones (1971-1981-1991) (graph produced from figures in Rees et al. 1996).

The process of population redistribution can be identified between the different regions, but also within the regions, whatever the size of the pole. This tends, therefore, to reflect a counter-urbanisation process as well as a generalised peri-urbanisation process. These evolutions seem to indicate an expansion of the daily system (Rees *et al.*, 1996), even if it occurs very far in the rural zones, as well as a change in preferences in favour of less densely populated zones, but not really a movement back towards "nature" and rural areas.

It is also interesting to note that some new cities, such as Milton Keynes, or cities whose expansions were planned, present very significant population gains. These locations seem to provide much sought-after environments to households and firms at a more interesting price as well as proximity to the countryside.

Another method to analyse the decentralisation of the population is based on the evolution of the gradients of population density against distance to the centres. From their observations, a reduction of this gradient between 1961 and 1991 can be demonstrated (Mogridge, Parr, 1997 and Crampton, 1991). The authors argue that the decentralisation of population and the decentralisation of employment were reinforcing one another. Crampton (1991) shows that transport costs and

variations in income have not had a significant effect on the evolution of the gradient in London and, thus, he concluded that the traditional concentric framework is not sufficient to hold for all processes. He consequently points to the roles played by the emergence of secondary centres and by the speculation in land.

The local relaxation of the population's distribution is also mitigated by regional deconcentration (or counter-urbanisation). The latter is explained by a set of factors including: the spatial policies mentioned above, the importance of early rail commuting (already before the Second War) which enhanced non-contiguous developments of the agglomerations around a number of stations, the preference for the environment of small cities (sufficiently well equipped and closer to the countryside), the possibilities of expansion and access to infrastructures that is considered by the developers to be easier in more distant centres than in the periphery of a metropolis. These centres offer an increasing number of services which are useful for the firms whose locations are especially dependent on accessibility to the communication network.

Among the factors which govern the quantity of residential migrations, the most significant are related to the economic growth of a region (Stillwell *et al.*, 1992) and the age structure (Rees *et al.*, 1996). The deconcentration process is indeed mainly directed by families with children while the migratory behaviour of young people is opposed to it, as already stated in the other case studies.

The average size of households is reducing in England. From 2.40 in 1996, it has been estimated at 2.15 for 2021 (ONS, 2000). The growth in the number of British households has reached 15.7 % between 1981 and 1995. In comparison with the other studied countries, this was similar to the growth of French households (15.8 %) or German (16.9 %) but definitely less than in the Netherlands (26.5 %) and more than in Belgium (9.6 %) (DETR, 1998). 41 % of the growth in the number of households is due to changes in population growth. The remainder can be explained by changes in social behaviour and changes in the age structure (DETR, 1995).

From the social point of view, a process of gentrification of the London agglomeration and increase in social differences between the different peri-urban zones is also noted by Ball, Petsimeris (2000) and Congdon (1991). The contrast between the centre and the periphery, on the other hand, is not very clear while in the outer suburbs (i.e. more than 15 km from the centre of London) there is a diversification in the social and ethnic structure as well as for the type of resident (tenant or owner-occupier) (Congdon, 1991).

II.3.3. Bibliography

(One can find here the references cited above and other bibliographical orientations about the country)

- Ball S., Petsimeris P., 2000. "Greater London entre hétérogénéité ethnique et polarisation socio-spatiale" *Cybergeo*, 122.
- Bibby P., Shepherd J., 1997. "Projecting rates of urbanisation in England, 1991-2016: method, policy application and results" *Town Planning Review*, 68, 1, 93-124.
- Carter H., 1989. "Whose city ? A view from the periphery" *Transactions of the Institute of British Geographers*, 14, 4-23.
- Champion A.G., 1989. "United Kingdom: Population Deconcentration as a Cyclic Phenomenon" in Champion A.G. (Ed.) *Counterurbanization – The Changing Pace and Nature of Population Deconcentration*. Arnold, London. 83-102.
- Champion A.G., 1994. "Population change and migration in Britain since 1981:evidence for continuing deconcentration" *Environment and Planning A.*, 26, 1501-1520.
- Champion A.G., Green A.E., Owen D.W., Ellin D.J., Coombes M.G., 1987. *Changing Places: Britain's demographic, economic and social complexion*, Arnold, London. 144p.
- Clark D., 1989. *Urban Decline*. Routledge, New York.
- Congdon P., 1991. "Les banlieues et l'évolution sociale d'une métropole: le cas de Londres" *Espace, Populations, Sociétés*, 2, 381-394.
- Coombes M. G., Dixon J. S., Goddard J. B., Openshaw S., Taylor P. J., 1982. "Functional regions for the population census of Great Britain" in Herbert D.T., Johnston R. J. (Eds.), *Geography and the urban environment*, vol. 5, Wiley, London.
- Crampton G.R., 1991. "Residential density patterns in London – any role left for the exponential density gradient" *Environment and Planning A*, 23, 1007-1024.
- DETR (Department of the Environment, Transport and the Regions) Planning Research Programme, 1991. *Rates of urbanization in England 1981-2001*. HMSO, London.
- DETR (Department of the Environment, Transport and the Regions) Planning Research Programme, 1995. *Urbanization in England: Projections 1991-2016*, HMSO, London..
- DETR (Department of the Environment, Transport and the Regions), 1999. *Land Use Change in England n°14*. DETR.
- DETR (Department of the Environment, Transport and the Regions), 1999. "Land Use Change in England" *Statistical Bulletins*. DETR.
- DETR (Department of the Environment, Transport and the Regions), 1998. *Planning for the communities of the future*. DETR.
- DETR (Department of the Environment, Transport and the Regions), 2000. "Transport Statistics for Metropolitan Areas" *Transport Statistics Bulletin*.
- Errington A., 1994. "The periurban fringe – Europe forgotten rural-areas" *Journal of rural studies*.10, 4, 367-375.
- Evans A.W., 1988. "No room! No room!" *Occasional Paper*, 79, Institute of Economic Affairs, London.

- Evans A.W., 1991. "Rabbit hutches on postage stamps" *Urban Studies*, 28, 6, 853-870.
- Fielding A.J., 1991. "La mobilité sociale et géographique dans le sud non métropolitain d'Angleterre" *Espace, Populations, Sociétés*, 2, 395-408.
- Hall P., 1997. "Regeneration Policies for Peripheral Housing Estates : Inward- and Outward-looking Approaches" *Urban Studies*, 34, 5-6, 873-890.
- Hall P., 1997. "The future of the Metropolis and its Form", *Regional Studies*, 31, 3, 211-220.
- Jones C., 1996. *A Ward Level Atlas of London*. London Research Center.
- Lever W.F., 1993. "Reurbanisation – The Policy Implications" *Urban Studies*, 30, 2, 267-284.
- Matheson J., Edwards G. (Eds.), 2000. *Focus on London 2000*. The Stationery Office, London.
- Mogridge M., Parr J.B., 1997. "Metropolis or Region: on the Development and Structure of London" *Regional Studies*, 31, 2, 97-115.
- Motte A., 1991. "La réforme anglaise de la planification spatiale – Etude du plan de développement unitaire de Birmingham" *2001 Plus*, 22. D.R.A.S.T. Ministère de l'Équipement, des Transports et du Logement.
- ONS (Office for National Statistics), 2000. "Population of households in England to 2021" *Population trends*, 13-19.
- Pacione M., 1991. "Development pressure and the production of the built environment in the urban fringe" *Scottish geographical magazine*, 107, 3, 162-169.
- Rees P., Durham H., Kupiszewski M., 1996. *Internal Migration and Regional Population Dynamics in Europe: United Kingdom case study*, Report prepared for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 96/20, School of Geography, University of Leeds. 81p.
- Spencer D., 1995. "Counterurbanisation-The local dimension" *Geoforum*, 26, 2, 153-173.
- Spencer D., 1997. "Counterurbanisation and rural depopulation revisited: landowners, planners and the rural development process" *Journal of Rural Studies*, 13, 1, 75-92.
- Stewart M., 1997. "Urban Policy in Britain" *Hommes et Terres du Nord*, 1, 18-24.
- Stillwell J., Rees P., Boden P. (Eds), 1992. *Migration processes and patterns - vol.2: Population redistribution in the United Kingdom*. Belhaven, London. 256p.
- Thomas D., 1989. "The edge of the city" *Transactions of the Institute of British Geographers*, 15, 131-138.
- Townsend A.R., 1992. "The urban-rural cycle in the Thatcher growth years" *Transactions of the Institute of British Geographers*, 18, 207-221.
- Whitehand J.W.R., 1990. "Makers of the residential landscape: conflict and change in outer London" *Transactions of the Institute of British Geographers*, 51, 87-101.

II.4. Germany

II.4.1. Context and spatial definitions

After the Netherlands, Belgium and Great Britain, Germany stands in fourth place in terms of average population density (230 inhab./km₂ compared to a European average of 146 inhab./km₂). The population is however more evenly distributed and the urban structure follows a central place system.

In contrast to other European countries, in Germany the demographic weight of the largest city, Berlin, is weak, accounting only for 4 % of the population. Without dominant city (this contrasts with the roles of London and Paris), the German urban network is characterized by polycentrism and the urban areas are distributed in a balanced way over the whole territory (Mädling, 2000, BBR, 2000b).

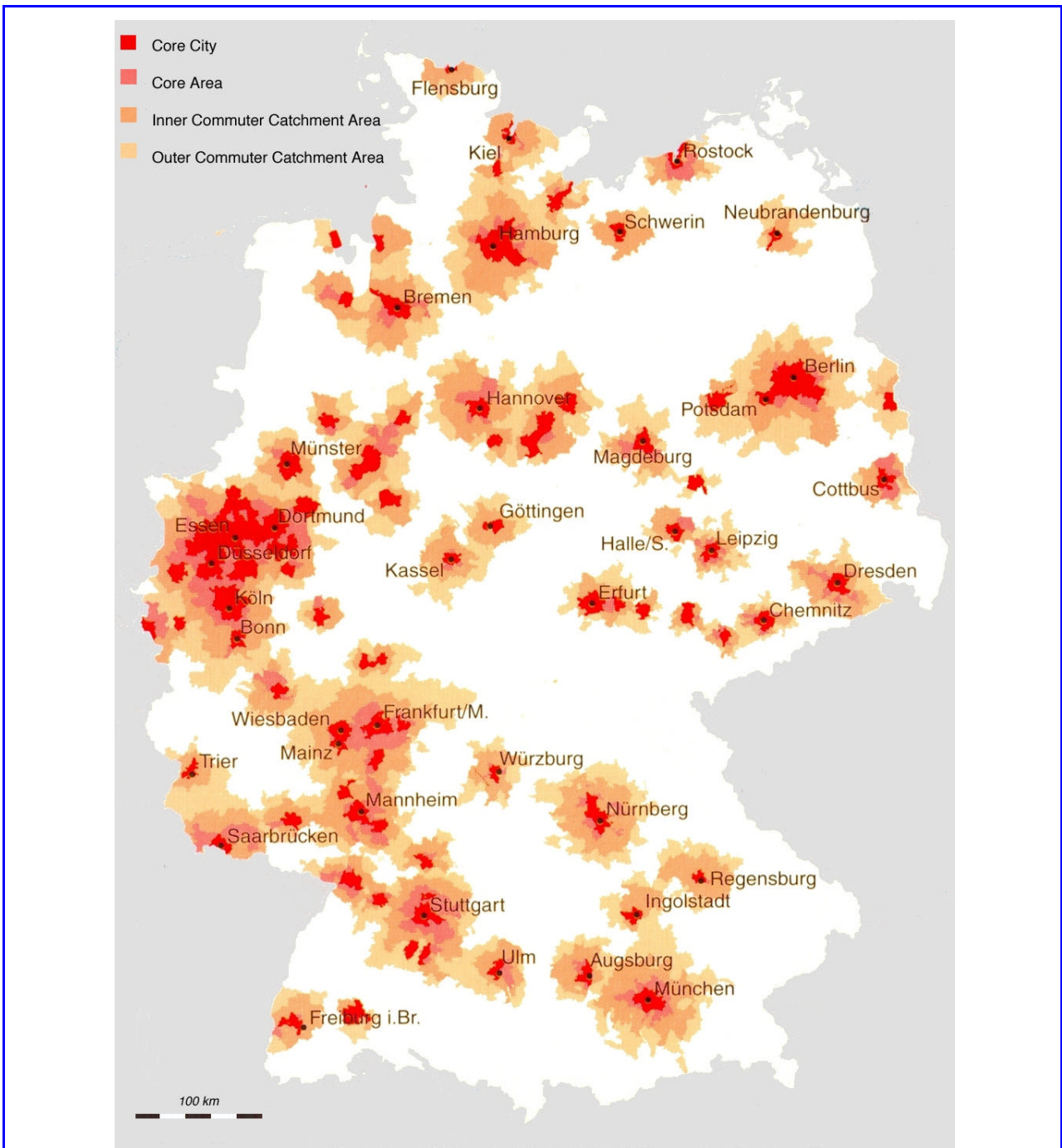
On top of this decentralised spatial context, there is also a significant difference between the densities in the East and the West of the country following their contrasting histories. To a lesser extent, there is also a dichotomy between the North and the South where population density is higher.

The term *suburbanisation* is mainly used by German authors (in the Anglophone literature) to account for the processes of urban spread and the relative growth of urban peripheries. A definition of this term can be found in the document on spatial Development and planning in Germany (BBR, 2001) : “ *Relocation process of the population, services and businesses from the cities into the surrounding areas*”. Unfortunately, the term "surrounding areas" is not further defined. So the process is referred to, but is not clearly defined.

In order to analyse the peri-urbanisation process throughout the whole country, the classification into *urban regions* (Stadtregions) (see map 7) seems appropriate to the objective of this work. Initially established according to the ideas of Boustedt (1953, see also Lichtenberger, 1998), it has been re-assessed several times (BBR, 2000b). These areas are made up of an *urban core* including a minimum of 80 000 inhabitants, surrounded by a contiguous *urban region* which is defined by a positive balance of commuting flows (active population entering the urban core every day). The commuter zone which surrounds this urban region is then divided into two parts according to the importance of the daily movements.

The 62 defined urban regions account for 70 % of the population (BBR, 2000b) and their growth (10.6 % in 10 years) is more rapid than the national average (7.8 %). Despite its relevance for the study of migratory flows and their location, this regionalisation has not often been used in the non-German literature. It is in practice difficult to find quantitative studies of urbanisation based on the above defined framework. If there are English-speaking discussions on suburbanisation or peri-

urbanisation processes, these are more descriptive and do not refer directly to this regionalisation approach. On the other hand, the significance of the peri-urban processes, the slackening of the centre-periphery relationships, as well as the regional differences are often brought to the fore.



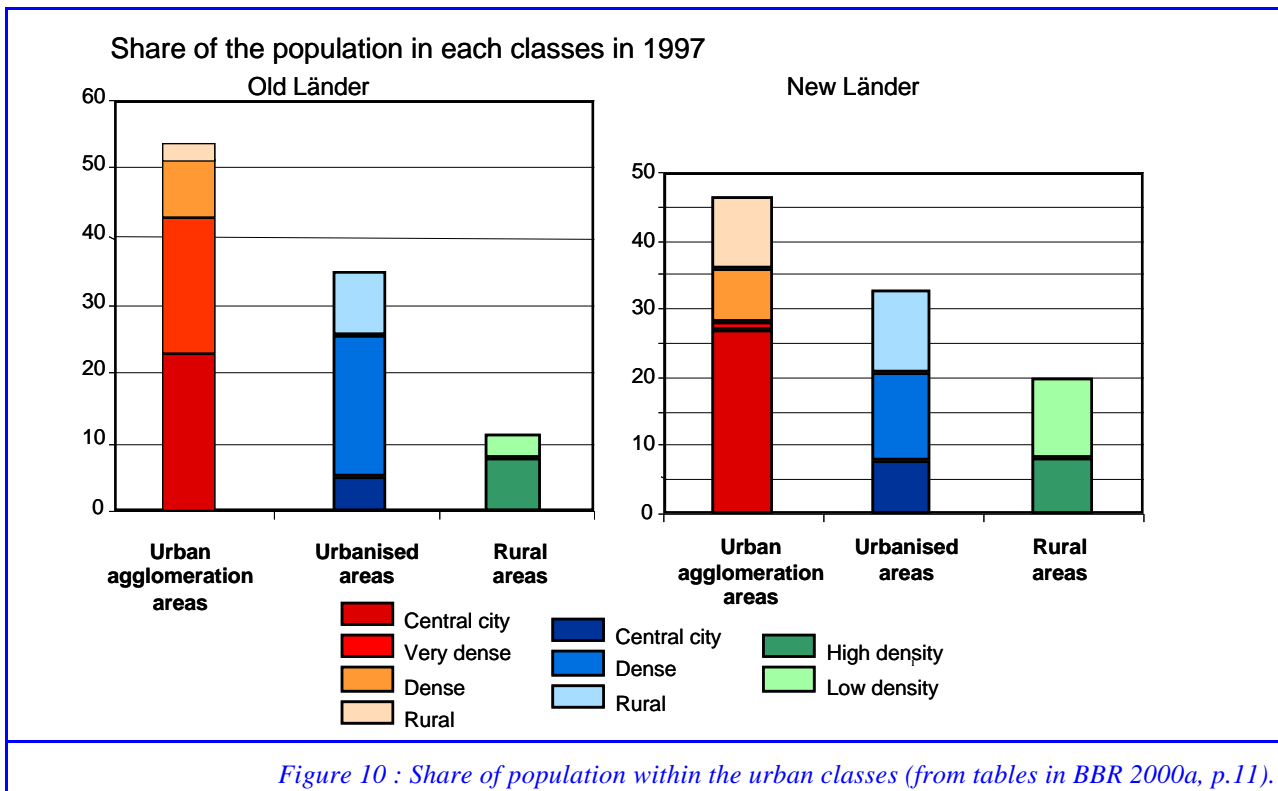
Map 7: Commuter catchments areas and urban regions (after BBR 2000b, p.15).

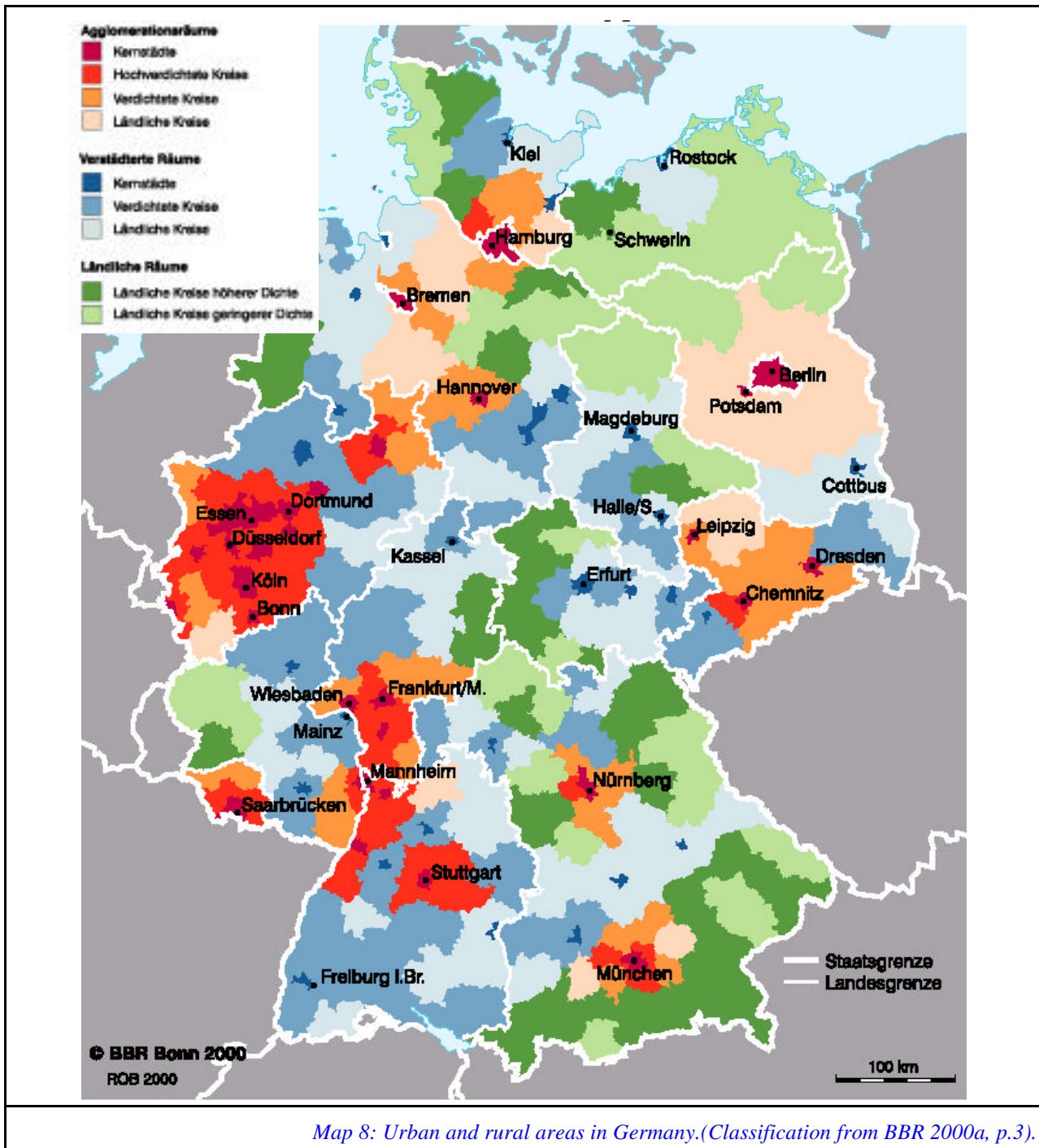
In the same vein, the following classification can also be mentioned which defines different types of regions (*Siedlungsstrukturelle Gebietstypen*). This regionalisation, (like the British Urban Region framework), is based on a two tier division into 3 classes of regions and 9 subclasses of *Kreise*.

For the first tier, 97 regions are defined and include a central city and its functional periphery. They correspond to the spatial planning regions of the different *Länder* and have also been used to assess the disparities and evolutions of the different regions. The division is based on the size of the main centre and the population density (unfortunately, there are no further details about the thresholds or the judgements used to separate the classes in the report of the BBR (2001) nor in the working paper of Kupiszewski *et al.*, 1998). The 3 types of regions are : the *large urban agglomeration areas* (*Agglomerationsräume*) where there is at least one big city and the population density is high, the *urbanised areas* with a mean population density and cities of a mean size, and the *rural areas* where there are no important centres and a weak population density.

The subdivision of the 543 *Kreise* (NUTS3) is then done according to a centre-periphery relationship. A central city (*Kernstädte*) comprises at least 100 000 inhabitants and the rest of the region is divided according to the level of population density into *very densely populated* (*hochverdichtete*), *densely populated* (*verdichtete*) and *rural* (*ländliche*) units.

The resulting classification is mapped (map 8) and the share of the population in each class presented on the graph below (Fig. 10).





Map 8: Urban and rural areas in Germany.(Classification from BBR 2000a, p.3).

II.4.2. Spatial evolution and demographic trends

In the Western part of Germany, the whole geographic space has been strongly marked by a peri-urbanisation process since the sixties (Mäding, 1998). 80 % of the cities grew beyond the limits of the urban centre (Sieverts, 1997 in Wiegandt, 2001). Independently of any spatial classification, the trends of this peri-urbanisation are demonstrated by an increase in the share of the population and employment in the municipalities surrounding the cities and a reduction in the differences in density.

During the 1960's, the peri-urbanisation started at the urban fringe and beyond. The process continued during the 1970's despite policies seeking to increase peripheral densities and the reconstruction of city centres (Strubelt *et al.*, 2000). Nevertheless, during the second half of the 1980's, a process of re-concentration appeared. The peri-urbanisation dynamic was therefore less important than during the 1960's (Gans, 1991) or the 1990's (Kupiszewski *et al.*, 1998, Kontuly, Schön, 1994). Between 1984 and 1989, 8 urban areas recorded losses in their population. Between 1989 and 1994 all recorded population gains. Over the whole decade, in fact, the smallest urban areas showed the strongest growth (Kupiszewski *et al.*, 1998).

When referring to the delimitations mapped above this trend is also striking: the population share of the *agglomeration areas* taken as a whole passed from 54.3 % to 53.6 % from 1990 to 1997 in the old *Länder* (from figures in BBR, 2000a). The inverse trend is, however, found in the new *Länder* (from 45.8 % to 46.8 %). In the other types of areas (urbanised and rural), both shares are increasing.

Furthermore, the importance of the urban centres (*Kernstädte*) is decreasing in the *urban agglomeration areas* and in the *urbanised areas* but not in the *rural areas*. Gains can be found in the surrounding *kreise* whatever their density level. Yet, in the rural areas of the Western parts, the relative part of their population is diminishing. (BBR, 2000a)

In the Sixties and seventies, the cities overflowed the built-up area and commuting distances lengthened. The movement was centrifugal. Although the concentration of employment remains actually higher than the concentration of population, since the 80's the dependence of the peri-urban areas with respect to the centres has reduced. The decrease in employment is stronger in the centres than on average. This process deconcentrating employment is even stronger in the Eastern part of the country (Lichtblau, 1998).

According to the comparative analysis of Kreukels and Pollé (1997), the dispersion of the functions of the city towards the surrounding area is very marked in Germany. At the same time, the peri-urban zones benefit from interregional migrations, firms settle in faster than in the centres and tangential commuting flows increase (Mäding, 1998). More and more the daily interactions take place in a regional context and less in relation to a centre (Wiegandt, 2001). However, these movements are preferably made from a peri-urban zone towards a nearby peri-urban zone and not towards the whole peri-urban area (Mäding, 1998). The dispersion of the population between the nodes of the urban network is related to differences in land rent, increasing motorisation rate and the development of road infrastructures.

Thus, from an analysis of migratory rates in 1984 by Kreise in Kupiszewski *et al.* (1998), clear population losses appear for large urban agglomerations, for industrial agglomerations and also for many hinterlands of large cities (Munich for example). According to the authors, this suggests a change from a *suburbanisation* phase to a *counter-urbanisation* phase. Examining the figures for 1993 (see map 9a), one can observe that Western cities are gaining inhabitants from migration. This tends to hide the dichotomy between the urban and non urban regions, principally for the cities situated close to the old border. On the other hand, in the Eastern part, the peri-urban areas show very important gains that contrast strongly with the cities while the concentration dynamic was prevailing during the GDR period.

Faced with the evolution between 1988 and 1994, Gans (2000) argue that the reversal of peri-urbanisation of the 1980's is only a particular and temporary phenomenon affecting, essentially, the foreign population. The German population experienced a deconcentration towards smaller cities belonging or not to the same metropolitan area. The deconcentration is intra- and inter-regional : this points to a counter-urbanisation as well as a peri-urbanisation phase. During the 1980's, German people were increasingly indicating their preference for detached houses in a green environment (Strubelt *et al.*, 2000). According to Kontuly and Schön (1994), the main reason for the re-concentration phase is in the regional differences within the labour market.

The old GDR, thanks to its planned urbanisation until reunification, did not undergo any movements of deconcentration before 1990. The situation is, however, changing rapidly with rates of land use conversion now faster than in the West. While the first years after reunification saw mainly interregional migrations towards the West, intra regional migrations towards the peri-urban zones are of equal importance today (Mäding, 1998). This is especially the case for the Berlin region. Berlin did not experience any peri-urbanisation before 1990. The city includes therefore 83 % of the population of the region within which it is situated. The population density of the region contrasts strongly with the centre compared to other German cities or conurbations. Today the process of peri-urbanisation is accelerating. According to BBR (2001), "*..., the process is proceeding in a delayed but concentrated way*". This can be observed from an increasingly negative migratory balance which benefits the close sphere of influence (275 municipalities including cities such as Potsdam). Although a certain deceleration has been under way since 1995 in Berlin, the urban and housing policies that have been implemented have not yet been able to thwart the process and in particular the differences in land prices between the city and the surrounding area (Mäding, 2000).

Furthermore, the intensity of peri-urbanisation can be related to the economic situation of the regions and, in particular, with a relatively more important dynamism of the Southern part (Gans, 1991). Population losses are also clearly proportional to the unemployment rate (Kupiszewski *et al.*, 1998).

According to another classification, which is hierarchical and based on the volume of population and on the centrality of the communes, Kupiszewski *et al.* (1998) show that in the peri-urban zones at the beginning of the Nineties, the communes which do not have any central functions have had a faster growth. They point to the development of rural zones in contradiction to the

planning policies and their concept of "decentralized concentration". This policy aims to concentrate residential development at some very accessible nodes (highways, stations). Development in the rural zones is on the other hand, directly related to lower land values. In fact, the zones of average population density have experienced the strongest migrations mainly to the detriment of the large cities (but not the largest) as well as to the detriment of the most dispersed rural areas.

Gans (1991) notes the weakness of the counter-urbanisation process compared to peri-urbanisation. He shows that the peri-urban areas have a more significant migratory gain than the rural zones situated beyond the commuting range.

Observing the evolution of urban centres before reunification, Mackensen (1993) goes against the assumption of a "desurbanisation" (preference for a rural as opposed to an urban way of life). He instead sees in this evolution the consequence of a general population decrease and of the increase in international immigration. By comparing the evolution of the agglomerations and the districts located at a distance ring of 100 or 50 km, Mackensen shows that these are growing particularly where the fringe that is closer to the centre is already very dense. These spatial units, even if defined only according to *a priori* distances and without any functional criteria, seem to correspond quite well to a mixed peri-urban zone having a relationship with a centre.

After the demographical losses that affected the large urban centres (cities with more than 100 000 inhab.) during the 1980's, the analysis of the figures between 1988 and 1994 shows an inversion of the situation. This reconcentration process which is characteristic of the beginning of the 1990's is however very particular as it is a temporary phenomenon which affected primarily the foreign population. The German population has continued to know a process of deconcentration toward the smallest cities independently of the fact that they belong or not to a metropolitan zone (intra- and inter-regional deconcentration, or peri-urbanisation and counter-urbanisation).

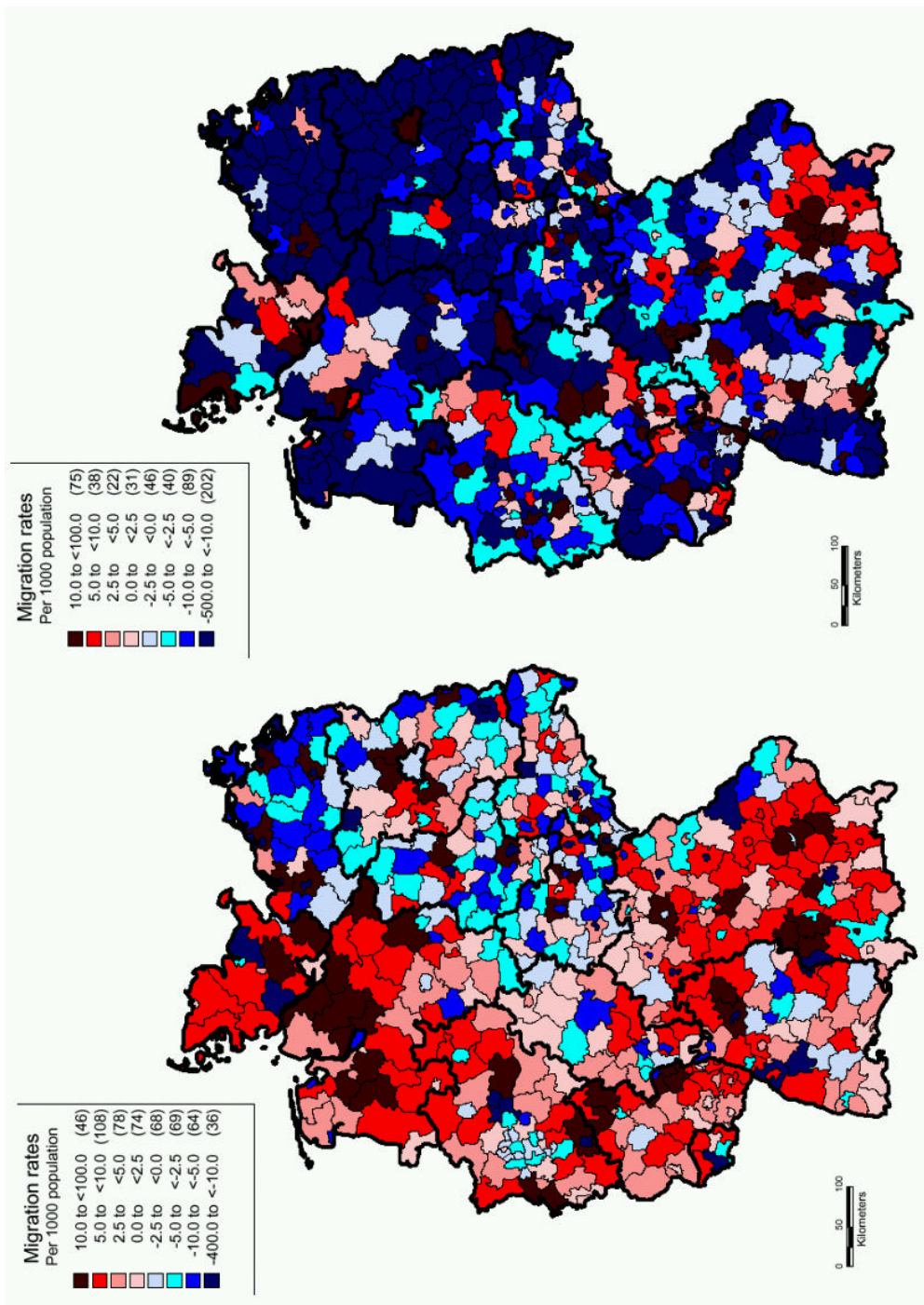
Deconcentration is finally influenced by the development of jobs and residences. These result from the effect of dispersion forces, which include the availability of land and lower land costs, the disadvantages of the agglomeration or the extension of the transport network.

The smallest cities thus have a younger age structure because of this deconcentration. The relative importance of the foreign population in the largest centres can be allotted to the reduction in the German population since the amounts of immigration are independent of the size of the cities (quotas policies). (Gans, 2000).

As for the previous case study examples, the migratory behaviour depends on the life cycle and on the social characteristics of the migrating people. Peri-urbanisation results again mainly from the behaviour of families with children, but also of the retired and early-retired people. Families are attracted by large spaces, but also by the growth of land values that is weaker in relative and absolute terms in the peri-urban areas (Gans, 1991). Young adults tend to migrate towards some parts of the cities and particularly closer to educational functions (Kupiszewski *et al.*, 1998, Gans, 1991). Kontuly and Schön (1994) also identify the sequence of strong re-concentration during the second half of the Eighties. They show that this evolution was also carried out by families, following significant changes on the labour market, and was amplified by the arrival of migrants from East Germany. The map below shows the contrasting behaviour of the young people (map 9b) compared to the others (map 9a).

The continuing trends of peri-urbanisation in the agglomeration and urbanised areas is the cause of a set of pressures on urban agglomerations : increasing land consumption, scarcity of open spaces, increasing daily traffic volumes, etc.. During the 1990's, the growth of jobs and employment were only situated in peri-urban areas. BBR (2001), suggests 3 driving forces of these out-migrations : the residential wishes of families with children, the retreat of trades from the cities (stronger than for all the other economic sectors), a persistent migration of firms (not only manufacturing, but also those which were assumed to need face to face interactions or proximity to customers) to the urban fringe. They also point to a continuous shift in urbanisation towards rural areas and not in the immediate periphery of the cities, more and more scattered patterns (independently of the planning goals to concentrate developments), and a functional enrichment of the peri-urban areas.

Traffic “corridors” connect the different urban agglomerations. Within these corridors, residential settlement and economic activity are particularly dynamic and thus these corridors are highly urbanised. This led to ribbon-like development structures (these are maybe observable at a more macro spatial scale compared to those referred to in the Belgian case study). On the one hand, spatial planning seeks to concentrate the growth along these accessible lines but, on the other hand, this growth produces a lot of pressure and disamenities on the environment and on the people living and working there. It results therefore in the out-migration of people and jobs into the spaces between corridors and agglomerations.



Map 9: Migration rates in Germany 1993 : a) migration rate for all ages 93, b) migration rate for the 18-24 age group (Maps from Kupiszewski et al., 1998, p. 26, 27)

In terms of land use, the land claimed for housing, work, transport and infrastructure occupies approximately 12 % of the territory, but is rapidly increasing (as shown on figure 11, below) and mainly at the expense of agricultural land. The average settlement area per inhabitant in the Western part passed from 350m²/inhab. to 500 m²/inhab. in the last forty years (BBR, 2001) The average size of the residences passed from 22 to 37 m²/inhab. between 1964 and 1991 and should reach 42 m²/hab. in 2010 (Mäding, 1998). This dynamic is also related to the differences in the price of housing in the central cities and the surrounding areas as well as to the differences in the supply of building land (BBR, 2000a, 2001).

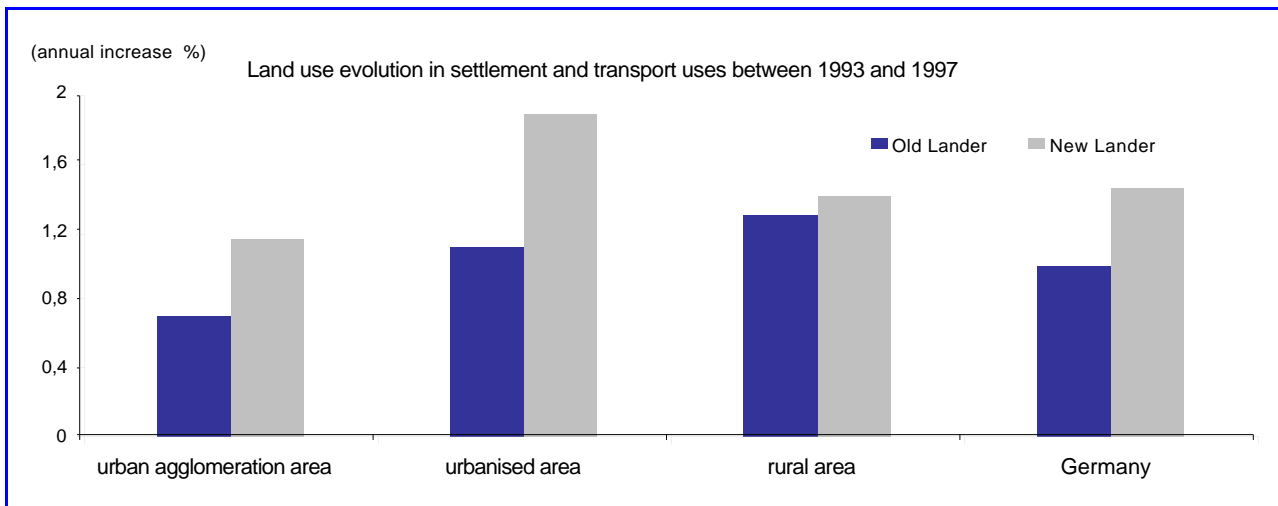


Figure 11 : Urban land use evolution by area types (produced from tables in BBR 2001).

In addition to the ecological problems associated with an increased consumption of space, peri-urbanisation also contributes to an increase in mono-functional spaces and social segregation. This increases the problems of cities and their densely built-up suburbs. Families with children tend today to leave the areas where the problems are more accurate notably in search of better school conditions (Wiegandt, 2001).

Social housing construction allowed for a social mixture, but this policy is now increasingly limited (Wiegandt, 2001). The cities are thus increasingly opposed to the peri-urban areas. Moreover in some cities, the share of the households that comprise only one person has reached more than 50 % (Mäding, 1998). Among these people, those who are really in search of an urban way of life are only a minority.

Finally, the dynamics of the population distribution are characterized by a negative natural growth rate and a deconcentration of the German population towards zones more slightly urbanised inside the commuter zone having good access to the countryside. Massive international migration, which is very important in Germany compared with other Western-European countries (Gans, 2000) and a flow of migrants from the East towards the West mask this deconcentration. These last two flows benefit primarily the largest cities. The international migrations allow, moreover, the

stabilisation of the total population. The migrations from the new towards the old *Länder* have tended to decline, but peri-urbanisation has now started in the East. (Kupiszewski *et al.*, 1998).

II.4.3. Bibliography

(One can find here the references cited above and other bibliographical orientations about the country)

- Apel D., Böhme C., Meyer U., Preisler-Holl L., 2000. *Scenarios and Potential for Settlement Development with Economy of Space and Preservation of the Countryside*. Summary of a study for the Federal Environmental Agency (Umweltbundesamt).
- BBR (Bundesamt für Bauwesen und Raumordnung, Federal Office for Building and Regional Planning), 1994. *L'aménagement du territoire en Allemagne*. 2001 Plus, 30. D.R.A.S.T. Ministère de l'Équipement, des Transports et du Logement.
- BBR, 2000a. *Raumordnungsbericht 2000 (Spatial Planning report 2000)*. BBR (Bundesamt für Bauwesen und Raumordnung, Federal Office for Building and Regional Planning), Berichte, 7 Bonn.
- BBR, 2000b. *Urban Development and Urban Policy in Germany, an Overview*. BBR (Bundesamt für Bauwesen und Raumordnung, Federal Office for Building and Regional Planning) Berichte, 6, Bonn.
- BBR, 2001. *Spatial development and Spatial Planning in Germany*. BBR (Bundesamt für Bauwesen und Raumordnung, Federal Office for Building and Regional Planning).
- Birkholz K., 1991. "Changements structurels et spatiaux et tendances de l'évolution dans la région berlinoise après l'unification" *Revue Belge de Géographie*, 115, 253-256.
- Book T., 1995. "The urban field of Berlin, expansion-isolation-reconstruction" *Geografiska Annaler*, 77B, 3, 177-196.
- Bruns D., Bohnet I., Ipsen D., 2000. "Landscape dynamics in Germany" *Landscape and Urban Planning*, 47, 143-158.
- Bruns D., Schmidt J.A., 1997. "City edges in Germany: quality growth and urban design" *Landscape and Urban Planning*, 36, 347-356.
- Burdack J., Herfert G., 1998. "Neue entwicklungen an der peripherie europäischer Großstädte – ein überblick (New Developments on the periphery of large european cities – a summary)" *Europa Regional*, 6, 2, 25-44.
- Ehmer J., 1999. "Migration and urbanisation in Germany and Austria" *International conference "Vivre en Ville"*. La Sapienza, Roma. September 27-29.
- Ellger C., 1994. "Berlin – metropolis in transition: the state of urban development in 1994" in Braun G. (Ed.) *Managing and Marketing of Urban Development and Urban Life*. Reimer, Berlin. 9-19.
- Gans P., 1991. "Population change in the suburbanized areas of the Federal Republic of Germany with special reference to Hamburg (1970-1987)" *Espace, Populations, Sociétés*, 2, 293-307.
- Gans P., 2000. "Urban Population Change in Large Cities in Germany, 1980-1994" *Urban Studies*, 37, 9, 1497-1512.
- Geyer H.S., Kontuly T.A., 1993. "A theoretical foundation for the concept of differential urbanisation" *International Regional Science Review*, 15, 2, 157-177.

- Glebe G., Schneider H. (Ed.), 1998. "Lokale Transformationsprozesse in der Global City – Dusseldorf-Oberbilk, Strukturwandel eines citynahen Stadtteils" *Düsseldorfer geographische schriften*, 37.
- Heinz W., 1995. *Major Cities and their Peripheries: Frankfurt and the Frankfurt Region*. Report of the Group of Specialists on Major Cities and their Peripheries, Council of Europe, Secretariat General.
- Kontuly T., 1992. "National-scale, regional-scale and urban-scale population deconcentration in West-Germany" *Landscape and Urban Planning*, 22, 2-4, 219-228.
- Kontuly T., Schön K.P., 1994. "Changing Western German Internal Migration Systems during the Second Half of the 1980s" *Environment and Planning A*, 26, 10, 1521-1543.
- Kontuly T., Vogelsang R., 1989. "Federal Republic of Germany : The Intensification of the Migration Turnaround" in Champion A.G. (Ed.) *Counterurbanization – The Changing Pace and Nature of Population Deconcentration*. Arnold, London. 141-161.
- Kunzmann K., 1997. "The future of the city region in Europe" in Bosma K., Hellige H., (Ed.). *Mastering the city I, North European City Planning 1900-2000*. NAI Publishers, The Hague. 16-59.
- Kupiszewski M., Bucher H., Durham H., Rees P., 1998. *Internal Migration and Regional Population Dynamics in Europe: German case study*, Report prepared for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 98/11, School of Geography, University of Leeds, 45p.
- Lichtblau K., 1998. "Regional Change in Germany", *IW-Trends*, 4.
- Lichtenberger E., 1998. *Stadtgeographie, band 1: Begriffe, Konzepte, Modelle, Prozesse*. Teubner, Stuttgart.
- Mackensen R., 1993. "Urbanization under Federalist and Centralist Government – The case of two German States 1980-1988" *Acta Demographica*, 166-195.
- Mäding H., 1998. "Suburbanisation and Urban Development in Germany: Trends - Models – Strategies" *International Conference on Cities in the XXIst Century - Cities and Metropolises: Breaking or Bridging?*, La Rochelle 19-21 October 1998.
- Mäding H., 2000 (forthcoming). "Suburbanisierung und kommunale Finanzen" in Brake K. *et al.* (Ed.), *Suburbanisierung in Deutschland*.
- Mäding H., 2000. "Berlin 2000 – A selective assessment of developments after German unification and prospects for the next decade", *Cities in Region, Workshop of the European Urban Research Association*, Dublin 13-15 April 2000.
- Monheim R., 1992. "Town and transport planning and the development of retail trade in metropolitan areas of West Germany" *Landscape and Urban Planning*, 22, 2-4, 121-136.
- Pohlan J., 1996. "Processes of suburbanisation and its effects on the finances of cities in West Germany: the example of Bremen and the surrounding communities" *Environment and Planning C, Government and Policy*, 14, 1, 25-37.
- Rouyer A., 1995. "Berlin, le parti pris de la densification" *Bulletin de l'Association des Géographes Français*,
- Rouyer A., Scherrer F., 1996. "Lebensraum stadt – La ville, espace de vie - mobilité et communication dans les grandes villes allemandes en 2020: deux scénarios" *2001 Plus*, 40. D.R.A.S.T. Ministère de l'Équipement, des Transports et du Logement (France).

- Schön, K.P., 1991. *Urbanisation-Counterurbanisation-Reurbanisation. Where is Germany today?* . Bonn (Bundesforschungsanstalt für Landeskunde und Raumordnung).
- Sieverts T., *Zwischenstadt - zwischen Ort und Welt, Raum und Zeit, Stadt und Land*. Bauwelt Fundamente, Vieweg, Wiesbaden, 1997, 182p.
- Werner K, 1982. "Le suivi statistique des mutations foncières: l'exemple de l'Allemagne" *Etudes Foncières*, 15, 31-33.
- Wiegandt C.C., 2001 (forthcoming). "Urban Development in Germany – perspectives for the future" *GeoJournal*.

II.5. Italy

II.5.1. Context and spatial definitions

In Italy, the debate on the spatial distribution of the population and its evolution at the national scale seems to be impregnated with the regional, mainly North *versus* South, differences. Also, compared with the other case studies of this report, it results from our bibliographical searches that the planning oriented studies are less emphasised or divulged in the non-Italian speaking literature. Some issues and pieces of work interesting for our purpose have nevertheless been found, notably within the European context of the SPESP for what concerns spatial typologies, and again along the work of Rees *et al.* (1997) for what concerns the spatial aspects of demographics.

The analysis of peri-urban processes in a Southern European country is expected to be quite different than the other four cases already considered. Following Leontidou (1996) for example, Mediterranean cities do not fit into the Northern urban models. The scientific literature is also quite different. Pacione (1998) argues that urban changes in the cities of Southern Europe has received less attention. This difference would be partly due to the dominance of the Anglo-American literature in urban issues, and partly due to the concept of “West European city” which actually hides the diversity of Northern, Central and Southern situations.

Some geographical characteristics of this Southern European city are discussed by Pacione (1998) who emphasises differences with the Anglo-American cities : “inverse Burgess” pattern (more affluent people in the cores); patterns more socially mixed but also intermingled land uses and functions (and therefore shorter commuting distances); an urban fringe more “informal” (whereas property rights are respected and occupation not illegal, regulation on the uses of land may not be respected e.g. building on agricultural land); ...

We now examine what types of framework have been established to describe urban-rural gradients and therefore what are the possible tools for a study of peri-urban processes. Then spatial planning aspects describing characteristics of the Italian case will also be discussed further in this first part.

As for the British case, Local Labour Market Areas (LLMA or *Sistemi Locali del Lavoro* in this case) have also been defined in Italy (in collaboration with British Universities) (ISTAT, IRPET, 1994). The Institute responsible for statistics in Italy (ISTAT) publishes socio-economic information according to these boundaries. These data allow then, for example, for a grouping of the Local Labour Systems (LLS) according to their size, their economic specialisation (ISTAT, 1999) or according to their degree of rurality (Storti, 2000), as will be presented further.

The LLS are constituted by the aggregation of contiguous communes on the basis of daily labour flows (*pendolarismo*) between residential areas and urban or industrial centres. Commuting data used to identify the LLS are based on the 1991 population census. As a result, the whole Italy is divided into 784 LLS : 140 in the North West, 136 in the North East, 136 in the Central Region and 365 in the Mezzogiorno. These units represent a functional division of space and, by considering

labour market relationships between rural (or residential) areas and centres, have allowed for different types of analyses. In particular, some authors have used these units as a territorial reference for the description of Italian industrial districts. In the context of the study of peri-urbanisation processes, this division provides functional aggregates (or self-contained areas) from which, in a second step, one could potentially add an urban-rural distinction (as for the British case).

Two different grouping examples of the LLS are quickly presented here below. The first one takes a more urban point of view while the second is more rural-oriented.

According to Censis (1998), the LLS can be grouped into 4 types according to their population size: “metropolitan system” (above 500 000 inhabitants), “national urban system” (from 100 000 to 500 000), “minor urban system” (from 30 000 to 100 000) and “non-urban system” (below 30 000). There are 12 cities in the first class which accounts for 28 % of the population (1996). The second class, in turn, accounts for 37 % of the population and is also characterised by the highest demographic growth. The non-urban systems represent about 10 % of the population and are mainly located in the South or mountainous areas. Does that mean that the remaining 90 % of the Italian population is facing urban or peri-urban processes ? Probably not if we consider the following second aggregation method :

With a more rural viewpoint, Storti (2000) identifies rural areas as territorial units also based on the LLS framework. LLS are named *rural* if their population density is below 100 inhabitants per square kilometre and/or have a percentage share for agriculture in total employment equal to, or higher than, twice the European average (following an official definition of rural areas given by the European Commission).

According to Storti’s definitions, there are 583 rural local systems in Italy (339 in the S, 244 in the N). The percentage share of population living in rural areas amounts therefore to 34% for the whole Italy. These LLS represent 68 % of the Italian territory. Nevertheless a very sharp difference exists between the Northern and the Southern parts of the country : In the North, rural systems cover 55 % of the surface and represent 19 % of the population whereas in the South they represent 87 % of the territory and 60 % of the population. The regional difference is striking and is useful to take into account to complement the results of the first grouping method.

In addition to this rural/non-rural classification, Storti (2000) also provides a description of rural areas by the degree of specialisation in manufacturing and food industry as well as an analysis of employment and economic structures at the level of LLS. Following a cluster analysis based on economic activity types and covering the all Italian LLS, a great disparity is shown again between Southern and Northern rural economic structures. A certain diversity among rural areas is shown for the North whereas the South is less diversified away from agriculture. As will be stated later in this document, the Southern area is also largely experiencing high unemployment rates and population decline.

It is rather difficult to select from the two typologies of LLS mentioned here, the one which is best suited to our understanding of the peri-urban concept. They should probably be taken as complementary approaches. It is also worth to compare the definitions with the one applied to Great Britain. *Rural areas* were corresponding to the LLMA’s in which the daily urban system comprises less than 50 000 inhabitants (while the Censis population threshold for Italian non-urban systems

equals to 30 000). As for the British case, each rural area can also be attached to the urban area towards which the commuting intensity is the most significant in order to form “functional regions”.

The Italian LLS framework *per se*, cannot capture a peri-urban process within the own border of the LLS (the same holds in the British case). In both Italian classifications presented, it is not possible to distinguish further from urban and peri-urban parts of each daily urban system. This problem could be partly solved by the use of core/periphery distinctions. Unfortunately, this specification is often made either at a more aggregate level (e.g. provinces) or, contrary to the LLS, do not refer to commuting patterns or any other functional variable.

When they were studying demographical evolutions and more specifically counter-urbanisation in Italy, Dematteis and Petsimeris (1989) have already pointed the weaknesses of several classification attempts that were seeking to identify functional urban regions in the past. The research on the LLS and Functional Urban Areas (ISTAT, IRPET, 1994) was, at that time, too recent for their work so that they choose to refer mainly to the communal level and the use of population volumes in their analyses.

In the discussion coming in the second part of this chapter, the different classifications used by different authors will be considered for the analysis of demographical trends and spatial evolutions. In fact, as far as we are aware of it, classifications based on the LLS framework have not been used for complete studies of urban spread processes and demographical changes.

Dematteis (1997) also considers the major urban systems on the basis of the LLS and classifies them according to their size, economic specialisation, international integration as well as their regional cohesion. The later is illustrated by a regionalisation into five classes : *metropolitan functional regions*, *upper level functional urban regions*, *dense and articulated settlement patterns*, *dense fragmented settlement patterns* and finally *thin fragmented settlement patterns*. The first type of regions corresponds to the larger travel-to-work areas, while the second type points also to very cohesive, but smaller areas. The settlement pattern of the third class inter-connects the first two region types. The last two classes show less regional cohesion and a more discontinuous settlement (Dematteis, 1997). This classification makes us aware of the diversity of urban settlements. Peri-urbanisation processes occur therefore in different spatial contexts and functional region types.

The typology of Italian cities defined by the Turin working group in the SPESP context is also of the same type. 235 poles are defined from the LLS. Their population is above 20 000 inhabitants. The LLS are then grouped into 47 urban systems, as 47 “primary poles” have been previously defined (LLS with 200 000 inhabitants or with a sufficient value for the location quotient of the number of employees in the service sector or of the foreigners residents). The resulting map of these Italian urban systems, further subdivided into 7 types, is given in annex (see annex J).

Among the SPESP considerations, the team directed by Boscacci (2000) adopted another approach that shares many common points with our conception of peri-urbanisation. They decided to abandon the traditional contrast city/countryside and adopted an approach emphasising the complementarities of these areas. Their aim was to obtain a typology of European rural areas but have applied the same methodology at the Italian level as well.

Three rural classes are defined : *successful*, *under pressure* or *weak rural* areas. The last two probably contain the majority of the peri-urban extent. Indeed, the rural areas “under pressure” are characterised by their location close to urban areas and their commercial and employment linkages

with the urban system. The “weak rural” areas include among others the urban fringes of metropolitan areas where agriculture is defeated by urban developments.

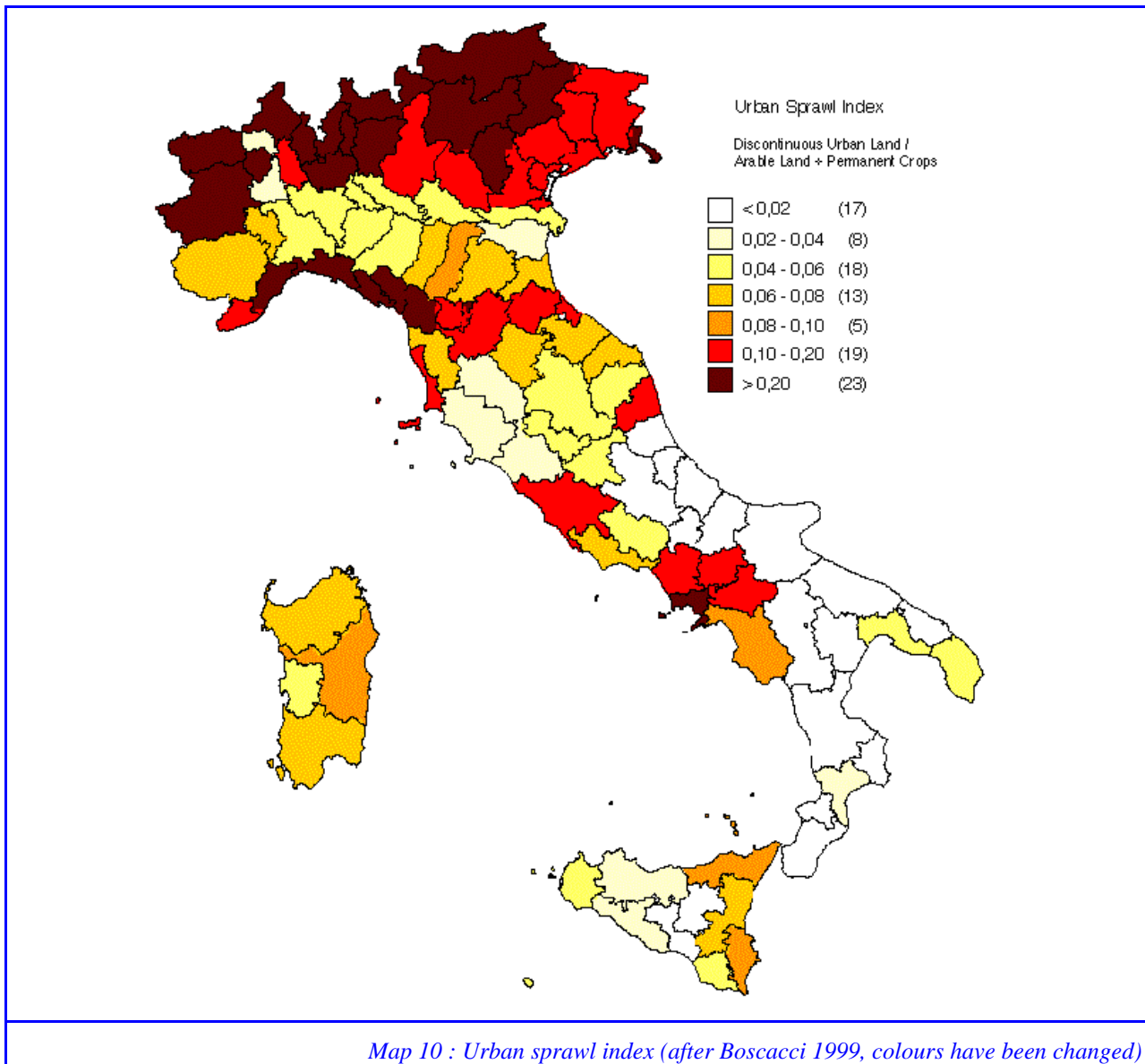
The authors have used four variables to finalise this classification. Among these variables, one can find the importance of agriculture (% of agricultural land) as well as an “urban sprawl” index based on the Corine Land Cover database. This index is presented below (see map 10) and calculated by the ratio between discontinuous urban land and the agricultural land (arable land and permanent crops). The index does not account for any functional characteristics and is calculated for an aggregated spatial level (NUTS3). The Northern part of Italy appears to be more strongly affected by peri-urbanisation. Nevertheless other parts of the country are also enduring a similar process. In 70 % of the Italian provinces, discontinuous urban land use reaches more than 5 % of agricultural land use. This threshold has been used by the authors to get a presence absence classification of urban sprawl. It is moreover interesting to note that according to the same threshold, all Belgian and nearly all German units would be considered as enduring urban sprawl. On the contrary, the process would affect only very few units of the Netherlands as urban land is more often continuous.

It is also worth to note that according to the Eurostat classification presented in the first part of this report, Italy, after Belgium, appears as the most peri-urbanised country in the sense of the *intermediate areas*. While in the Belgian case it has been seen that a certain heterogeneity exists between the Northern and Southern parts in terms of settlement structure, the heterogeneity seems much more emphasised in the Italian case. The North/South component of the demographical characteristics is in fact often brought to the fore in the studies of spatial redistribution in Italy as will be seen further.

The weakness of those types of classification resides certainly in the lack of functional variables in the construction of indices and classes as well as in the size of the spatial units.

To deal with the first problem, it is important to mention the existence of other types of works which account for a variety of variables (morphological, functional, dynamic). The methodology used by Paratore *et al.* (1995) is one example. They have undertaken a very detailed analysis of geographical and demographical characteristics of the surrounding communes of Rome. In order to delimit the metropolitan area of Rome, they have integrated 36 variables to construct a spatial typology in 5 classes. Within these variables, one can find demographical change, economic dependence, dispersion level and evolution, share of working people in different sectors, houses occupancy, level of education, school and work commuting intensity and growth, ...

Facing the second problem related to the spatially aggregated aspect of urban rural typologies, one can notice an official classification of the smallest census sections (about 330 000 units) into 3 classes : populated centres (*centri abitati* broadly defined as aggregates of contiguous or neighbouring houses characterised by the presence of services or any public activities (see Istat, 1994 in Paratore p 58), small populated centres (*nuclei abitati*), and scattered houses (*case sparse*). In 1991, the latter represented 6 % of the Italian population and 90 % of its territory (Orasi, Ferruzza, 2001).



Coming back to the SPESP reflection about rural-urban partnership, some authors of the Italian group (Camagni *et al.*, 1999) describe the importance of “suburbanizzazione” in the case of Milan as well as its diffusive character. From a conceptual point of view, we have found interesting to note a reference to a typology of urban expansion modes by Camagni, Gibelli and Rigamonti (1998). Different types of urban expansion are identified in this work. They are translated from Italian here below (see fig 12) :

	Urban development types	Main characteristics
1	Development by filling up (<i>Riempimento</i>)	Saturation of free spaces
2	Contiguous expansion (<i>Espansione</i>)	Expansion contiguous to the built-up areas
3	Linear development (<i>Lineare</i>)	Expansion along the transport network
4	Development by dispersion (<i>Tarmatura</i>)	Dispersion of the new dwellings
5	Development by large projects (<i>Grandi Progetti</i>)	Large new settlements independent of the previous urbanisation areas

Figure 12 : Typology of urban expansion types (translated from Camagni et al., 1980).

An analysis of the evolution of urbanised areas around Milan according to this classification shows that types 1 and 5 are weaker land consumers. Moreover, a recent process (along the last decade) can be identified, and attests for the reduction of the non-compact types of urban growth (types 2, 3 and 4). This trend would be explained by the scarcity of land, higher land prices and also a new conception of the spatial planning policy. Facing the costs of peri-urbanisation, a policy of containment (*contenimento*) and a planning of the new urban developments have been put in place. They encourage public transport, functional diversification in the communes located further away from centres, as well as a polycentric network of little centres well provided with public transport and separated by a continuous green belt (Camagni *et al.*, 1999).

In terms of spatial policies, one can note that the interest in the management of the process of urbanisation is only very recent in Italy. At least until the end of the 1980's, the lack of spatial policy favoured disurbanisation and did not allow for a management of the urbanisation growth (Bramazza, 2000). Treu *et al.* (2000) discuss the necessity for spatial planning in rural zones facing an urban pressure. This is of an important concern in the context of expanding urban development occurring in Northern Italy.

Pacione (1997) also discuss the regulation of urban development in Italy. He explains how planning thoughts and practices have changed but have had only little impact on urban growth. This situation results from several factors : speculation by builders and real estate companies, ill-information about the meaning and aims of planning decisions, lack of executive power and shortage of funds to implement policies, political collusion, The urban development is therefore largely market-driven. The author points also the social and housing problems that arise and go from shortage of housing (of good quality) to over-consumption of land. Pacione then contrasts this situation with the one of the United Kingdom where land development rights are property of the State. (South European cities are argued to be somewhere between USA and UK in terms of individual behaviour and public interventions).

One of the most important law in Italy (The Town and Land-Use Planning Act (*Legge urbanistica*)) was set in 1942 and focused mainly on urban areas. Municipalities were regulating the use of land within the city but nothing was established for rural areas around and further. During the 1970's and 1980's, 20 Regions constituted the main planning authority and were establishing sector plans. Since 1992, the responsibility for the preparation of plans has been decentralised further to the provinces (103) (Act 142 *Ordinamento delle autonomie locali*) which seek to integrate sectoral and local plans. Provincial plans are currently little by little prepared and approved by regions. Moreover,

in this law, 11 metropolitan areas have been identified and include the largest cities and their surroundings. The definition of their spatial extension has to be decided by the regions.

The reader will finally note that a discussion of the concept of urban periphery is also undertaken by Foot (2000) for the Milan's case, but also in more general terms. In Italy, "*La periferia*" is found to be translated sometimes into the urban fringe, the suburbs, the outer city but never into a well defined area or anything really related to our peri-urban concept.

II.5.2. Spatial evolution and demographic trends

Italy is one of the countries where population changes are occurring most rapidly. A global ageing of the population but also migration patterns and differentiated natural growth are important drivers of the population distribution across the country.

Increasing expectation of life and decreasing fertility have made Italy the eldest population in the world (Golini, 2001). Ageing of the population is not expected to decrease and reduces the weight of the active population relatively to the non-actives (ISTAT, 2001b). Since 1993, the Italian population has in fact experienced natural loss which is only compensated by immigration. International immigration affects the whole Italian territory and, contrasting with the other European examples, metropolitan areas do not benefit much more from these migration than the other communes (Rees *et al.*, 1997).

Population change and its distribution pattern in Italy is lead by large geographic variations and the interactions between natural change and migration change. The former is more a characteristic of the regions and shows differences between the North, the Centre and the South (see fig. 13) but also between regions that are different in their topography. The latter is driven by regional economic differences as well as a decentralisation process affecting more strongly the larger cities (Rees *et al.*, 1997).

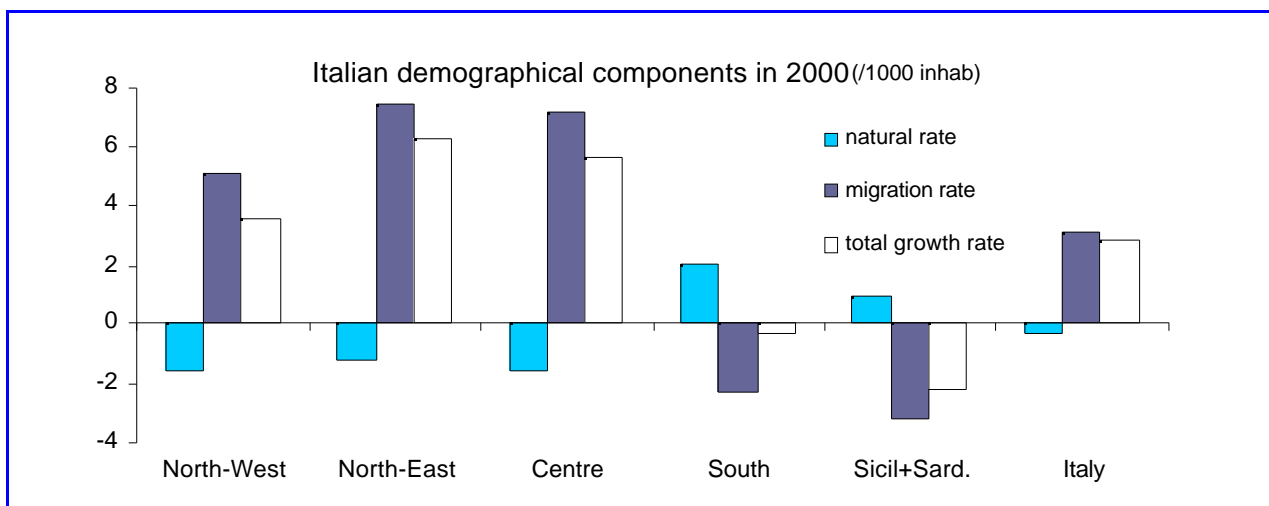


Figure 13 : Natural and migration rates by Italian regions in 2000 (processed from data from ISTAT, 2001).

At the national level, recent figures demonstrate natural population losses in 2000 but nevertheless weaker than in 1999. On the other hand, inter-regional differences and migration flows are still increasing. In fact, Northern Italy is facing negative natural rate and positive migration while the South knows natural growth but a negative migratory balance (see e.g. Istat report, 1998 or Bilancio demografico nazionale, ISTAT 2001). The size of households is also larger in the latter part of the country (in 2000, the mean family size was equal to 2.9 in the South against 2.5 in the North and Centre) (Bilancio demografico nazionale, ISTAT 2001).

In order to examine the evolution of population distribution in Italy along the last 50 decades, one can refer to the work of Dematteis and Petsimeris (1989) for the situation until the eighties, within the counter-urban analysis framework, and the work of Rees *et al.* (1997) since the eighties.

According to Dematteis *et al.* (1989), a process of urban concentration has lasted during the 1950's and 1960's in Italy and peaked during the period 1958-1964. Only 23 % of the territory was experiencing population growth. The growth was very localised in industrial urban centres while small towns and rural areas were losing population due to migration.

In the 1970's, the situation is changing : 55% of the territory encounter growth. Small towns and non metropolitan areas (even distant from the main cities) are increasing and the growth of the large cities slowed down or even becomes negative in the North West. In the South, the situation is different, small towns grew and were accompanied by a continued growth of the major cities.

An analysis of Gini indices and population change according to the population size of the communes shows a tendency towards deconcentration in the North and slackening or stabilisation of concentration in the South during the period 1970-1985. While Northern cities with more than 100 000 inhabitants saw negative (or nearly) growth, the highest growth concerned the cities with less than 20 000 inhabitants. There was no evidence of this situation in the South and Centre.

Deconcentration trends were even reinforcing in the North during the first half of the 1980's with highest decline in the bigger communes. The greater growth was a characteristic of communes

from 30 to 50 000 inhabitants in the surrounding of metropolitan areas. From our point of view this is probably an evidence of a peri-urbanisation process. Although, the authors attest for a counter-urban process and reject the idea of the spread of population outwards from metropolitan areas, because of a continuous growth of communes more distant from large cities. Nevertheless when proving the absence of relationship between proximity to city and growth, they exclude the external metropolitan fringe. Moreover, as the authors underline, the data are not classified according to any urban system so that core/fringe differentiation is not done (and growth could occur in outer suburban areas).

In the South, the first half of the 1980's gives rise to a generalised growth rather than to any deconcentration phase. Also, the year 1982 have seen a reversal of migrations patterns in the South through the end of out-migration. This would be due to the return of retired people or would be linked with slackening needs in labour force in the North. The reversal explains therefore the continuous growth in larger towns and the acceleration of the growth in smaller towns and villages of the South.

For what concern the North : the wave of retired people coming back to smaller towns is not sufficient to explain the whole counter-urban process (illustrated by a lesser attractiveness of large cities and by short-distance migrations). The authors (according to Petsimeris, 1988) note also the migration behaviour of young adults (with average or higher levels of education) towards cities.

Several factors acting on the population redistribution are identified in Dematteis and Petsimeris (1989). These would explain urbanisation and then counter-urbanisation trends which appeared later and were weaker in Italy than in other industrial western countries. The authors mention the employment change in manufacturing industries and the dispersal of services (during the 1960's and 1970's) but also the role of local socio-historical conditions as well as the impact of housing market and policy.

About the later and despite a housing demand higher than supply in the city, housing remains generally more accessible in peri-urban zones and fringes. Also, the planning regulations that are in place in the larger cities make it easier to build in smaller ones.

Finally, urban development is also related to the tenancy type. For the North East and Centre regions, a high correlation has been found between tenancy and peripheral developments. These areas with small rented properties or mixed farms are associated with dispersed settlements and traditionally with a high density medium-sized towns network.

More recently, an analyses of population changes in 1994 and a comparison with the figures of 1984 has been undertaken in Rees *et al.* (1997). They consider the changes at the communal level (8100 units) as well as for a set of aggregated spatial units: the 95 provinces (NUTS 3), the official 5 regions already presented in figure 12 and elaborated by ISTAT, and a selection of 10 metropolitan areas (see map in annex K) (of which 5 have been officially defined for planning purposes). There main findings are used in the discussion below.

The authors point that population losses affect the largest cities whatever the region is, but particularly in the regions that encounter economic problems such as the de-industrialisation, in the North and lack of competitiveness, in Naples for example.

Further, they have emphasised the intensity of a deconcentration process which results from an extension of the commuting fields (peri-urbanisation therefore). In the North this peri-urbanisation is directed towards smaller cities more economically dynamic or with a pleasant environment. Yet, some remote rural communes are not affected by these changes and are still enduring population losses due to natural decrease. Peri-urbanisation therefore does not spread throughout the entire territory.

In the Southern part of the country, natural increase still compensates for the outflows of migrants leaving either the cores or the peripheries towards the North and often seeking employment. In the 1990's (also mentioned in Petsimeris *et al.*,), the migrations from the South to the North appear to be stronger than in the 1980's (see the reversal since 1982 that was mentioned earlier) following stronger economic discrepancies and less balanced unemployment levels.

In the study of Rees *et al.* (1997) at the communal level, it is shown that spatial patterns of population change are a complex combinations of North/South, hill/plain and core/ring patterns. The regional differences have already been emphasised at the provincial level and the topographical differences are of a lesser interest here. Two classifications along the line of the peri-urbanisation process have been used by the authors: the first one consider distance bands to urban centres and the second one, the urban rural character of the communes.

So, the first regionalisation used by Rees *et al.* in order to study population changes at the communal level split the territory into 5 classes. Communes with a population of 100 000 or more inhabitants are identified as *urban nodes*. There are 45 *urban nodes* throughout Italy. The remaining communes are assigned to their nearest urban node and then settlement rings are defined around the urban nodes based on distance to the nodes. So that an urban core represents the communes having an intense daily interaction with the node and are located within a 20 km distance. A *ring* communes lie from 20 to 50km from the node and an *outer ring* is defined from 50 to 100 km. Communes located beyond 100 km from the urban nodes form the *rural area*.

The population changes along this classification for the decade 1984-1994 is presented on the graph below (fig 14.).

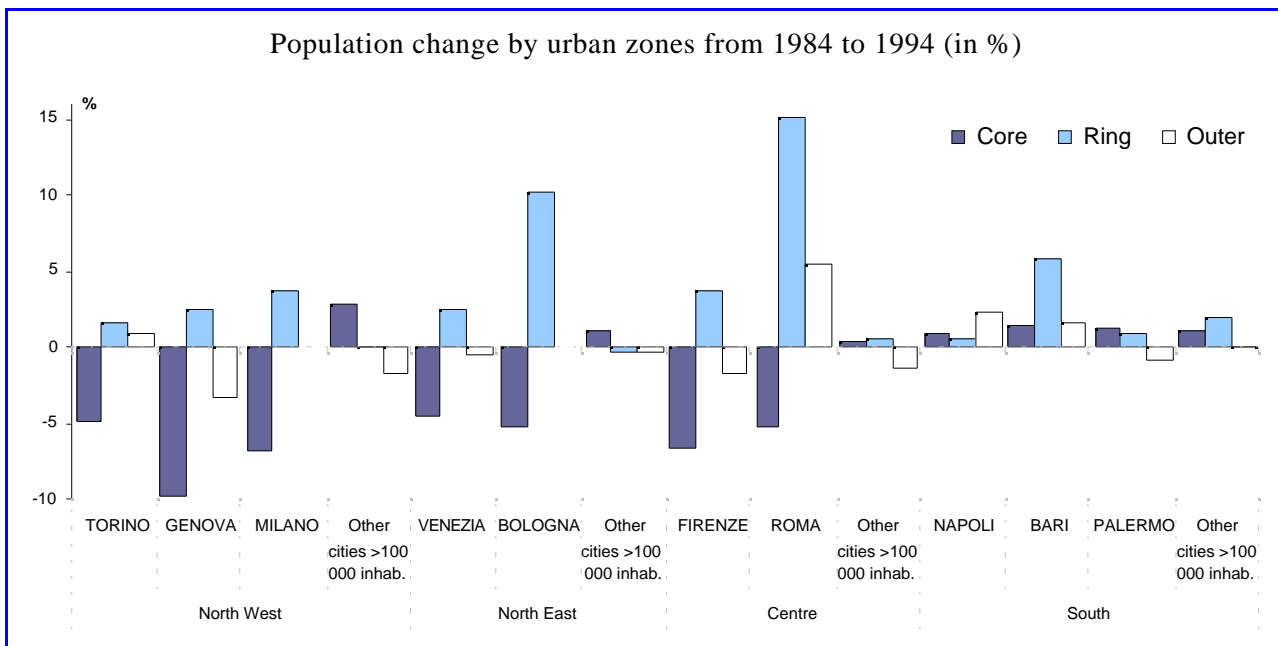
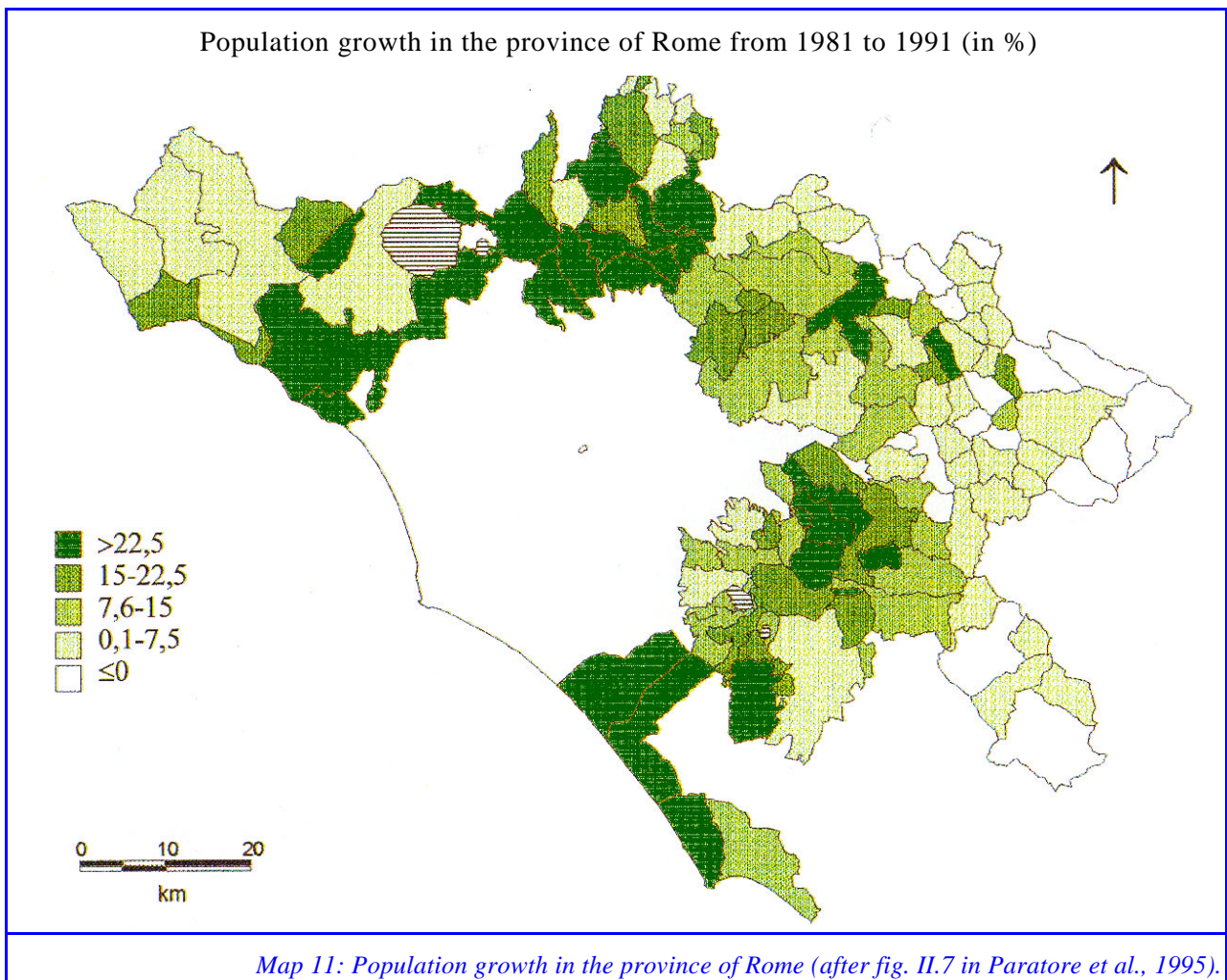


Figure 14 : Population change by urban zones (from tables and classes in Rees *et al.*, 1997 p.56 and ISTAT data).

The case of the Rome area is striking as the central commune is affected by population loss and all the surrounding communes by strong increases. This indicates a peri-urbanisation process (the authors would have named it “decentralisation” or “suburbanisation”). The process is even more stronger when we know that the central commune is a very large one and therefore already contains large surface of non-built up areas. This issue and the process of peri-urban growth around Rome is illustrated by the population growth map provided by Paratore *et al.* and reproduced below (map 11). Dematteis *et al.* (1989) emphasize also the different size and heterogeneity of communes and their impact on analyses at communal level. For example, Milan and Naples boundaries account only for cores, whilst Roma and Genoa contain the “entire city”.

While the population of the urban cores and outer areas (Roma excepted) of the largest cities is decreasing in the Northern and Central regions, their urban rings are experimenting gains. The smaller urban cores are however still growing (given the size of the urban nodes cities, the same limit of 20 km may appear too large to account for an urban phenomenon without any peri-urban process ?).

In the Southern part of the country, population gains are widespread but in general greater in the urban rings than in the urban cores.



It is quite difficult to attest for the extent and evolution of peri-urbanisation only by using these distance bands. The official institute for statistics (ISTAT, 1986) has also created a classification of the communes of Italy according to their urban and rural characteristics. Communes are classified into *urban*, *semi-urban*, *semi-rural* and *rural areas*. In the period 1985-1993, semi-urban communes increased by 5.8 % while the urban ones lost 4.1 % of their population (Rees *et al.*, tables p.58). These figures suggest an important peri-urbanisation process along the decade. Moreover, an increase in the spatial extension of the process may be perceived in that the in-migration in semi-rural areas was higher in 1993 than in 1985.

Finally, it can be observed that the communes at intermediate population densities (100 to 500 inh./km₂) experience more important in-migration than the lowest densities while the most densely populated areas have a negative migration balance. This points again for a strong peri-urban dynamic.

Analysing the age structure of demographical flows, one can see that the inter-regional migrations benefiting to the North are mainly constituted by young adults. The spatial distribution of

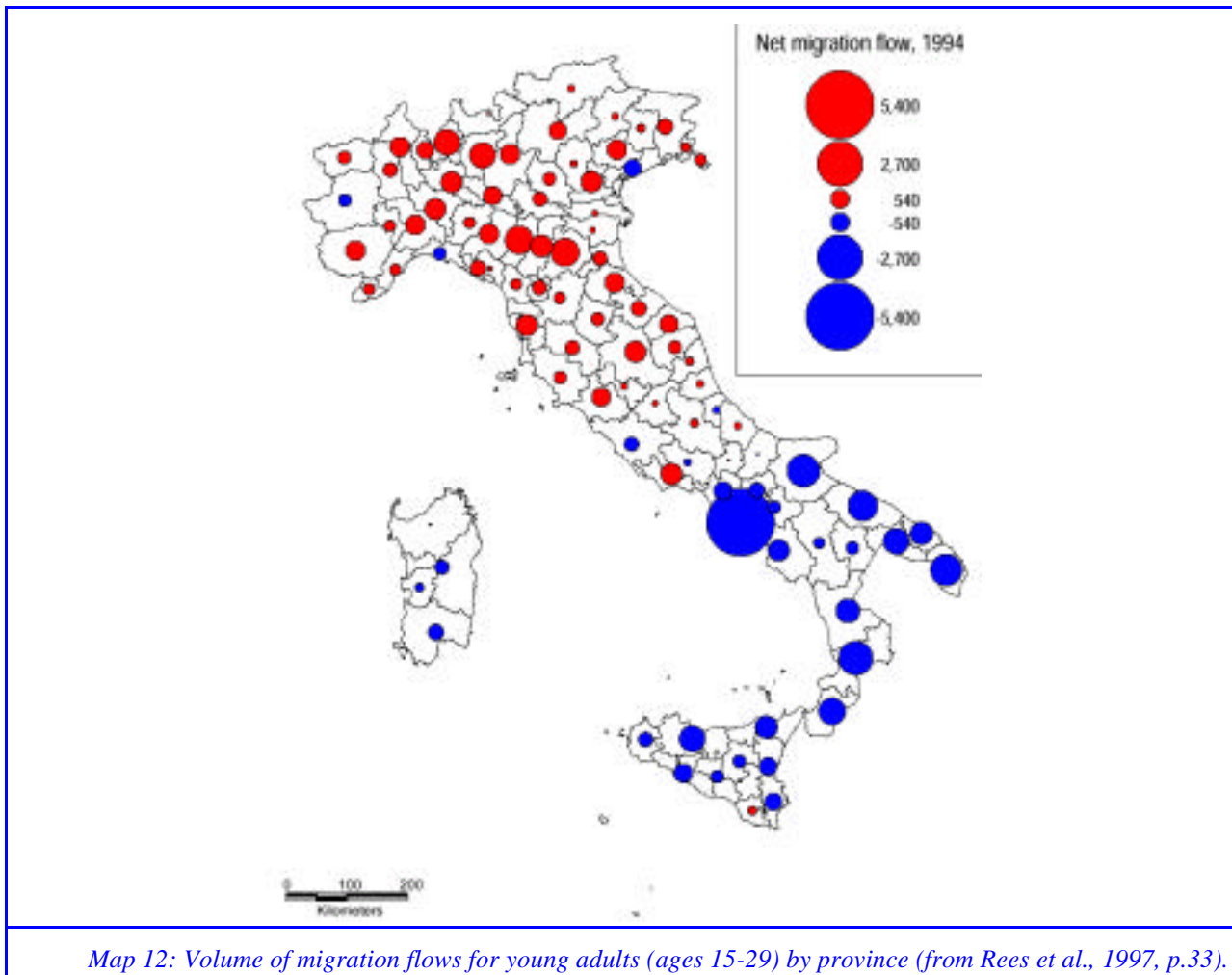
migrations along the age structure is therefore quite different in Italy than in the other reviewed countries as the North/South differences are dominant (see map 12) and therefore hide the core/periphery differences that were emphasised in the other case studies. However, one can also notice that in the North, some metropolitan provinces (Torino, Genova, Venezia, and Roma) are also enduring a net outflow of young people

For families and older adult ages, the redistribution process according to the metro/non-metro gradient becomes then more important. De-concentration is also characteristic of retired people but at a lesser level.

Changes in households and society are analysed in the annual report of ISTAT (Istat annual report 1998). It demonstrates among others how long distance geographical mobility of youth has sharply decreased along the last decade as they leave their parents later and later. While 52 % of single children aged 18-34 were still living with their parents in 1990, they were 58.8 % in 1998. According to Istat, this trend seems not determined by the difficulty to find a job.

Work is no longer the main reason determining interregional movement : this reason is only stated by 35 % of people. The quality of residence is given the more importance although one has to travel longer every day. The daily mobility is therefore increasing. A growing number of people daily travel outside their commune, usually within their province but also for an increasing part of people, outside the province (Istat report 1998).

In addition to evidences of discontinuity in density and decentralisation of the population around Rome, commuting patterns have also been largely analysed in Paratore *et al.* (1995). Even if findings cannot be extrapolated to the whole country, a couple of results are still worth to be noticed. A commuting “self-containment” index for example has been used to express the relative importance of the active population working in the commune of residence against the commuters (leaving the commune usually for the main pole). Low values of this index show a strong residential function of the commune. and its high dependency to the pole. A first result is that the distance to the centre is not always the main determinant of this auto-containment (see Paratore, p 228 or fig V, 10). Intensity and growth of commuting are also shown in the study. The peripheral communes of the Rome province have seen an increase by 60 % of the number of working commuters from 1981 to 1991. In the meantime, the growth of the residential active population in these communes reached (only) 22 %. 33 % of the active population was commuting towards Rome in 1991 while it represented 25 % in 1981 (Paratore *et al.*, p.250).



Rabino and Ocelli (1996) also raised some aspects of the commuting behaviour. They performed an analysis of journey to work flows for the whole Italy and a dynamic analysis for the Piedmont region (1971-1991). The analysis accounted for the structure of the flows according to the hierarchy of the settlements.

The authors have observed a nearly constant level of commuting during these 20 years. The gains in mobility rates have been counter-balanced by a reduction in employment and ageing of the population. (This emphasise the role, already mentioned, of the regional economy and the general demographic structure in the understanding of residential location patterns). However, important changes have also been observed in the spatial distribution of the commuting flows : intra-communal flows decreased considerably while inter-communal flows increased.

49 urban areas can be found at the first level of the hierarchy in Italy. These areas are defined according to their population size and spatial extension : at least 100 000 inhabitants and 10 communes. 14 of these urban areas have more than 1 million inhabitants and are mainly located in the Northern or Centre part of Italy. When considering the dominant flow between two locations, each one characterised by a certain level in the hierarchy, commuting flows can be distributed into classes according to the origin and direction of the flows : hierarchical flows (from a lower to a upper

part of the hierarchy, or para-hierarchical if changing the branch of the hierarchy), anti-hierarchical (in the inverse case, or anti-para-hierarchical if changing the branch of the hierarchy), inter-hierarchical (at the same level).

A weaker importance of hierarchical flows relatively to the para-hierarchical ones attests again for the more multi-polarised aspect of the North in contrast with the situation in the South and the Centre. Also, while 40 % of travel to work flows follow the hierarchical structure, 35 % are directed towards another branch of the upper hierarchy (para). Within the remaining flows, 4% link communes at the same level of the hierarchy (inter-hierarchical). This latter figure reaches 30 % when only the smallest urban areas are considered. We think that this analysis shows the intermixing of the commuter areas and relativizes therefore the definition of self-contained urban areas.

In contrast with the main settlements in North Italian urban system, the Piedmont region shows a polarised structure around Turin. This area has been studied in more details by the authors. Changes in the 1970's and 1980's period in Turin were characterised by a stronger dependence to Milan and by a diffusion process. This diffusion "*resulted in a significant movement of population and jobs toward the periphery of the main cities and along their main outward communication routes*". An evidence of this diffusion is given by an important decrease of hierarchical flows compared to para-hierarchical flows during the period (e.g. for 33 % of the communes of the Turin metropolitan area, 70% of the outflows were hierarchical in 1971 whereas it was only the case for 8 % of the communes in 1991). The image is nevertheless fuzzier if different rings around the city are considered: hierarchical flows remain of course higher in the ring closer to the city.

An analysis of the residential mobility structure has also been performed within the commuting area (as defined by the Metropolitan Transportation Master Plan) and revealed a core periphery structure but also that only the communes with a high accessibility to the centre exchange migrants with the centre, that there are preferential directions corresponding to the communication axes (similarly to commuting patterns) and finally that sub-poles also share a relation with outer areas.

Finally concerning commuting, Camagni *et al.* (1999) have also discussed the costs related to the daily travels. The impact of commuting is positively related to the importance of demographical changes and negatively with the age of dwellings. These relationships show the increasing impact on the environment of the peri-urbanisation process and its consequent mobility.

Peri-urban movements also include some social aspects. These are quickly illustrated here by the works of Petsimeris and Pacione :

Petsimeris (1998) has studied the urban triangle of North West Italy. Genoa, Turin and Milan are examined from the point of view of their socio-spatial structures. The main result suggests that the movement of decline in centres and growth in peripheries is accompanied by a further social polarisation. If the study emphasises more the intra-urban issues, the authors also distinguish an *outer city* (often mentioned as "*la periferia*" in Italian). This area is in turn divided in two areas : a residential area with high-rise buildings (such as the French "banlieues") and a mixed residential-industrial area with fragmented urban patterns. The latter is characterised by a high concentration of the working class and a lack of services. This outer area contrasts with a low-density housing area occupied by wealthier people. Although it is difficult in this analysis and through these qualitative terms to know what can be considered as peri-urban in the sense given in the present report.

Pacione (1998) has undertaken a spatial classification of the Rome area from a multivariate and cluster analysis. Three classes retain our attention as they seem to fit a part of the peri-urban extent. The first one corresponds to the location of middle class family households and is characterised by lower unemployment, as well as few one person households and a high proportion of school aged children. The second one deals with a peri-urban area occupied by a working class population and where the level of unemployment is above average, the families larger and the proportion of youth higher. This area corresponds to previous “self-building” zones at the urban fringe, and parts of the dwellings are now ill-supplied in terms of basic infrastructures. It has been seen above that a reason for the existence of these zones reside in a lesser respect of planning regulations. Pacione also emphasises the role of the housing and rent laws (the Rent Act in 1978) that led to a shortage of affordable housing and resulting in an increase of self construction especially in peripheral areas. Finally, the third class corresponds to a rural periphery with relatively high share of agricultural households, of unoccupied dwellings and holiday homes.

To conclude with, this classification attests therefore for a certain social diversity of Italian peri-urban areas. The socio-spatial structure follows radial axes and does not reflect only a core/periphery pattern (Vandermotten *et al.*). The second class mentioned in Pacione’s example is probably the one which points the more differences with the characteristics of peri-urban areas as presented in the other four case studies.

II.5.3. Bibliography

(One can find here the references cited above and other bibliographical orientations about the country)

- Bonaguidi A, Terra Abrami V., 1992. "The metropolitan ageing transition and metropolitan redistribution of the elderly in Italy" in Rogers A. *et al.* (Ed.) *Elderly migration and population redistribution: a comparative study*. Belhaven, London.
- Bonaguidi A, Terra Abrami V., 1996. "The pattern of internal migration: the Italian case." in Rees P, Stillwell J, Convey A and Kupiszewski M (Eds.) *Population Migration in the European Union*, John Wiley & Sons, Chichester. 231-245.
- Boscacci F., 2000 "Una tipologia di aree rurali", in Boscacci F., Camagni R.. *Verso una nuova partnership urbano-rurale in Europa*, SPESP (Study Programme on European Spatial Planning) Italian working group report. 41-72.
- Bramazza I., 2000. "National urban policy in Italy" in Van den Berg L., Braun E., Van der Meer J., (Eds) *National urban policy in the European Union*. Euricur series, Aldershot, Ashgate.
- Camagni R., Cappello R., Porro G., 1999. "L'area metropolitana milanese", in Boscacci F., Camagni R.. *Verso una nuova partnership urbano-rurale in Europa*, SPESP (Study Programme on European Spatial Planning) Italian working group report. 9-19.
- Camagni R., Gibelli M.C. and Rigamonti P., 1998. *Vantaggi e costi di differenti modi di espansione della città*. Research report, Fondazione CARIPO, Milano.
- Camagni R., Salone C., 1993. "Network urban structures in Northern Italy, elements for a theoretical framework" *Urban Studies*, 30, 6, 1053-1064.
- CENSIS, 1998. "Il quadro dei sistemi urbani italiani" *Un mese di sociale. La priorità dell'eurocompetizione, la città più reti e più autonomia*. Censis research report, 98, 02-05.
- Conti S., Salone C. (Coord.), 1999. *Contribution to typologies of cities*. SPESP (Study Programme on European Spatial Planning) Italian working group report.
- Cortesi G., Capineri C., Spinelli G., 1996. "Urban Change and environment in the North-Western Mediterranean" *Bolletino della Società Geografica Italiana*. 1, 1, 81-105.
- Cortesi G., Lazzeroni M., 1997. "Developpement et changement urbains: le cas de l'Italie" *Revue économique méridionale*, 45, 1-2, 53-62.
- Dematteis G., 1997. "Globalisation and regional integration : the case of the Italian urban system" *Geojournal*, 43, 4, 331-338.

- Dematteis G., Petsimeris P., 1989. "Italy: Counterurbanization as a Transitional Phase in Settlement reorganization" in Champion A.G. (Ed.) *Counterurbanization – The Changing Pace and Nature of Population Deconcentration*. Arnold, London. 187-206.
- Diamantini C., Zanon B., 2000. "Planning the sustainable urban development. The case of the plan for the province of Trento, Italy" *Environmental Impact Assessment Review*. 20, 299-310.
- Foot J., 2000. "The urban periphery, myth and reality: Milan, 1950-1990." *City: analysis of urban trends, culture, theory, policy, action*, 1, 1, 7-26.
- Golini A., 2001. "Demographic trends and population policies" *Futures*, 33, 1, 27-41.
- ISTAT, 1986. "Classificazione dei comuni secondo le caratteristiche urbane e rurali" *Note e Relazioni*, anno 1986, no.2. Istituto Nazionale di Statistica, Roma.
- ISTAT, 1997. *I sistemi locali del lavoro*, Argomenti, 10, Istituto Nazionale di Statistica, Roma.
- ISTAT, 1999. *Annual report synthesis 1998*. Istituto Nazionale di Statistica.
- ISTAT, 2000. *Rapporto annuale, la situazione del Paese nel 1999*. Istituto Nazionale di Statistica. 557p.
- ISTAT, 2001. *Bilancio demografico nazionale, anno 2000*. Istituto Nazionale di Statistica. 8p.
- ISTAT, 2001b. *Previsioni della popolazione residente, (con base 1 gennaio 2000)*. Istituto Nazionale di Statistica. 6p.
- ISTAT, 2001. *Rapporto annuale, la situazione del Paese nel 2000*. Istituto Nazionale di Statistica. 416p.
- ISTAT, IRPET, 1986. *I mercati locali del lavoro in Italia*. Franco Angeli, Milano
- ISTAT, IRPET, University of Newcastle upon Tyne, University of Leeds, 1994. *I Sistemi Locali del Lavoro in Italia, 1991*. Istituto Nazionale di Statistica, Roma.
- Lefebvre C., 1997. "L'area urbana di Chieti-Pescara tra periferia e centralita (The urban area of Chieti-Pescara between periphery and centrality)" *Bolletino della Societa Geografica Italiana*, 2, 5, 93-118.
- Leontidou L., 1990. *The Mediterranean City in Transition*. Cambridge University Press, Cambridge.
- Leontidou L., 1996. "Alternatives to modernism in Southern urban theory" *International Journal of Urban and Regional Research*, 20, 178-195.
- Maciocco G., Cenami E., Zoagli E., 1991. "Il processo di periurbanizzazione. Indicatori di dimensione dell'occupazione di suolo" in Maciocco G., Clemente F., *Le dimensioni ambientali della pianificazione urbana*. Metodi del Territorio, Franco Angeli..
- Malusardi F., Muscara C., 1986. "Italian urbanisation : between scattered settlements and counterurbanisation" *Ekistics*, 57, 22-34.
- Muscara C., 1991. "Italian urban geography : counterurbanisation versus peripheral development" *Urban Geography*, 12, 4, 363-380.

- Orasi A., Ferruzza A., 2001. "Population and housing censuses in Italy" *Symposium on Global Review of 2000 Round of Population and Housing Censuses*. Dpt of Economic and Social Affairs, UN Secretariat, New York.
- Pacione M., 1987. "The socio-spatial development of the South Italian City: The case of Naples" *Transactions of the Institute of British Geographers*, 12, 433-450.
- Pacione M., 1998. "The social geography of Rome" *Tijdschrift voor Economische en Sociale Geografie*, 89, 4, 359-370.
- Paratore E., Banini T., Paoluzi M.L., Romagnoli L., 1995. "Una proposta di delimitazione dell'area metropolitana romana" *Semestrale di Studi e Ricerche di Geografia*. Istituto di Geografia, Università degli Studi di Roma La Sapienza, Roma. 1-2.
- Parisi A., Mela A., Michelsons A., "Il processo di periurbanizzazione. Indicatori della dimensione residenziale dei fenomeni" in Maciocco G., Clemente F., *Le dimensioni ambientali della pianificazione urbana*. Metodi del Territorio, Franco Angeli.
- Petsimeris P., 1998. "Urban decline and the new social and ethnic divisions in the core cities of the Italian industrial triangle" *Urban Studies*, 35, 3, 449-465.
- Rabino A.G., Occelli S., 1996. "Understanding spatial structure from network data: theoretical considerations and applications" *28th International Geographical Congress*, The Hague.
- Rees P., Todisco E., Terra Abrami V., Durham H., Kupiszewski M., 1997. *Internal migration and regional population dynamics in Europe: Italy case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 98/11, School of Geography, University of Leeds, 67p.
- Romagnoli C., 2001. *Bibliografia su Area Metropolitana*. Ufficio Area metropolitana e decentramento, Firenze.
- Salvatori F., 1997. "Population mobility and new industrial districts: the case of the Third Italy" in Blotevogel H., Fielding A. (Eds.) *People, jobs and mobility in the new Europe*. John Wiley, Chichester. 217-225.
- Sforzi F., 1991. "La delimitazione dei sistemi urbani: concetti, definizioni e metodi" in Bertuglia S., La Bella A. (Eds), *I sistemi urbani*. Franco Angeli, Milano. 443-485.
- Storti D. (Ed.), 2000. *Tipologie di Aree Rurali in Italia*. Istituto Nazionale di Economia Agraria (INEA), Roma.
- Storti D., 2000. "The multifacets of rurality in Italy" *International Conference: European Rural Policy at the Crossroads*, Arkleton Centre for Rural Development Research, King's College, University of Aberdeen.
- Treu. M.C., Magoni M., Steiner F., Palazzo D., 2000. "Sustainable landscape planning for Cremona, Italy" *Landscape and urban planning*, 47, 79-98.

Wynn M., 1984. *Planning and urban growth in the Southern Europe*. Mansell, London.

Zerbi M.C., 1979. *Geografia delle aree periurbane*. Unicopli, Milano.

II.6. A bibliographical note for the Nordic countries

The following bibliography is resulting from the searches done during the first part of the current work with the idea of surveying Europe as a whole. The information collected (in English) for Sweden, Norway, Finland, and Denmark appeared nevertheless to be insufficient for a thorough discussion of peri-urbanisation processes in their respective national context. However the following references and authors may be considered as a starting point for further studies and provide already some interesting empirical and methodological evidences. As it is the case for the previous national bibliographies, the coming references (II.6.1) do not, of course, pretend to be exhaustive.

A selection of abstracts is given further (II.6.2) and the information relevant for the peri-urbanisation issue is highlighted. The selected papers are marked with a * below.

II.6.1. Bibliography

Hall T. (Ed.), 1991. *Planning and urban growth in the Nordic Countries*. Studies in history, planning and the environment, Spon, London. 271p.

Sweden

- *Borgegard L.E. Hakansson J., Malmberg G., 1995. "Population redistribution in Sweden – Long term trends and contemporary tendencies" *Geografiska Annaler*, 77B, 1, 31-45.
- Borgegard L.E. Hakansson J., Müller D., 1996. *Immigrants changing residential patterns - the case of Sweden 1973-1992*. Demographic Yearbook of Finland
- *Borgegard L.E. Hakansson J., Müller D., 1998. "Concentration and dispersion of immigrants in Sweden, 1973-1992" *Canadian Geographer*, 42, 1, 28-39.
- Borgegard L.E., Hakansson J., 1997. "Population concentration and dispersion in Sweden since the 1970s" in Borgegard L.E., Findlay A.M., Sondell E. (Eds.) *Population, planning and policies*. Umea University. Cerum Report, 5, 9-29.
- *Borgegard L.E., Murdie R., 1993. "Socio-demographic impacts of economic restructuring on stockholm inner-city" *Tijdschrift voor Economische en Sociale Geografie*, 84, 4, 269-280.
- *Hakansson J., 2000. "Impact of migration, natural population change and age composition on the redistribution of the population in Sweden 1970-1996" *CyberGeo*, 123.
- *Hakansson J., Borgegard L.E., 2000. "Population redistribution in Sweden since the 60s in a regional context" *ENHR Conference, workshop: Migration and Residential Mobility, Gävle 26-30 june 2000*.

- *Kupiszewski M., Borgegard L.E., Fransson U., Hakansson J., Durham H., Rees P., 2001. *Internal migration and regional population dynamics in Europe: Sweden case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 01/01, School of Geography, University of Leeds, 70p.
- Nyström J., 1989. "From the City to the City's Countryside" *Geografiska Annaler*, 71B, 3, 183-200.
- *Nyström J., 1992. "The cyclical urbanization model – a critical analysis" *Geografiska Annaler*, 74B, 2, 133-144.
- Nyström J., 1998. "The magnetic field model applied to Swedish settlements" *Geografiska Annaler*, 80B,3, 129-138.
- Persson L.O., 1999. "A typology of functional regions in Sweden" 2.2. *Typology of cities*, SPESP (Study Programme on European Spatial Planning), annex of the report.
- Persson L.O., 2000?. *Rural development research in Sweden, a literature review*. Arkelton Centre for rural development research.
- *Pettersson O., 2001. "Microregional fragmentation in a Swedish county" *Papers in Regional Science*, 80, 389-409.
- Statistics Sweden, 1992. *Local labour market areas and employment regions, a new regional division of local labour market areas in Sweden grounded on commuting statistics*. SCB, Labour Information, 1991/7.

Norway

- *Eikeland S., Lie I., 1999. "Pluriactivity in rural Norway" *Journal of rural studies*, 15, 405-415.
- *Falleth, E.I., 1999. "Suburban Growth and Land Actors along By-Pass Roads in Norway" *European Planning Studies*, 7, 3, 357-371.
- *Hansen J.C., 1989. "Norway: the turnaround which turned round" in Champion A.G. (Ed.) *Counterurbanization – The Changing Pace and Nature of Population Deconcentration*. Arnold, London. 103-120.
- Naess P., 1991. "Environment protection by urban concentration" *Scandinavian Housing and Planning Research*, 8, 247-252.
- Naess P., Roe P.G., Larsen S.L., 1995. "Travelling distances, modal split and transportation energy in thirty residential areas in Oslo" *Journal of Environmental Planning and Management*, 38, 3, 349-370.
- *Naess P., Synnøve L.S., 1996. "Workplace location, modal split and energy use for commuting trips" *Urban Studies* 33, 3, 557-580.
- *Rees P., Ostby L., Durham H., Kupiszewski M., 1997. *Internal migration and regional population dynamics in Europe: Norway case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 98/04, School of Geography, University of Leeds, 66p.

- *Saglie I.L., Synnøve L.S., 1997 "Urban Expansion in Norway - Development by plan ?" *Scandinavian Housing and Planning Research*, 14, 51-70.
- SSB (Statistics Norway), 1994. *Standard for kommuneklassifisering 1994 (Standard Classification of Municipalities 1994)*. Official Statistics of Norway, Kongsvinger, Oslo.
- SSB (Statistics Norway), 2000. *Population Statistics 1998, with Figures as of 1 January 1999*. NOS C607, Statistics Norway publication. 186 p.
- *SSB (Statistics Norway), 2001. *Population and land area in urban settlements, 1 January 2000*. Statistics Norway, article 06 December 2001, + 7 tables.
- Wessel T., 1998. "Housing and Welfare in Norway: Compensation and Double Deprivation" *Norsk Geografisk Tidsskrift*, 209-219.
- Wessel T., 2000. "Social polarisation and socio-economic segregation in a welfare state : the case of Oslo" *Urban Studies*, 37, 11, 1947-1967.

Finland

- Antikainen J., Vartiainen P., 1999. "Framing the Urban Network in Finland - the Urban Network Study 1998" in Committee for Urban Policy *A Portrait of Finnish Cities, Towns and Functional Urban Regions - The Finnish Urban Indicators System*. Ministry of the Interior, Helsinki. 15-22. (also available as an annex of SPESP report)
- Haveri A., Siirilä S., 1999. "Two growing urban regions: a comparison of growth patterns and growth management strategies in the Helsinki region and the Brisbane region" *Fennia*, 177, 2, 107-122.
- *Kupiszewski M., Heikkilä E., Nieminen M., Durham H., Rees P., Kupiszewska D., 2001. *Internal migration and regional population dynamics in Europe: Finland case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 00/07, School of Geography, University of Leeds, 54p.
- *Malinen P., 1999. "Rural area typology in Finland, marginality within rural areas" 2.2. *Typology of cities*, SPESP (Study Programme on European Spatial Planning), annex 9 of the report.
- Vartiainen P., 1989. "The end of drastic depopulation in rural Finland: evidence of counterurbanisation?" *Journal of Rural Studies*, 5, 2, 123-136.
- Vartiainen P., 1992. "Residential development and housing policy in the city's countryside: the case of Joensuu, Finland" *Scandinavian Housing & Planning Research*, 9, 165-179.
- *Vartiainen P., 1993. "Local Government as a promoter and regulator of the dispersing settlement structure in the city's countryside. A case study of Joensuu, a middle-sized city region in Eastern Finland" *Geography Research Forum*, 13, 46-60.
- Vartiainen P., 2000. "Method of description for the urban network in the Baltic Sea region" *The Finnish Environment*, 397. Ministry of the Environment, Land Use Dpt. Helsinki.
- *Vartiainen P., Antikainen J., 1999. "The Dynamics of Finnish Urban Regions in the 1990s" in Pikkala S. (Ed.) *Finnish Local Government Approaching the New Millennium*. Finnish Local Government Studies 3, 1999, 396-409.

Denmark

- *Andersen A.K., 2000. *Commuting Areas in Denmark*. AKF (Institute of Local Government Studies) report. 57p.
- Andersen H.T., 1991. "The political urbanization fringe development in Copenhagen" *Espace, Populations, Sociétés*, 2, 367-379.
- Andersen H.T., Engelsoft S., 1989. "Dynamique de l'environnement bâti et prix fonciers. Considérations théoriques illustrées par l'exemple de Copenhague" *Revue Belge de Géographie*, 3-4, 153-173.
- Christensen D., 1995. "A Tale of two Cities: Copenhagen" in Ministry of Environment of Environment and Planning, Spatial Planning Department *The European city, sustaining Urban Quality*. Copenhagen.
- Christoffersen H., Blix K., 1998. *Population, production and welfare in rural municipalities*. AKF (Institute of Local Government Studies).
- Christoffersen H., Rasmussen L.E., 1995. *Housing patterns in the Danish population since 1970*. Summary of the report, AKF (Institute of Local Government Studies)..
- Court Y., 1989. "Denmark: towards a more deconcentrated settlement system" in Champion A.G. (Ed.)
- Frandsen K., 1994. "The preservation of the structure of villages in a changing rural landscape. A case-study from Falster, Denmark" *Avenir des paysages ruraux Européens*, 69-76 .
- Graversen B.K., Humelgaard H., Lemmich D., Nielsen J.B., 1997. *Mobility to and from rural municipalities*. AKF (Institute of Local Government Studies).
- Illeris S., 1995. "Why was the Central City Population Stabilized? The Case of Copenhagen" *Abhandlungen des Geographischen Instituts Anthropogeographie*, 52, 595-608.
- Illeris S., 1996. "Changing Patterns of Net Migration in Denmark. An Explanatory Analysis" in *Population Migration in the European Union*. Wiley & Sons, Chichester. 105-122.
- Illeris S., 2001. "Metropolisation! What metropolisation in Western Europe?" *International Conference of the Regional Studies Association*, September 15-18, Gdansk.
- Jensen J.D., 1998. Agriculture in rural areas. Summary and conclusions of the report, AKF (Institute of Local Government Studies)..
- Jensen J.D., 1998. Economy and development in rural areas, SJFI in cooperation with AKF (Institute of Local Government Studies)..
- *Kupiszewski M., Illeris S., Durham H., Rees P. 2001. *Internal migration and regional population dynamics in Europe: Denmark case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 01/02, School of Geography, University of Leeds, 54p.
- Ministry of Environment and Energy, 1997. *National planning report for Denmark. Denmark and European spatial planning policy*. Ministry of Environment and Energy, Copenhagen.
- Skifter Andersen H., Andersen H.T., Aero T., . "Social polarisation in a segmented housing market: social segregation in Greater Copenhagen" *Geografisk Tidsskrift, Danish Journal of Geography*, 100, 71-83.

Mathiessen W.C., 1980. "Trends in the urbanization process. The Copenhagen case" *Geografisk tidsskrift*, 98-101.

Mathiessen W.C., 1999. "Examples of plans and planning system change" *Geografisk Tidsskrift*, Special Issue "Copenhagen", 1, 125-131.

II.6.2. A selection of abstracts

A selection of summaries is presented below. These abstracts are property of their authors and are reproduced here in their complete form. However, some sentences are underlined (in bold) in order to point out the main findings of the papers that are related to the peri-urbanisation issue as discussed in the other case studies.

Sweden

Borgegard L.E. Hakansson J., Malmberg G., 1995. "Population redistribution in Sweden – Long term trends and contemporary tendencies" *Geografiska Annaler*, 77B, 1, 31-45.

Long-term trends in the spatial distribution of the population of Sweden are analysed in this study. "Two geographical levels, the national and the local, are analysed in a long term perspective, 1750 until 1990. The **measure of concentration** used is the Hoover-index on county level. **Some major determinants affecting population distribution are stressed; demographic components, economic geographic conditions, socio-economic structure, attitudes and population policy. During the last few decades the traditional trend of population has been broken and one finding is that concentration and dispersion is going on simultaneously on the national and the local level.**

Borgegard L.E. Hakansson J., Müller D., 1998. "Concentration and dispersion of immigrants in Sweden, 1973-1992" *Canadian Geographer*, 42, 1, 28-39.

Immigrants play a substantial role in the overall population redistribution in Sweden today. Due to the **tendencies of immigrants to concentrate in the major metropolitan areas, a policy of dispersal has been implemented.** The purpose of this article is to analyse the redistribution of immigrants within Sweden, using different-sized groups of people, who entered under different immigration policy regimes and with different reasons to immigrate. Our results indicate that the **rate of deconcentration** depends not only on the size of the groups and the time spent in the country, but also on the **settlement policy** practised at the time of arrival.

Borgegard L.E., Murdie R., 1993. "Socio-demographic impacts of economic restructuring on stockholm inner-city" *Tijdschrift voor Economische en Sociale Geografie*, 84, 4, 269-280.

The purpose of this study is to document and evaluate the nature of the socio-demographic structure and change in inner Stockholm, especially between 1970 and 1990. The study is set within the context of two complementary perspectives concerning inner-city change, the reurbanization model and the gentrification

process. Specifically, we argue that broad structural factors at the international and national levels will be felt at the regional, city and neighbourhood levels. The outcomes will be expressed in both production and consumption terms, including socio-demographic changes in inner-city populations. Socio-demographic change in inner Stockholm is analyzed using information by individual years, 1970-1990, for total population, net migration and age groups (total and by sex) and by five-year intervals for marital status (total and by sex). **The results support the reurbanization model and point to dramatic shifts in inner-city population according to age structure and marital status.**

Hakansson J., 2000. "Impact of migration, natural population change and age composition on the redistribution of the population in Sweden 1970-1996" *CyberGeo*, 123.

This study examines the population redistribution in Sweden at municipality level between 1970 and 1996. The aims of this study are to analyse: (1) the importance of migration and geographical variations in fertility and mortality for the redistribution of population between municipalities in Sweden from 1970 to 1996; and (2) the impacts of age composition in municipalities versus local age-specific fertility, mortality and migration rates on changes in population distribution. The population change in each municipality was calculated as if it was only affected by one demographic factor at the time. The results of these counterfactual scenarios were compared to actual population change and the effect of fertility, mortality, in- and out-migration and age composition was thereby isolated. **Measurements of concentration have been used in order to analyse the changing population distribution. The main demographic factor behind the redistribution since 1970 is the geographical differences in age composition and its effects on the natural population change. It is demonstrated that this factor lies behind the trend towards increasing concentration in Sweden, while the impact of migration affects the fluctuations from this trend to a greater extent.**

Hakansson J., Borgegard L.E., 2000. "Population redistribution in Sweden since the 60s in a regional context" *ENHR Conference, workshop: Migration and Residential Mobility, Gävle 26-30 June 2000*.

The redistribution of population in Western Economies has undergone a couple of main phases during recent decades with a **strong urbanisation process during the 60s and thereafter a counterurbanisation phase. However depending on the spatial level of analysis the interpretation of the outcome is different with regard to concentration or dispersion of population.**

The Swedish experience involves **concentration at national level and dispersion at local level during the first phase and then dispersion on national and local level during the second phase. Recently a third phase could be recognised with concentration of population to some attractive regions, the Metropolitan areas and university town regions. However attention must be paid to deviations from the national pattern within macro regions differences in the concentration/dispersion continuum with regard to distance from major urban centres and to central or peripheral location in the country.**

The aim of this paper is to describe and analyse the geographical redistribution of the population in one region in Sweden – Gävelborg County – since 1960. To measure the redistribution Hoover index is used.

In this paper a general conceptual framework of concentration and dispersion of population at different geographical levels is presented. The empirical analysis results in a spatial model of population redistribution in Gävelborg region at different geographical levels 1960-97.

Kupiszewski M., Borgegard L.E., Fransson U., Hakansson J., Durham H., Rees P., 2001. *Internal migration and regional population dynamics in Europe: Sweden case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 01/01, School of Geography, University of Leeds, 70p.

This paper describes the structure of internal migration and population change in Sweden in recent decades, focussing on the years 1988 and 1998 to capture change in the last decade.

Up to the 1970s and again in the early 1990s natural increase play an important role in regional population dynamics. In the late 1990s growing international migration, decreasing fertility and strong net internal migration into large cities increased the importance of migration at both national and local levels. In 1988 migration flows contributed to a pattern of relatively even deconcentration of population. **Urban centres and surrounding communities experienced mixed patterns of growth.** The pattern observed in 1998 was entirely different. It showed a strong movement up the urban hierarchy. Rural and remote areas, especially those in Norrland, depopulated. **In 1998 migrants moved from low-density areas to high-density. High density areas had much higher population gains than low density over the 1988–1998 period.**

There is a difference in migration pattern between the north of the country, which mostly loses population and the central and southern parts, which mostly gain people. The pattern of migration of the Swedish population is, to large extent, related to the level of unemployment. Low unemployment areas attract migrants; high unemployment areas lose them. However, the level of unemployment cannot be considered in isolation, because the level of unemployment is correlated with the level of urbanisation and with type of regional economy. Areas with an educated population have a very strong attraction for migrants. A high level of education is indispensable for high level services, including tertiary education, and for high technology enterprises, which attract migrants. **Young people migrate to metropolitan areas and university towns** out of the other types of municipality. **Medium sized municipalities attract families.** Outflows from industrial regions and Inner Norrland municipalities are visible in all age groups. Metropolitan areas are gaining popularity among families. The elderly population migrates to university and medium size municipalities.

Nyström J., 1992. "The cyclical urbanization model – a critical analysis" *Geografiska Annaler*, 74B, 2, 133-144.

The cyclical urbanisation model is a theoretical approach that has been used to describe previous and future stages of development in European urban areas. In this approach the structural approach of the model is analysed. There are several reasons why the model could not be applied to the general urban development in Europe 1980-1990. One point made is that the shift between urban stages is not as inevitable as the model suggests. **The delimitation of functional urban regions makes it impossible to see what is happening in middle-sized or small towns.** The concepts of the model may be used in partial descriptions of urban processes, but not as a consistent whole.

Population trends in the 1980's in some city regions in Scandinavia and England have been analysed with reference to the assumptions made in the model that there will be a shift in population back to the urban core. The city regions studied do not, however, show a uniform population development during the 1980's. Even though it has been possible to detect reurbanisation in some cities, this is by no means a new general stage of development that has come to light. **It is true that in Sweden we can see how the population is undergoing a concentration in large city areas, but at the same time considerable dispersion within the environs** of these cities is taking place.

Pettersson O., 2001. "Microregional fragmentation in a Swedish county" *Papers in Regional Science*, 80, 389-409.

This study of the county of Vasterbotten in northern Sweden reveals **significant differences in socio-economic conditions between populations living in different residential environments.** A cluster analysis was performed in order to classify the nearly 500 microregions into a manageable number of groups with distinctive profiles. A seven-cluster solution contains **groups ranging from remote and sparsely populated areas with poor socio-economic conditions and a large proportion of elderly to the most prosperous residential environments within the major centres.** Besides high disposable incomes, the relatively wealthy areas also show high educational levels and better-than-average health status. In this way the county could be broken down into a mosaic of local housing environments with very different prerequisites for consumption and economic development. Increasingly, we find **socio-economic marginality problems even within densely populated regions.** The complex and dispersed pattern of disadvantaged and underprivileged residential areas all over Vasterbotten indicates the difficulty in treating counties and municipalities as homogeneous regions. Our findings may have major implications for regional planning and regional policy.

Norway

Eikeland S., Lie I., 1999. "Pluriactivity in rural Norway" *Journal of rural studies*, 15, 405-415.

This article relates to the results of a study carried out on the roles and functions of pluriactivity in rural Norway. The study sought to define the **effect on pluriactivity of the integration of rural areas into urban labour markets**, international systems of production, and the changes in the sectoral mix in rural areas. The analysis is based on three types of data: a list of enterprises from the national register of economic units, the central register of employed workers, and information from local informants in the sample municipalities. The article concludes that the rate of pluriactivity among the rural population depends on the way in which economic sectors are classified. A further finding is that pluriactivity is an important feature of rural Norway, but is still mainly associated with agricultural enterprise. A final conclusion is that **pluriactivity has other characteristics in larger labour markets than in smaller labour markets in rural areas due to the urban influence on the former.**

Falleth, E.I., 1999. "Suburban Growth and Land Actors along By-Pass Roads in Norway" *European Planning Studies*, 7, 3, 357-371.

It has been argued that by-pass roads lead to suburban growth and that the construction of such roads will prompt the planning of industrial and other commercial developments, on the part of the local municipal government. This **case study of five by-pass roads shows that a significant, but limited suburban growth takes place along these roads.** Actors who promote development have a greater effect on the planning process than those who resist land development. One exception is the regional authorities who can object to a local plan. The study also shows that most of the local development plans are submitted for approval by the local authorities themselves, either independently or jointly with private developers.

Hansen J.C., 1989. "Norway: the turnaround which turned round" in Champion A.G. (Ed.) *Counterurbanization – The Changing Pace and Nature of Population Deconcentration*. Arnold, London. 103-120.

The population concentration process of the 1950s and 1960s, briefly described in the first part of the paper was followed by a brief period of population deconcentration in the 1970s, by some interpreted as a turnaround process. The main thesis of this paper is that **the deconcentration of the 1970s was a temporary halt in a long concentration process which has continued throughout the 1980s.** Empirical numerical evidence is presented, and supported by a qualitative analysis of structural processes in the Norwegian society which influence the settlement pattern and distribution of population.

Naess P., Synnøve L.S., 1996. "Workplace location, modal split and energy use for commuting trips" *Urban Studies* 33, 3, 557-580.

A study of six companies in Greater Oslo indicates that both the modal split and the energy use for journeys to work are to a high extent influenced by the geographical location of the workplace. Employees of workplaces in peripheral, low-density parts of the urban area are far more frequent car drivers and use considerably more energy for journeys to work than employees of workplaces located in central, high-density areas. A study of **long-term consequences of workplace relocations within the urban area shows that the immediate increase in average commuting distance of a workplace moving to the urban fringe, has not been reversed by subsequent turnover and residential changes among the employees.**

Rees P., Ostby L., Durham H., Kupiszewski M., 1997. *Internal migration and regional population dynamics in Europe: Norway case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 98/04, School of Geography, University of Leeds, 66p.

This paper reports on internal migration and regional population dynamics in Norway. It examines internal migration patterns and trends in two years, 1984 and 1994, and compares them.

Norway's population maintains relatively high population growth by European standards, fuelled by continuing natural increase and net migration from outside the country. About half of Norway's municipalities lost population in aggregate over the 1984 to 1994. These municipalities are concentrated in the Centre-North and interior of southern Norway. There is evidence that communities with the **lowest densities and least centrality are losing population through internal migration**.

Although the direction of **migration is towards denser and more central places**, this is a product **mainly of the migration of young people** when the migration streams are broken down by age, the resulting tales show that the **largest urban areas are experiencing net losses from middle age and upwards**. There is little direct evidence of net positive migration flows to rural remote areas for the population as a whole. **Migration flows out of the Oslo region are to other municipalities within commuting range. This deconcentration should therefore be identified as extended suburbanisation rather than counter-urbanisation.**

Throughout the current report the role of life course stage in influencing the direction of migration has been stressed. Most often the overall pattern of population shifts conceal very **different flow structures for family migrants, young adults, older workers, retirees and the elderly**. **In this respect internal migration dynamics in Norway strongly resemble those in other West European countries.**

Economic factors have an important influence on migration patterns. Municipalities with an economic concentration in service industries attract internal migrants while those specialised in primary industry suffer migration outflows consequent on the decline of or productivity improvements in their economic activities. There is a strong gradient of increasing net outflows with increasing levels of unemployment.

Saglie I.L., Synnøve L.S., 1997 "Urban Expansion in Norway - Development by plan ?" *Scandinavian Housing and Planning Research*, 14, 51-70.

It has been a commonly held **assumption that Norwegian municipal land use planning has given few results**. Case studies of two Norwegian settlements show, **however**, that **present day urban pattern is a planned development** after the introduction of master planning as a planning tool after 1970(1). In the two municipalities, respectively 96 and 98 per cent of urban expansion after 1970 is in accordance with municipal master plans. Important reasons for this unexpected success of planning is that planning had a strong legitimacy base among Local politicians. **Planning was introduced because of clearly visible and perceptible problems with uncontrolled urban growth such as encroachment on farmland and recreational areas**, and pollution of rivers and fjords from untreated sewage. In addition, to build co-ordinated and predictable was necessary in order to achieve an efficient and economical infrastructure. Both municipalities were active in implementing the plans through acquisition of land and development of infrastructure.

SSB (Statistics Norway), 2001. *Population and land area in urban settlements, 1 January 2000*. Statistics Norway article 06 December 2001, + 7 tables.

" 77.3 per cent of Norway's population lived in a total of 925 urban settlements as of 1 January 2000. Norway's population increase from 1999 till 2000 was 0.8 per cent, while the estimated increase in urban settlements was approximately 2.8 per cent. Total land area covered by urban settlements rose for the same period by 2.6 per cent. ... Only the urban settlements Oslo, Bergen, Stavanger/Sandnes and Trondheim have more than 100 000 residents. They constitute 28.6 per cent of the country's population, with an estimated 1 281 971 residents. This estimate has risen by 33 156 persons since

1999, which is a rise of 2.7 per cent. ... The greatest population increase has been in the 179 urban settlements holding populations between 2 000 and 20 000, with an increase of 4.5 per cent, or approximately 40 000 persons. ... As many as 727 urban settlements had less than 2000 residents as of 1. January 2000. They constitute only 14 per cent of the total population in urban settlements, but as much as 26 per cent of total land area covered by urban settlements. ... The population density for urban settlements is averaged to 1 588 persons per km² for 1. January 2000. There is here again a tendency of increased density with increased urban settlement size, but there are large local variations. ..."

Finland

Malinen P., 1999. "Rural area typology in Finland, marginality within rural areas" 2.2. *Typology of cities*, SPESP (Study Programme on European Spatial Planning), annex 9 of the report.

In this paper marginality is studied in the context of rural and northern areas. Rurality is usually defined spatially or by community characteristics. Rural areas cover most of land area, and thus include much spatial diversity. Marginality is also important from the rural policy viewpoint. This paper presents a rural area typology suitable for Finnish rural policy purposes. The typology is based on 'implicit definitions' to be found in the rural area tripartition approved by the Rural Policy Committee, which accords with the OECD tripartition. This kind of typology reflects differences between rural areas as objectively as possible, but is simple enough to use as a tool of rural policy. The main object of study is **classification of Finnish municipalities according to their rurality within urban-rural-wilderness -continuum**. For the purpose of this study a multi-stage method of classification was developed in order to produce a delimitation between groups that would be more accurate and reliable than single-stage, multivariate grouping analysis. This was achieved by grouping in stages: by dividing the material into two groups using the variables found to be best for the delimitation. The resultant national rural-tripartition analysis reveals **considerable functional and structural differences between regions**. Basing on the results, we recommend that the regional differences between rural areas brought to light by this method be taken into account in formulating rural policy strategies and targeting rural policy measures.

Vartiainen P., 1993. "Local Government as a promoter and regulator of the dispersing settlement structure in the city's countryside. A case study of Joensuu, a middle-sized city region in Eastern Finland" *Geography Research Forum*, 13, 46-60.

One main feature of recent change in the Finnish settlement system outside the national metropolitan area in the South has been the growth of a few strong but internally decentralising city regions. The first part of this paper refers to the different settlement forms and socio-economic mechanisms of this partial decentralisation in one of these growing city regions (Joensuu). **The local redistribution from the city to the surrounding rural municipalities has been mediated by the new construction of single family houses, first in planned satellite agglomerations (commuter villages), but today even more in city's countryside.**

The prime aim of this paper is to evaluate the dual role of local government both in promoting and regulating dispersal of residential development in the city's countryside. The **limited support for effective environmental policy in the urban-adjacent rural municipalities reflects the myth of a "green" Finnish countryside, on the one hand, and the decisive role of the landed interests in policy-making, on the other. Only recently have we been able to identify some expressions of a growing environmental awareness in these areas, too.** This seems inevitable, since the same municipalities see, ideally at least, favourable environmental qualities as the main attraction for more affluent residents.

Vartiainen P., Antikainen J., 1999. "The Dynamics of Finnish Urban Regions in the 1990s" in Pikkala S. (Ed.) *Finnish Local Government Approaching the New Millennium*. Finnish Local Government Studies 3, 1999, 396-409.

The Informational and global economy is calling forth a new role from the cities in regional development as they are considered the locomotives of socio-economic development. **Finland has a relatively well-balanced urban network**, which is still rather strongly vertically oriented due to the traditional **hierarchical** urban system. However, in the post-recession period in Finland, that is since 1994, the competition between urban regions has tightened, regardless of the fact that co-operation and networking between cities has been promoted, too. Currently, there are a decreasing number of winners and a growing number of losers; the winners are large university regions and/or centres of electronics industries, and the losers those urban regions, the economic structure of which derives from basic industries and public services. However, success is often dependent on the chosen variables, indicators and data bases. This article introduces the main features of the dynamics of Finnish urban regions in the 1990s through an assessment of **Finnish urban policy, its key concepts, methods and statistical tools relevant for operationalizing urban regions in Finland**. Thereafter, some empirical results will be presented.

Kupiszewski M., Heikkilä E., Nieminen M., Durham H., Rees P., Kupiszewska D., 2001. *Internal migration and regional population dynamics in Europe: Finland case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 00/07, School of Geography, University of Leeds, 54p.

Both natural increase and internal migration have played roles in the shaping of population distribution of Finland since 1900. Far reaching recent changes in the economy have brought about **massive shift of jobs from agriculture to manufacturing and services. As a result people have relocated from rural to urban areas**. Both natural change and net migration have distinct geographical patterns, resulting in serious **depopulation in remote areas** in the east and north of the country. **Internal migration benefits the south, the west, coastal areas, urban agglomerations and suburban areas**. International migration is a marginal phenomenon in Finland and has little impact on population dynamics. Net migration losses in the past were offset by high natural increase and in recent decades Finnish emigrants have returned.

Urban concentration is a dominant feature of the Finnish migration system. At the subregional level, suburbanisation is visible, but is not as strong as in the overcrowded metropolises of Western Europe. The relationships between migration and size of municipality, migration and population density and migration and urban/rural class of municipalities show that **the process of concentration is the strongest force at work in shifting people to urban agglomerations and their suburban rings**.

Regional patterns of migration show strong transfers of population from north and east to south and to lesser extent to west of the country. The Baltic Sea coast has a strong attraction to migrants. Migration is sex-selective, with a much higher propensity of females to leave remote and rural areas and migrate to urban centres and the southern part of the country. The result is a significant gender imbalance: **a deficiency of females in rural areas and in the north and east of the country and a surplus in urban and semi-urban areas**. However, the economic indicator unemployment has a rather weak and imprecise effect on migrants.

Denmark

Andersen A.K., 2000. *Commuting Areas in Denmark*. AKF (Institute of Local Government Studies) report. 57p.

Denmark is divided into administrative regions. But besides, Denmark can be divided into areas or so-called functional economic regions. For commuting, an area is a group of municipalities where most people live and work within the area. Still, of course, some people will commute between these areas. It is quite common to divide into commuting areas, but the definitions and methods can without any modifications be transferred to other types of interaction, for example shopping.

The division into commuting areas may be relevant for a possible new division of Denmark into municipalities. Whether such a criterion is relevant or not depends among other things on whether the functional economic regions have grown too much to be relevant. Furthermore, it must be judged whether the focus in the municipalities has changed implying that service areas are more relevant than commuting areas.

An ad-hoc algorithm is used for the division. The criterion for a group of municipalities to be an area is that the interaction within the group of municipalities should be high compared to the interaction with other areas. Furthermore, at least one municipality in the area must be **a centre, i.e. a certain share of the employees living in the municipality must work/shop in the municipality, too**. The choice of algorithm and parameters is to a certain degree determined by the data. Via trial and error, different versions of the algorithm have been tested. Two parameters are used in the algorithm. With the choice of the parameters, there is a certain degree of subjectivity in the algorithm. Therefore, the number of areas for a single activity for a single year should be interpreted with care.

Denmark is divided into commuting areas for two different points in time, i.e. 1980 and 1995 respectively, and divided into shopping areas for 1995-1997 aggregate. The geographical level for data is the municipalities. Therefore, no area is smaller than a municipality, and no municipality is divided and connected to different areas. The data used for commuting stem from registers in Statistics Denmark, and consist of work and residence addresses. All employed people in Denmark are included in the data set. For division into shopping areas data from a telephone survey carried out regularly are used.

The **area containing Copenhagen is by far the biggest in all divisions**, but also other areas are quite big. On isolated islands there are some very small areas. For a specific choice of parameters, **Denmark is divided into 79 commuting areas for 1980 and 35 commuting areas for 1995. For shopping, the same parameters give rise to 104 areas**. The different numbers of areas reflect different average distances.

By that, **it can be concluded that the commuting areas have grown substantially in the period looked upon, and that the shopping areas are much smaller**.

Kupiszewski M., Illeris S., Durham H., Rees P. 2001. *Internal migration and regional population dynamics in Europe: Denmark case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 01/02, School of Geography, University of Leeds, 54p.

This report analyses the patterns of internal migration and population change across the communes of Denmark as part of a multi-country study of regional population dynamics in Europe, comparing the 1980s and 1990s. Section 2 of the report reviews the recent history of internal migration and regional/local population change in Denmark. Section 3 documents data sources and structure. Section 4 provides a detailed cartographic analysis of the patterns of in-migration, out-migration and net-migration at commune level for 1985 and 1998 (the years selected for study), while section 5 reviews population change between 1985 and 1998.

Overall net migration shifts have decreased between the two years. The **spatial pattern combines losses from peripheral regions** (western Jutland, Bornholm) **and Copenhagen suburbs with gains to**

commuting belts centred on Copenhagen and the other large towns. As many other high income European countries, there is a profound contrast between the migration behaviour of young people and other adults (families, older workers and the retired). Young people move strongly towards the centre of the capital region and other large towns, while the other groups deconcentrate.

Section 6 analyses the **relationships between net migration/population change and the settlement system**, to calibrate more precisely the patterns observed on the maps, while sections 7 and 8 look at the relationships between internal migration and economic/functional classifications of the communes. The former relationships are stronger than the latter, **but are not as well clearly structured with respect to the urban hierarchy or population density as in many other countries studied. Denmark has reached a system state beyond simple counterurbanisation to be characterised by periurbanisation in the Copenhagen region, reurbanisation in Copenhagen itself and moderate outflows from rural regions.**

III. SYNTHESIS

This part of the report seeks to summarise the situation of peri-urban Europe today. The different case studies allowed some trends and characteristics of the peri-urban process to be identified in their national context. Section III.1 will now focus on identifying similarities and dissimilarities between countries, by using the information provided in the report, but also by using further papers in which differences across Europe have been emphasised. Population and spatial trends, drivers of change, conceptual and analytical frameworks are dealt with in the discussion below. Section III.2, concludes the report.

III.1. Trends and drivers of European peri-urbanisation : similarities and differences

In each country, there is a couple of spatial typologies that are likely to illustrate a peri-urbanisation process. Some of these typologies are very close to the concept considered in this report because they take into account multiple variables which express both sides of the definition i.e. the attractiveness of a city (mainly through employment location) and the mix of land uses (either through density and volumes of population, or the share of the active population in the rural sector). The criteria which are used, the thresholds and the combinations of the variables are, however, quite diverse and never allow for thorough comparison. The table below shows this diversity by selecting one of the typologies for some of the countries considered in this report.

France, Belgium and Great Britain propose similar frameworks in that they define "centres" based on a commercial or economic volume (job or shop concentration). Afterwards, they define "morphological agglomerations" which are contiguous to "centres" by using the continuity of the built-up zone as a criteria (based on a 200 or 250 metre maximum distance). In Gemaca (1996), a population density threshold (650 inhab. / km₂) is used to represent a morphological agglomeration. Nevertheless, this type of threshold is neither independent of the size of census units and nor of the definition of population density (see a discussion of concept and measurement of density in Derycke, 2000 or Fouchier, 1995).

The same three countries delimit a "peri-urban area" on the basis of at least 15 or 20 % of commuters among the active population. The same relationship is used in Germany but related to the total number of commuters. This is also done in Belgium where multiple criteria are combined to obtain the classification. In Belgium and Italy (in Paratore *et al.*, 1995), classifications also make use of daily school migrations.

	Typologie			Critères**			Extension Population			
	Nom Auteur	Classes*		Contiguïté	Seuils de population (volume ou densité)	Fonction	Autre	% Unités spatiales ou % surface(B)	% Population	
F	Zonage aires urbaines et espace rural (Recensement 1991-1999) INSEE	Aires Urbaines	Pôles urbains	unité urbaine: bâti continu 200m	unité urbaine: min 2 000h	min 5 000 emplois		7,7 (90) 8,5 (99)	60,7 (90) 61,0 (99)	
			<i>Communes périurbaines et multipolarisées</i>	<i>un seul tenant autour pôle</i>		<i>migr. alt. 40 % actifs résid</i>		28,5 (90) 40,8 (99)	15,7 (90) 21,0 (99)	
		Espaces ruraux	<i>Sous influence urbaine</i>				<i>migr. alt. 20 % actifs résid</i>		24,3 (90)	8,9 (90)
		Autre rural							39,5 (90)	14,6 (90)
NL	Catégories d'urbanisation Bureau National de Statistiques Néerlandais (1971)	Urban	>50 000		min 50 000h			7,9	33,7 (94)	
			<50 000		min 2 000h			28,1	17,3 (94)	
		<i>Urbanised rural</i>	<i>Commuter</i>			<i>migr. alt., max 20% actifs masc.</i>		16,2	14,9 (94)	
			<i>Urban Rural</i>			<i>max 20% actifs masc. agricult.</i>		40,5	23,3 (94)	
	Rural					min 20% actifs masc. agricult.		7,3	10,8 (94)	
	Rees et al (1998)	Core				min 50 000h			4,3	29,3 (94)
	Secondary core				min 30 000h		jugement expert	4,0	10,9 (94)	
	<i>Ring</i>					<i>migr. alt. spécif.</i>		27,4	24,4 (94)	
	Periphery							64,3	35,4 (94)	
B	Régions urbaines et complexes résidentiels urbains (Van der Haegen, 1996)	Complexe résidentiel urbain	Agglomération	bâti continu 250m autour ville centre		ville centre: concentr. commerc., services	densité pop, âge, taille logements	10,5 (81) 10,8 (91)	44,0 (81) 43,0 (91)	
			Région urbaine	<i>Banlieue</i>		min 80 000h	<i>migr. alt. 50 % total mig. alt. 25 % actifs migr. école migr. alt. 15 % actifs résid</i>	<i>croiss pop, revenu, immigr., évol bât</i>	14,1 (81) 15,5 (91) 25,2 (81)	12,7 (81) 13,7 (91) 20,2 (81)
			<i>Zone de migrants-alternants</i>						23,9 (91)	19,9 (91)
		Autres communes							50,2 (81)	23,1 (81)
										49,8 (91)
D	Stadtreigion (Boustedt 1953, BBR, 2000)	Core city			min 80 000h					
		Core area			Contiguïté Core city		surplus migr. alt. entrants			
		<i>Inner commuter area</i>					<i>migr. alt. 50 % total migr. alt.</i>			
		<i>Outer comuter area</i>					<i>migr. alt. 25 % total migr. alt.</i>			
GB	Functional Regions (based on Local Labour Market Areas) CURDS- Newcastle University (Coombes et al, 1982)	Urban Regions (UR)	Daily Urban System (DUS)	bâti continu autour urban centre		urban centre concentr. emplois et commerc.	3 niveaux hiérarchiques de régions fonctionnelles: dominant, sub-dominant, freestanding	40,1	61,7 (81) 60,1 (91)	
			<i>Rings</i>		DUS plus de 50 000h.	<i>migr. alt. 15 % actifs résid</i>		36,3	26,6 (81)	
		Outer areas					attaché à UR où max migr. alt. vers urban centre.		12,2	6,5 (81)
		Rural areas				DUS moins de 50 000h.			11,4	5,1 (81) 5,4 (91)

*En italique, les classes recouvrant du périurbain en tant qu'espace mixte résidentiel et agricole en relation fonctionnelle avec un centre par migrations alternantes.

**Les critères sont repris de manière succincte afin d'appréhender au mieux les caractéristiques des classes suivant un objectif comparatif.

Pour plus de précisions, le lecteur se référera aux auteurs.

Figure 15 : Comparing spatial typologies (F, NL, B, G and GB)

France, Belgium and Germany add an intermediate zone between this quite large "peri-urban" zone and the "morphological agglomeration" (respectively *périurbain (et multipolaire)*, *suburb (banlieue)* and *inner commuter area*). In Great Britain this is not the case, but the centres (*cores*) cover a much larger surface. Furthermore in Great Britain, an *outer area* allows for the whole units to be linked to a centre (by forming LLMA's). Finally, the classifications reviewed in this work for the Netherlands are less comparable with the other countries, given the criteria taken into account.

In the table above (Fig. 15), the classes that are likely to deal with a peri-urban type of settlement have been put in italics. Considering this table, the peri-urban extent would therefore reach 53 % of the territory in France, 57 % in the Netherlands (or 27 % if only the *rings* are considered), 40 % in Belgium (but only the regions containing at least 80 000 inhab. are considered) and 36 % in Great Britain. In terms of population these peri-urban areas would then account respectively for 25, 38 (or 24), 34 and 27 % of the national populations.

Whilst these figures can give some idea of the importance of peri-urban processes in Europe, it would be very dangerous to draw any comparative conclusions based on their value. There are several incomparabilities that stem from the variables, thresholds, and spatial units (although all the above mentioned are based on the NUTS 5 level) supporting these classifications.

When undertaking a European wide analysis, one will always be confronted with this problem of comparability, as were for example Rees *et al.* when studying internal migration country by country. Rees *et al.* decided therefore to evaluate changes in relation to one common classification based on population density. This was probably the most satisfactory way to compare countries, although this report has demonstrated the importance of choosing different spatial aggregates to reveal different aspects of demographical and spatial changes

Three types of countries have been defined according to the prevailing direction of migratory flows along density bands. Three different processes are distinguished : The first represents *concentration (or urbanisation)* with predominant flows from low to high density bands; the second deals with *deconcentration and counterurbanisation* with predominant flows from high to low density bands; in the third one, large cities are likely to encounter *suburbanisation* and rural population is in the meantime migrating up the urban hierarchy. In the latter, flows are coming from high and low towards medium density bands (Rees, Kupiszewski, 1999).

The United Kingdom and the Netherlands appear to be the most deconcentrated countries. The populations of large cities are migrating to smaller cities and also to the countryside. "...*The other countries had more complex patterns with elements of deconcentration from the big cities balanced by losses from remote rural areas or differences between the ages in the direction of migration*" (Kupiszewski, 1999 p.4). Both countries have also been identified here as having stronger planning regulations with *Green Belts* and *Compact City* policies.

Peri-urbanisation trends have been observed in each country through population changes and migratory flows between the different classes of space. These trends reflect residential location decision making. This is also evidenced by the amount and rapidity of the surface which is consumed by urban land use. When the characteristics of migrants and their destination are observed, the same patterns appear throughout Europe. The attractiveness of the city or of the countryside changes according to the age of migrants, the size of the households, and their socio-economic structure. The

peri-urban zone is then in turn changing according to the social and demographic characteristics of the resident population.

Drivers of spatial changes can be identified. In many European countries the rather uniformity of natural growth and ageing of the population (Rees and Kupiszewski, 1999, Champion, 1998 p.10), increases the importance of internal migration in explaining the spatial distribution of the population. Then, there are numerous determinants of spatial patterns of migration amongst which the following have been distinguished: the level of concentration-deconcentration, the regional attractiveness and economic performance, and the age of migrants.

Migrations are, for example, highly correlated with unemployment level in the United Kingdom and Germany. This is not the case in the Netherlands as residential migration is substituted by daily commuting due to the scarcity of housing and the density of the communication network. (Kupiszewski, 1999).

Spatial preferences also vary with the different stages of the life cycle. Young adults migrate towards urban locations and up the settlement hierarchy because of education and employment needs. Preferences then change for a family with children who seek spacious housing in a nice environment. *"This age group and their children and couples whose children have grown up constitute the main suburbanisation and counterurbanisation flows"* (Kupiszewski, 1999 p.6).

The sequence of the processes affecting urban Europe is reviewed in Champion (1998). After a slowdown during the 1980's, a new wave of urban deconcentration seems to have occurred in many countries. An analysis of population change along the OECD classification (see fig.2) during the 1980's demonstrates that the intermediate category of OECD (significantly rural), or middle density areas tended to record the highest growth (OECD, 1996, Champion, 1998). Belgium and Germany were the only countries where the predominantly rural areas experienced the highest gains. Deconcentration still occurs today and likely to continue into the future as the same demographic forces will exist (larger share of retired home-owner people, high rate of household formation, smaller family size,...). According to Champion (1998), the urban-rural distinction is increasingly blurred in Europe as a result of local decentralisation reaching more and more villages, longer distance migrations down the urban hierarchy and people choosing to stay in rural areas and commuting to work.

The growing diffusion of urbanisation is one of the most striking aspects of urbanisation today. Kreukels and Pollé (1997) use the term "suburbanisation" in its widest sense (very close to the peri-urbanisation concept used here) to reflect this process, and the term exurbanisation when distant rural areas are reached. Urban centres are expanding into wider zones consisting of natural and agricultural areas and more or less dispersed, and coalescing, built-up areas. Many functions are shifting from the urban scale to the urban region scale (and this is most pronounced in Germany) (Kreukels, Pollé, 1997).

Once put back into their particular context, peri-urban changes show spatial and demographic differences. The current agglomeration-dispersion processes are occurring on a variety of spatial

contexts (urban network, inherited settlement patterns, scarcity of land, global density), on different national and regional economic conditions (de-industrialisation, unemployment rate, ...), on demographical particularities (important international migrations, reduced demographic growth, ageing), on transport policies and network (density and configuration of the network, public transport policy, history of commuting travels), and on spatial planning and housing policies.

A few differences have been identified by different authors through comparative work. They prove the necessity to qualify further the current peri-urban processes.

Vandermotten *et al.* (1999, p.83-91) and the GEMACA Network compared the morphological agglomeration and functional area of different European cities. The former is defined according to a density threshold (650 inhab./km₂) and the latter corresponds to the "workforce catchment area" where at least 10 % of the active population work in the agglomeration. The situation of seven North-Western European cities in the early 1990's is evaluated. Keeping in mind the 40 % threshold used by INSEE to define its urban areas, the peri-urban extent would therefore be overestimated in this work.

Diversified spatial structures are also identified in which a ratio is calculated between the population in the economic centre and the population of the functional region (Vandermotten *et al.*, 1999, p.83). This ratio is very high for the Rhine-Ruhr region, demonstrating its polycentricity and the fact that the workforce in the functional region is less polarised because each centre functions with its own, limited commuting field. The dominance of London over its functional region is shown to be less important than for Paris which has a functional region nearly two times greater than London. Brussels is also very extended relative to the population of its centre and the amount of employment (this can be explained by a daily commuting tradition).

The ranking of the seven cities considered also differs when one considers either the surface or the population of the functional and morphological areas. Differences in densities are therefore important factors to be considered. Different densities are the expression of differentiated residential behaviour, specific conditions for access to housing, urban policies, land and planning regulations (Vandermotten *et al.*, 1999 p.91). Low densities in the morphological agglomerations (e.g. in Brussels and Copenhagen which in that sense are similar to American cities) go hand in hand with a small share of population in the centre and, therefore, an important suburbanisation. In the case of Brussels this is accompanied by high general densities and strong peri-urbanisation and, as a result, the surrounding small centres are merging. Higher central densities are observed in Mediterranean cities but the peri-urbanisation is weaker (Vandermotten *et al.*, 1999).

In relation or not to population density, land values and gradients also vary across Europe, as well as within countries according to the size and functional level of a city. According to Mori (1998), Paris and London differ from Brussels and Amsterdam as their rent gradients are much steeper. The author also noticed that in the United Kingdom very large differences can be observed between agricultural land values and urban land values which is not the same as elsewhere in Europe.

Differences in policy are sometimes striking. For example, contrary to the Netherlands, Belgium can be seen as "*a very under-planned country*" (Holden, Turner, 1997 p.323) giving rise to a widespread diffusion of dwellings and ribbon-like spatial development. This type of urban spread is avoided in Great Britain and the Netherlands. The morphology of peri-urban zones in these two

countries is greatly affected by this. Different policy approaches in relation to urban spread are further discussed in Fouchier (1999) for England, Norway and the Netherlands, as well as in Kreukels and Pollé (1997). Cooke (1990) points out differences in the peri-urban (suburban) processes that are related to housing policies and the market. Whilst the role of the public sector has been of great importance in suburbanisation in the United Kingdom, France, the Netherlands and Denmark, this role has been played by private firms in Belgium, Germany or Spain.

Finally, some elements of comparison with urban development in the United States are given in Holden and Turner (1997) and Cooke (1990). Alvergne and Coffey (2000) also emphasise the common and differing characteristics of urbanisation processes and causes between Europe and Northern America. Despite a great diversity of historical, institutional, spatial and transport policies, between the two regions they point out similar processes and trends.

The situation for peri-urban areas at the European level does not appear to be very homogenous despite some common trends. Moreover, in order to better identify and measure the peri-urbanisation process and its differences across Europe, common spatial definitions have to be found. Unfortunately none of these seem to fit the peri-urbanisation concept that has been used.

III.2. Conclusion

There are clear deconcentration trends towards rural areas and commuting fields in Europe. The peri-urban zone, defined as a mixed area (agricultural and residential) that retains a functional link to an employment centre through commuting trips, accounts for an important part of Europe's national territories and a growing part of its population. Acceleration and stagnation phases have been recorded, but do not necessarily occur simultaneously across different locations. The European peri-urban zone is also specific in terms of demographic characteristics (age profile, type of households) and in this respect contrasts strongly with cities.

Residential location decision making appears to share similarities throughout Europe. Green and spacious environments, with good accessibility to employment locations are very attractive especially to young families. However, although processes may be similar, they are superimposed on diverse histories and geographic spaces. Different demographic potentials, late or early peri-urbanisation, spatial and economic regional or local specificities, have led to a peri-urban situation today, which if not contrasting is at least slightly different across Europe. Urban-rural interface morphologies and changes are resulting from the combination of all these elements and by the way spatial policies have been implemented.

In Europe, peri-urban processes are broadly similar, but their spatial implications can be quite different. This geographical diversity may explain therefore why the point of views and frameworks used by the different authors are so diversified. It is difficult therefore to compare individual cases. Obtaining a general and operational classification or setting up a thorough and comprehensive explanatory model of peri-urbanisation in Europe would therefore be of considerable value.

References

(References cited in part III)

- Alvergne C., Coffey W.J., 2000. "Similitudes et différences des formes urbaines en Europe et en Amérique du Nord" *Cahiers de Géographie du Québec*, 44, 123, 437-451.
- Champion A.G., 1998. "Population Trends of Small and Medium-Sized Towns in Non-Metro Regions" *Revue de Géographie de Lyon*, 73, 1, 5-16.
- Cooke P., 1990. "Modern Urban Theory in Question" *Transactions of The Institute of British Geographers*, 15, 331-343.
- Derycke P.H., 2000. "L'évolution des densités urbaines, histoire et modélisation" in Derycke P.H. (Ed.) *Structure des villes, entreprises et marchés urbains*. L'Harmattan, Paris. 240p.
- Fouchier V., 1999. *Maîtriser l'Étalement Urbain : une Première évaluation des Politiques Menées dans Quatre Pays (Angleterre, Norvège, Pays-Bas, Hong-Kong)*. 2001 Plus (Synthèses et Recherches), 49. D.R.A.S.T. Ministère de l'Équipement, des Transports et du Logement.
- Fouchier V., 1995. *Les mesures de la densité. Application à l'Île de France et aux villes nouvelles*. Rapport n°1 pour le Plan urbain (Ministère de l'Équipement), Paris. 142p.
- GEMACA, 1996. *Les régions métropoles de l'Europe du Nord-Ouest*. Atlas GEMACA. IAURIF, Paris.
- Holden R., Turner T., 1997. "Western Europe, current city expansion and the use of GIS" *Landscape and urban planning*, 36, 315-326.
- Kreukels T., Pollé E.-J., 1997. "Urbanization and spatial planning in an international perspective" *Netherlands Journal of Housing and the Built Environment*, 12, 1, 135-163.
- Kupiszewski, 1999. "Lessons for the projection of internal migration from studies in ten European countries" *ECE-EUROSTAT work session on demographic projections*, working paper n°40. 3-7 May, Perugia, Italy.
- Mori H., 1998. "Land Conversion at the Urban Fringe: A Comparative Study of Japan, Britain and the Netherlands" *Urban Studies*, 35, 9, 1541-1558.
- OECD, 1996. *Territorial indicators of Employment, focusing on rural development*. OECD, Paris.
- Paratore E., Banini T., Paoluzi M.L., Romagnoli L., 1995. "Una proposta di delimitazione dell'area metropolitana romana", *Semestrare di Studi e Ricerche di Geografia*. Istituto di Geografia, Università degli Studi di Roma La Sapienza, Roma. 1-2.
- Rees P., Kupiszewski M., 1999. *Internal migration and regional population dynamics in Europe: a synthesis*, Council of Europe Press.
- Vandermotten C., Vermoesen F., De Lannoy W., De Corte S., 1999. "Villes d'Europe – Cartographie Comparative" *Bulletin trimestriel du Crédit Communal*, 207-208.

BIBLIOGRAPHY (by author)

(Contains all the bibliographical sources cited or referred to in this report, sorted by author. Some additional references are given which are not discussed in the report. These references resulted from our bibliographical queries and could be of interest for furthering the study. They include some general aspects or comparative works as well as some Spanish and North American references).

- Alvergne C., Coffey W.J., 2000. "Similitudes et différences des formes urbaines en Europe et en Amérique du Nord" *Cahiers de Géographie du Québec*, 44, 123, 437-451.
- Andersen A.K., 2000. *Commuting Areas in Denmark*. AKF (Institute of Local Government Studies) report. 57p.
- Andersen H.T., 1991. "The political urbanization fringe development in Copenhagen" *Espace, Populations, Sociétés*, 2, 367-379.
- Andersen H.T., Engelsoft S., 1989. "Dynamique de l'environnement bâti et prix fonciers. Considérations théoriques illustrées par l'exemple de Copenhague" *Revue Belge de Géographie*, 3-4, 153-173.
- Antikainen J., Vartiainen P., 1999. "Framing the Urban Network in Finland - the Urban Network Study 1998" in Committee for Urban Policy *A Portrait of Finnish Cities, Towns and Functional Urban Regions - The Finnish Urban Indicators System*. Ministry of the Interior, Helsinki. 15-22. (also available as an annex of SPESP report)
- Antrop M., 2000. "Changing Patterns in the Urbanized Countryside of Western Europe" *Landscape Ecology*, 15(3), 257-270.
- Apel D., Böhme C., Meyer U., Preisler-Holl L., 2000. *Scenarios and Potential for Settlement Development with Economy of Space and Preservation of the Countryside*. Summary of a study for the Federal Environmental Agency (Umweltbundesamt).
- Aquachar M., 1996. *Le périurbain : note de synthèse et bibliographie*. Direction de l'Architecture et de l'urbanisme, CIEU, Université de Toulouse-Le Mirail.
- Atzema O., Kruyt B., Van Weesep J., 1992. "The Randstad today and tomorrow. Urban networks research program" *Tijdschrift voor economische en sociale geografie*, 83, 243-329.
- Ball S., Petsimeris P., 2000. "Greater London entre hétérogénéité ethnique et polarisation socio-spatiale" *Cybergeo*, 122.
- Bauer G., Roux J.M., 1976. *La rurbanisation ou la ville éparpillée*. Seuil, Paris.
- BBR (Bundesamt für Bauwesen und Raumordnung, Federal Office for Building and Regional Planning), 1994. *L'aménagement du territoire en Allemagne*. 2001 Plus, 30. D.R.A.S.T. Ministère de l'Équipement, des Transports et du Logement.
- BBR, 2000a. *Raumordnungsbericht 2000 (Spatial Planning report 2000)*. BBR (Bundesamt für Bauwesen und Raumordnung, Federal Office for Building and Regional Planning), Berichte, 7 Bonn.
- BBR, 2000b. *Urban Development and Urban Policy in Germany, an Overview*. BBR (Bundesamt für Bauwesen und Raumordnung, Federal Office for Building and Regional Planning) Berichte, 6, Bonn.

- BBR, 2001. *Spatial development and Spatial Planning in Germany*. BBR (Bundesamt für Bauwesen und Raumordnung, Federal Office for Building and Regional Planning).
- Berquin P., Thomas I., Tulkens H., 1999. *Critères pour la délimitation des frontières de Bruxelles*, Rapport adressé au Ministre de l'Aménagement du Territoire, des Travaux Publics et des communications de la Région Bruxelles-Capitale.
- Bertrand N. (Coord.), 1999. *NEWRUR, Urban Pressure on Rural Areas, Mutations and Dynamics of Peri-urban Rural Processes*. Proposal Document of the Research Project provided to European Commission, Key Action 5. Cemagref Grenoble.
- Bessy-Pietri P., Sicamois Y., 2001. "Le zonage en aires urbaines en 1999. 4 millions d'habitants en plus dans les aires urbaines", *INSEE-Première*, 765.
- Bibby P., Shepherd J., 1997. "Projecting rates of urbanisation in England, 1991-2016: method, policy application and results" *Town Planning Review*, 68, 1, 93-124.
- Birkholz K., 1991. "Changements structurels et spatiaux et tendances de l'évolution dans la région berlinoise après l'unification" *Revue Belge de Géographie*, 115, 253-256.
- Blauw P.W., 1986. "Suburbanistie en sociale contacten" *Nederlandse Geografische Studies*, 17. Amsterdam.
- Blunden J.R., Pryce W.T.R., Dreyer P., 1998. "The Classification of Rural Areas in the European Context: An Exploration of a Typology Using Neural Network Applications" *Regional Studies*, 32(2), 149-160.
- Bonaguidi A, Terra Abrami V., 1992. "The metropolitan ageing transition and metropolitan redistribution of the elderly in Italy" in Rogers A. *et al.* (Ed.) *Elderly migration and population redistribution: a comparative study*. Belhaven, London.
- Bonaguidi A, Terra Abrami V., 1996. "The pattern of internal migration: the Italian case." in Rees P, Stillwell J, Convey A and Kupiszewski M (Eds.) *Population Migration in the European Union*, John Wiley & Sons, Chichester. 231-245.
- Bonnerman F., Hooimeijer P., 1997. "Le péri-urbain : intégration dans le système urbain" in Van Oort G. (Coord.), "Pays Bas: Dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, 106-114.
- Book T., 1995. "The urban field of Berlin, expansion-isolation-reconstruction" *Geografiska Annaler*, 77B, 3, 177-196.
- Bootsma H.G., 1998. *The myth of reurbanization. Location dynamics of households in the Netherlands*. Tilburg, 193p.
- Borgegard L.E. Hakansson J., Malmberg G., 1995. "Population redistribution in Sweden – Long term trends and contemporary tendencies" *Geografiska Annaler*, 77B, 1, 31-45.
- Borgegard L.E. Hakansson J., Müller D., 1996. *Immigrants changing residential patterns - the case of Sweden 1973-1992*. Demographic Yearbook of Finland
- Borgegard L.E. Hakansson J., Müller D., 1998. "Concentration and dispersion of immigrants in Sweden, 1973-1992" *Canadian Geographer*, 42, 1, 28-39.
- Borgegard L.E., Hakansson J., 1997. "Population concentration and dispersion in Sweden since the 1970s" in Borgegard L.E., Findlay A.M., Sondell E. (Eds.) *Population, planning and policies*. Umea University. Cerum Report, 5, 9-29.
- Borgegard L.E., Murdie R., 1993. "Socio-demographic impacts of economic restructuring on stockholm inner-city" *Tijdschrift voor Economische en Sociale Geografie*, 84, 4, 269-280.

- Boscacci F. (Dir.), 1999. *A typology of rural areas in Europe*. SPESP (Study Programme on European Spatial Planning) Italian working group report.
- Boscacci F., 2000 "Una tipologia di aree rurali", in Boscacci F., Camagni R.. *Verso una nuova partnership urbano-rurale in Europa*, SPESP (Study Programme on European Spatial Planning) Italian working group report. 41-72.
- Bourne L.S., 1996. "Reinventing the suburbs: old myths and realities" in "Contemporary Perspectives on Urbanization" *Progress in Planning*, 46, 163-184.
- Bramezza I., 2000. "National urban policy in Italy" in Van den Berg L., Braun E., Van der Meer J., (Eds) *National urban policy in the European Union*. Euricur series, Aldershot, Ashgate.
- Brulard T., 1996. "Les villages du Brabant Wallon confrontés à l'extension de la périphérie bruxelloise" *Bulletin de la Société Géographique de Liège*, hors série: Recherches de géographie humaine, hommage au professeur C. Christians., Liège. 13-18.
- Bruns D., Bohnet I., Ipsen D., 2000. "Landscape dynamics in Germany" *Landscape and Urban Planning*, 47, 143-158.
- Bruns D., Schmidt J.A., 1997. "City edges in Germany: quality growth and urban design" *Landscape and Urban Planning*, 36, 347-356.
- Bryant C.R., Russwurm L.H., McLellan A.G., 1982. *The city and its countryside: land and its management in the rural urban fringe*. Longman, London.
- Burdack J., Herfert G., 1998. "Neue entwicklungen an der peripherie europäischer Großstädte – ein überblick (New Developments on the periphery of large european cities – a summary)" *Europa Regional*, 6, 2, 25-44.
- Burgel G., 1991. "La Périphérie Urbaine Revisitée" *Espace, Populations, Sociétés*, 2, 359-366.
- Burgers J., Kreukels A., Mentzel M. (Eds), 1993. *Stedelijk Nederland in de Jaren negentig*. Van Arkel, Utrecht.
- Butler M.A., Beale C.L., 1994. *Rural Urban continuum codes for metro and non metro counties*. ERS-USDA (Economic Research Service, US Dept of Agriculture), AGES 9425
- C.D.L.R. (Comité Directeur des Autorités Locales et Régionales), 1993. "Les Grandes Villes et leur Périphérie-Coopération et Gestion Coordonnée" ("Major cities and their peripheries: co-operation and co-ordinated management") in *Communes et Régions d'Europe*, 51. Editions du Conseil de l'Europe, Strasbourg.
- Camagni R., Cappello R., Porro G., 1999. "L'area metropolitana milanese", in Boscacci F., Camagni R.. *Verso una nuova partnership urbano-rurale in Europa*, SPESP (Study Programme on European Spatial Planning) Italian working group report. 9-19.
- Camagni R., Gibelli M.C. and Rigamonti P., 1998. *Vantaggi e costi di differenti modi di espansione della citta*. Research report, Fondazione CARIPLO, Milano.
- Camagni R., Salone C., 1993. "Network urban structures in Northern Italy, elements for a theoretical framework" *Urban Studies*, 30, 6, 1053-1064.
- Carreras I., Verdaguer C., 1993. *Geografia Urbana de Barcelona : Espai Meditterani, Temps Europeu*. Oikos-Tan, Barcelona.
- Carter H., 1989. "Whose city ? A view from the periphery" *Transactions of the Institute of British Geographers*, 14, 4-23.

- Cavailhès J., Dessendre C., Goffette-Nagot F., Schmitt B., 1994. "Change in the French countryside: some analytical propositions" *European Review of Agricultural Economics*, 21, 429-449.
- Cavailhès J., Peeters D., Sekeris E., Thisse J.F., 2001. *La ville périurbaine*. Working document. 26p.
- CENSIS, 1998. "Il quadro dei sistemi urbani italiani" *Un mese di sociale. La priorità dell'eurocompetizione, la città più reti e più autonomia*. Censis research report, 98, 02-05.
- Cervero R., Wu K.L., 1998. "Sub-centring and commuting: evidence from the San Francisco Bay area, 1980-90" *Urban studies*, 35, 7, 1059-1076.
- Champion A.G. (Ed.), 1989. *Counterurbanization – The Changing Pace and Nature of Population Deconcentration*. Arnold, London. 266p.
- Champion A.G., 1989. "United Kingdom: Population Deconcentration as a Cyclic Phenomenon" in Champion A.G. (Ed.) *Counterurbanization – The Changing Pace and Nature of Population Deconcentration*. Arnold, London. 83-102.
- Champion A.G., 1992. "Urban and regional demographic trends in the developed world" *Urban Studies*, 29, 3-4, 461-482.
- Champion A.G., 1994. "Population change and migration in Britain since 1981: evidence for continuing deconcentration" *Environment and Planning A*, 26, 1501-1520.
- Champion A.G., 1998. "Population Trends of Small and Medium-Sized Towns in Non-Metro Regions" *Revue de Géographie de Lyon*, 73, 1, 5-16.
- Champion A.G., Green A.E., Owen D.W., Ellin D.J., Coombes M.G., 1987. *Changing Places: Britain's demographic, economic and social complexion*, Arnold, London. 144p.
- Cheshire P., 1995. "A New Phase of Urban Development in Western Europe? The Evidence for 1980s" *Urban Studies*, 32, 7, 1045-1063.
- Christensen D., 1995. "A Tale of two Cities: Copenhagen" in Ministry of Environment of Environment and Planning, Spatial Planning Department *The European city, sustaining Urban Quality*. Copenhagen.
- Christians C., 1987. "Rurbanisation et périurbanisation en Belgique: phénomènes actuels ou dépassés à Bruxelles et en Wallonie ?" *Bulletin de la Société Géographique de Liège*, hors série: Recherches de géographie urbaine, hommage au professeur J.A. Sporck, 43-59.
- Christoffersen H., Blix K., 1998. *Population, production and welfare in rural municipalities*. AKF (Institute of Local Government Studies).
- Christoffersen H., Rasmussen L.E., 1995. *Housing patterns in the Danish population since 1970*. Summary of the report, AKF (Institute of Local Government Studies)..
- Clark D., 1989. *Urban Decline*. Routledge, New York.
- Clark W.A.V., Kuipjers-Linde M., 1994. "Commuting in Restructuring Urban Regions" *Urban Studies*, 31, 3, 465-483.
- Clout H. (Ed.), 1994. "Europe's Cities in the Late Twentieth Century" *Netherlands Geographical Studies*, 176.
- Coll J.L., Grasland Cl., Pumain D., Saint-Julien T., 2000. *Préfiguration de l'observatoire en réseau de l'aménagement du territoire européen*. Paris, GDR Libergeo. Rapport DATAR.
- Collin J., Mongeau J., 1992. "Quelques aspects démographiques de l'étalement urbain à Montréal de 1971 à 1991 et leurs implications pour la gestion de l'agglomération" *Cahiers Québécois de Démographie*, 21(2), 5-30.

- Commission Européenne, 1999. "Aspects du développement spatial significatif au niveau européen" in SDEC, *Schéma de Développement de l'Espace Communautaire-vers un développement spatial équilibré et durable du territoire de l'Union Européenne*. Communautés européennes, Luxembourg. Partie B, 69-82.
- Congdon P., 1991. "Les banlieues et l'évolution sociale d'une métropole: le cas de Londres" *Espace, Populations, Sociétés*, 2, 381-394.
- Conti S., Salone C. (Coord.), 1999. *Contribution to typologies of cities*. SPESP (Study Programme on European Spatial Planning) Italian working group report.
- Cooke P., 1990. "Modern Urban Theory in Question" *Transactions of The Institute of British Geographers*, 15, 331-343.
- Coombes M. G., Dixon J. S., Goddard J. B., Openshaw S., Taylor P. J., 1982. "Functional regions for the population census of Great Britain" in Herbert D.T., Johnston R. J. (Eds.), *Geography and the urban environment*, vol. 5, Wiley, London.
- Coombes M., et al., 1989. "Counterurbanisation in Britain and Italy: A Comparative Critique of the Concept, Causation and Evidence" *Progress in Planning*, 32, 1.
- Cortesi G., Capineri C., Spinelli G., 1996. "Urban Change and environment in the North-Western Mediterranean" *Bollettino della Societa Geografica Italiana*. 1, 1, 81-105.
- Cortesi G., Lazzeroni M., 1997. "Developpement et changement urbains: le cas de l'Italie" *Revue économique méridionale*, 45, 1-2, 53-62.
- Cortie C., 1997. "Planning Doctrine and Post-Industrial Urban Development: The Amsterdam Experience" *Geojournal*, 43, 4, 351-358.
- Court Y., 1989. "Denmark: towards a more deconcentrated settlement system" in Champion A.G. (Ed.)
- CPDT, Conférence Permanente du Développement Territorial, 2000. *Thème 7.1 Evaluation des coûts de la désurbanisation*. Rapport final de la subvention 1998-1999, Université Libre de Bruxelles (GUIDE), Université catholique de Louvain (CREAT), Université de Liège (LEPUR). Ministère de la Région Wallonne.
- CPDT, Conférence Permanente du Développement Territorial, 2002 (forthcoming). *Les coûts de la désurbanisation*. Etudes et Documents - Aménagement du territoire, Ministère de la Région wallonne, Direction générale de l'Aménagement du Territoire, du Logement et du Patrimoine, Jambes.
- Crampton G.R., 1991. "Residential density patterns in London – any role left for the exponential density gradient" *Environment and Planning A*, 23, 1007-1024.
- Crédit Communal de Belgique (coord.), 1985. "La cité belge d'aujourd'hui: quel devenir ?" *Bulletin trimestriel du Crédit Communal*, numéro spécial, 39, 154.
- Dahms F., McComb J., 1999. "'Counterurbanization', interaction and functional change in a rural amenity area – a canadian example" *Journal of rural studies*, 15, 2, 129-146.
- Davis J.S., 1993. "The commuting of exurban home buyers" *Urban Geography*, 14, 1, 7-29.
- De Brabander G., Verbist G., 1992. "Housing and Employment in the Antwerp Urban Region" *Journal of Housing and the Built Environment*. 343-355.
- De Brabander G., Witlow F., 1991. "Les Relations Economiques à l'Intérieur d'une Région Urbaine: l'exemple anversois" *Bulletin trimestriel du Crédit Communal de Belgique*. 178, 33-52.

- De Keersmaecker M.L., 2001. "Approche des coûts de la désurbanisation sous l'angle du développement durable" *Les cahiers de l'urbanisme*, 34, 19-27
- Debuisson M., Eggerickx T., Poulain M., 1993. "Démographie des grandes agglomérations urbaines en Wallonie" *Courrier Hebdomadaire du Centre de Recherche et d'information socio-politiques (C.R.I.S.P.)*, 1422-1423. 57p.
- Decroly J.M., Grimmeau J.P., 1999. "Les spécificités urbaines des comportements démographiques contemporains dans les villes d'Europe" *Chaire Quetelet: Populations et défis urbains*. Louvain-la-Neuve.
- Dematteis G., 1997. "Globalisation and regional integration : the case of the Italian urban system" *Geojournal*, 43, 4, 331-338.
- Dematteis G., Petsimeris P., 1989. "Italy: Counterurbanization as a Transitional Phase in Settlement reorganization" in Champion A.G. (Ed.) *Counterurbanization – The Changing Pace and Nature of Population Deconcentration*. Arnold, London. 187-206.
- Den Dulk C.J, Van de Stadt H., Vliegen J.M., 1992. "Een nieuwe maatsstaf voor stedelijkheid: de omgevingsadressen-dichtheid" *CBS maandstatistiek van de bevolking*, 92/7, 14-27.
- Denis J., 1992 (Dir.). *Géographie de la Belgique*. Crédit Communal de Belgique, Bruxelles.
- Derycke P.H., 2000. "L'évolution des densités urbaines, histoire et modélisation" in Derycke P.H. (Ed.) *Structure des villes, entreprises et marchés urbains*. L'Harmattan, Paris. 240p.
- Dessemontet P., 1999. "Des edge-cities en Suisse? l'émergence de nouveaux pôles d'activités métropolitaines sur le territoire helvétique" *Geographica Helvetica*, 54, 1, 29-36.
- DETR (Department of the Environment, Transport and the Regions) Planning Research Programme, 1991. *Rates of urbanization in England 1981-2001*. HMSO, London.
- DETR (Department of the Environment, Transport and the Regions) Planning Research Programme, 1995. *Urbanization in England: Projections 1991-2016*, HMSO, London..
- DETR (Department of the Environment, Transport and the Regions), 1999. *Land Use Change in England n°14*. DETR.
- DETR (Department of the Environment, Transport and the Regions), 1999. "Land Use Change in England" *Statistical Bulletins*. DETR.
- DETR (Department of the Environment, Transport and the Regions), 1998. *Planning for the communities of the future*. DETR.
- DETR (Department of the Environment, Transport and the Regions), 2000. "Transport Statistics for Metropolitan Areas" *Transport Statistics Bulletin*.
- Dewailly J.M., Meur-Ferec C., 1995. "Le coeur vert de la Randstad Holland: l'adaptation d'un concept aux exigences du développement" *Hommes et Terres du Nord*, 222-230.
- Dézert A., Metton A., Steinberg J., 1991. *La Périurbanisation en France*, SEDES, Paris.
- Diamantini C., Zanon B., 2000. "Planning the sustainable urban development. The case of the plan for the province of Trento, Italy" *Environmental Impact Assessment Review*. 20, 299-310.
- Dieleman F.M., 1996. "The quiet revolution in Dutch housing policy" *Tijdschrift voor Economische en Sociale Geografie*, 87, 3, 275-283.
- Dieleman F.M., 1997. "Planning compact urban form: Randstad Holland 1965-1995" *Environment and Planning A*, 29, 10, 1711-1715

- Dieleman F.M., Hamnett C., 1994. "Globalisation, World Cities and the Randstad" *Urban studies*, Special Issue, 31, 357-564.
- Dieleman F.M., Musterd S., 1997. "Les villes: l'habitat comme clef centrale de l'aménagement urbain" *Hommes et Terres du Nord*, 2, 92-98.
- Duyck X., 1998. *Configurations spatiales suburbaines: le cas de la périphérie namuroise*. Thèse de doctorat en sciences, UCL, Louvain-la-Neuve. 252p.
- EEA (European Environment Agency, European Topic Centre on Land Cover), 1993. *Corine Land Cover, Guide Technique*. Office des publications officielles des Communautés Européennes, Luxembourg, 1993, 144p.
- EEA (European Environment Agency, European Topic Centre on Land Cover), *Corine Land Cover database*, 1997.
- Eggerickx T., 1999. "Le mouvement de périurbanisation en Wallonie et à Bruxelles. Son impact socio-démographique" *Chaire Quetelet: Populations et défis urbains*, Louvain-la-Neuve.
- Eggerickx T., Poulain M., 2000. "Les lotissements résidentiels et leurs implications socio-démographiques" *Les Cahiers de l'Urbanisme*, 29.
- Eggerickx T., Poulain M., Mérenne B., 1999. *Recensement général de la population et des logements au 1^{er} mars 1991: La mobilité spatiale de la population*, Monographie 2, Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles.
- Ehmer J., 1999. "Migration and urbanisation in Germany and Austria" *International conference "Vivre en Ville"*. La Sapienza, Roma. September 27-29.
- Eikeland S., Lie I., 1999. "Pluriactivity in rural Norway" *Journal of rural studies*, 15, 405-415.
- Ellger C., 1994. "Berlin – metropolis in transition: the state of urban development in 1994" in Braun G. (Ed.) *Managing and Marketing of Urban Development and Urban Life*. Reimer, Berlin. 9-19.
- Errington A., 1994. "The periurban fringe – Europe forgotten rural-areas" *Journal of rural studies*. 10, 4, 367-375.
- European Commission, 1988. *The future of rural society*, COM(88) 501 final.
- European Commission, Directorate General for Agriculture (DGVI), 1997. *Situation and Outlook: Rural Developments*. CAP2000, Working Document.
- Eurostat, 1999. "Les zones densément peuplées de l'Union Européenne: Essai de délimitation et caractérisation des agglomérations urbaines" *Statistiques en Bref* (Thème 1,2).
- Evans A.W., 1988. "No room! No room!" *Occasional Paper*, 79, Institute of Economic Affairs, London.
- Evans A.W., 1991. "Rabbit hutches on postage stamps" *Urban Studies*, 28, 6, 853-870.
- Evans R., Harding A., 1992. *Urbanisation and the Functions of Cities in the European Community, Report to the Commission of the European Communities*, DGXVI. John Moores University, Liverpool.
- Falleth, E.I., 1999. "Suburban Growth and Land Actors along By-Pass Roads in Norway" *European Planning Studies*, 7, 3, 357-371.
- Faludi A., Van der Valk A., 1996. "Planners come out for the Green Hart" *Tijdschrift voor Economische en Sociale Geografie*, 87, 5, 448-452.

- Fielding A.J., 1989. "Migration and urbanisation in Europe since 1950" *The Geographical Journal*, 155, 1, 60-69.
- Fielding A.J., 1991. "La mobilité sociale et géographique dans le sud non métropolitain d'Angleterre" *Espace, Populations, Sociétés*, 2, 395-408.
- Filion P., Bunting T., Warriner K., 1999. "The entrenchment of urban dispersion : residential preferences and location patterns in the dispersed city" *Urban Studies*, 36, 8, 1317-1347.
- Floor H., Goetgeluk R., Van Kempen R., 1996. "Migratiestromen uit de Randstad" *Geografie*, 5, 2, 12-16.
- Foot J., 2000. "The urban periphery, myth and reality: Milan, 1950-1990." *City: analysis of urban trends, culture, theory, policy, action*, 1, 1, 7-26.
- Ford T., 1999. "Understanding population growth in the peri-urban region" *International Journal of Population Geography*, 5(4), 297-311.
- Fouchier V., 1995. "La densification : une comparaison internationale entre politiques contrastées" *Les Annales de la Recherche Urbaine*, 67, 95-108.
- Fouchier V., 1995. *Les mesures de la densité. Application à l'Île de France et aux villes nouvelles*. Rapport n°1 pour le Plan urbain (Ministère de l'Équipement), Paris. 142p.
- Fouchier V., 1999. *Maîtriser l'Étalement Urbain : une Première évaluation des Politiques Menées dans Quatre Pays (Angleterre, Norvège, Pays-Bas, Hong-Kong)*. 2001 Plus (Synthèses et Recherches), 49. D.R.A.S.T. Ministère de l'Équipement, des Transports et du Logement.
- Frandsen K., 1994. "The preservation of the structure of villages in a changing rural landscape. A case-study from Falster, Denmark" *Avenir des paysages ruraux Européens*, 69-76 .
- Furuseth O.J., Lapping M., (Eds), 1999. *Contested Countryside; The Rural Urban Fringe in North America*. Avebury, Aldershot, United Kingdom.
- Gans P., 1991. "Population change in the suburbanized areas of the Federal Republic of Germany with special reference to Hamburg (1970-1987)" *Espace, Populations, Sociétés*, 2, 293-307.
- Gans P., 2000. "Urban Population Change in Large Cities in Germany, 1980-1994" *Urban Studies*, 37, 9, 1497-1512.
- Garcia Ballesteros A., Pozo Riviera E., 1991. "Changements sociodémographiques dans la frange périurbaine de Madrid" *Espace, Populations, Sociétés*, 2, 309-323.
- Garcia Coll A., Stillwell J., 1999. "Inter-provincial migration in Spain: temporal trends and age-specific patterns" *International Journal of Population Geography*, 5, 97-115.
- Garcia Coll A., Stillwell J., 2000. *Internal migration and regional population dynamics in Europe: Spain case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 00/08, School of Geography, University of Leeds, 88p.
- GEMACA, 1996. *Les régions métropoles de l'Europe du Nord-Ouest*. Atlas GEMACA. IAURIF, Paris.
- Getimis P., Spanidis N., van den Born G.J., Kroon H.J.J., 1999. *Land use pressure indicators*. SPESP (Study Programme on European Spatial Planning) Background Report.

- Geyer H., 1996. "Expanding the Theoretical Foundation of Differential Urbanization" *Tijdschrift voor Economische en Sociale Geografie*, 87, 1, 44-59.
- Geyer H.S., Kontuly T.A., 1993. "A theoretical foundation for the concept of differential urbanisation" *International Regional Science Review*, 15, 2, 157-177.
- Ghorra-Gobin C., 1997. *La Prospective Urbaine aux Etats-Unis, ou les Enjeux de la Civilisation Suburbaine*. 2001 Plus (Veille Internationale), 42. D.R.A.S.T. Ministère de l'Équipement, des Transports et du Logement.
- Glebe G., Schneider H. (Ed.), 1998. "Lokale Transformationsprozesse in der Global City – Dusseldorf-Oberbilk, Strukturwandel eines citynahen Stadtteils" *Düsseldorfer geographische schriften*, 37.
- Goffette-Nagot F., 2000. "Urban Spread beyond the City Edge" in Huriot J.M., Thisse J.F. (Eds), *Economics of Cities. Theoretical Perspectives*. Cambridge, Cambridge University Press.
- Golini A., 2001. "Demographic trends and population policies" *Futures*, 33, 1, 27-41.
- Goordijn H., Eichperger L., 1996. "The Netherlands : from interregional to international migration" in Rees P., Stillwell J., Convey A., Kupiszewski M. (Eds) *Population migration in the European Union*. Wiley & Sons, Chichester. 247-259.
- Goossens L., Thomas I., Vanneste D., 1999. *Recensement général de la population et des logements au 1^{er} mars 1991: Le logement, réalités socio-économiques et géographiques 1981-1991*, Monographie 10, Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles. 309p.
- Goossens M., 1994. "Verstedelijingsprocessen in de Antwerpse Banlieue" *Acta Geographica Lovaniensia*, Liber Amicorum H. Van der Haegen, 34, 321-339.
- Gouvernement de la Région Wallonne, 1999. *Schéma de Développement de l'Espace Régional*. 206p.
- Graversen B.K., Humelgaard H., Lemmich D., Nielsen J.B., 1997. *Mobility to and from rural municipalities*. AKF (Institute of Local Government Studies).
- Greene R.P., 1997. "The farmland conversion process in a polynucleated metropolis" *Landscape and Urban Planning*, 36, 291-300.
- Hakansson J., 2000. "Impact of migration, natural population change and age composition on the redistribution of the population in Sweden 1970-1996" *CyberGeo*, 123.
- Hakansson J., Borgegard L.E., 2000. "Population redistribution in Sweden since the 60s in a regional context" *ENHR Conference, workshop: Migration and Residential Mobility, Gävle 26-30 june 2000*.
- Hall P., 1996. *Cities of Tomorrow*. Blackwell, London. 513p.
- Hall P., 1997. "Regeneration Policies for Peripheral Housing Estates : Inward- and Outward-looking Approaches" *Urban Studies*, 34, 5-6, 873-890.
- Hall P., 1997. "The future of the Metropolis and its Form" *Regional Studies*, 31, 3, 211-220.
- Hall T. (Ed.), 1991. *Planning and urban growth in the Nordic Countries*. Studies in history, planning and the environment, Spon, London. 271p.
- Halleux J.-M., 1999a. "Articulations entre valeur foncière et croissance spatiale de l'urbanisation : mise au point d'une méthode de collecte de données et premiers résultats" *Bulletin de la Société géographique de Liège*, 36, 65-80.

- Halleux J.M., 1999b. "Transition périurbaine et structure par âges: la situation en Belgique et en Wallonie" *Chaire Quetelet: Populations et défis urbains*. Louvain-la-Neuve.
- Halleux J.M., 2000. *Transition périurbaine et immobilier résidentiel*. Document de travail, bibliographie.
- Halleux J.-M., 2001, "Mobilités quotidiennes et évolutions intra-urbaines : construction d'un espace géographique urbain de référence et analyse des processus évolutifs" *L'Espace Géographique*, 30, 1, 67-80.
- Halleux, J.M., Derwael F., Mérenne B., 1998a. "Les Noyaux d'habitat en Belgique : situation en 1991 et évolution depuis 1970" in Mérenne B., Van der Haegen H., Van Hecke E., *Recensement général de la population et des logements au 1^{er} mars 1991: Urbanisation*, Monographie 11A., Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles. 9-78.
- Halleux, J.M., Derwael F., Mérenne B., 1998b. "Typologie des communes selon leur degré d'urbanisation" in Mérenne B., Van der Haegen H., Van Hecke E., *Recensement général de la population et des logements au 1^{er} mars 1991: Urbanisation*, Monographie 11A., Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles. 149-186.
- Hamnett C., 1994. "Social Polarisation in Global Cities : Theory and Evidence" *Urban Studies*, 31, 3, 401-424.
- Hansen J.C., 1989. "Norway: the turnaround which turned round" in Champion A.G. (Ed.) *Counterurbanization – The Changing Pace and Nature of Population Deconcentration*. Arnold, London. 103-120.
- Haveri A., Siirilä S., 1999. "Two growing urban regions: a comparison of growth patterns and growth management strategies in the Helsinki region and the Brisbane region" *Fennia*, 177, 2, 107-122.
- Heinz W., 1995. *Major Cities and their Peripheries: Frankfurt and the Frankfurt Region*. Report of the Group of Specialists on Major Cities and their Peripheries, Council of Europe, Secretariat General.
- Heitkamp T., 2000. "The integration of unplanned towns in the periphery of Madrid: the case of Fuenlabrada" *Habitat International*, 24, 213-220.
- Holden R., Turner T., 1997. "Western Europe, current city expansion and the use of GIS" *Landscape and urban planning*, 36, 4, 315-326.
- Hooimeijer P., Nijstad R., 1996. "De Randstad als 'roltrapregio' ". *Geografie*, 5, 2, 5-8.
- Illeris S., 1995. "Why was the Central City Population Stabilized? The Case of Copenhagen" *Abhandlungen des Geographischen Instituts Anthropogeographie*, 52, 595-608.
- Illeris S., 1996. "Changing Patterns of Net Migration in Denmark. An Explanatory Analysis" in *Population Migration in the European Union*. Wiley & Sons, Chichester. 105-122.
- Illeris S., 2001. "Metropolisation! What metropolisation in Western Europe?" *International Conference of the Regional Studies Association*, September 15-18, Gdansk.
- INS (Institut National des Statistiques), 2000. "Bruxelles attire de nouveau la population" *Communiqués-population*, 28/8/2000.
- ISTAT, 1986. "Classificazione dei comuni secondo le caratteristiche urbane e rurali" *Note e Relazioni*, anno 1986, no.2. Istituto Nazionale di Statistica, Roma.

- ISTAT, 1997. *I sistemi locali del lavoro*, Argomenti, 10, Istituto Nazionale di Statistica, Roma.
- ISTAT, 1999. *Annual report synthesis 1998*. Istituto Nazionale di Statistica.
- ISTAT, 2000. *Rapporto annuale, la situazione del Paese nel 1999*. Istituto Nazionale di Statistica. 557p.
- ISTAT, 2001. *Bilancio demografico nazionale, anno 2000*. Istituto Nazionale di Statistica. 8p.
- ISTAT, 2001. *Rapporto annuale, la situazione del Paese nel 2000*. Istituto Nazionale di Statistica. 416p.
- ISTAT, 2001b. *Previsioni della popolazione residente, (con base 1 gennaio 2000)*. Istituto Nazionale di Statistica. 6p.
- ISTAT, IRPET, 1986. *I mercati locali del lavoro in Italia*. Franco Angeli, Milano
- ISTAT, IRPET, University of Newcastle upon Tyne, University of Leeds, 1994. *I Sistemi Locali del Lavoro in Italia, 1991*. Istituto Nazionale di Statistica, Roma.
- Jansen L., Kreukels T. Spit T., 1997. "L'aménagement du territoire néerlandais : vue d'ensemble de l'évolution des idées" in Van Oort G. (Coord.), "Pays Bas: Dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, 67-73.
- Jehin J.B., 1998. "La périurbanisation et la rurbanisation à travers la consommation d'espace", *Bulletin de la Société Géographique de Liège*, 34, 45-52.
- Jehin J.B., Mérenne B., 1998. "Urbanisation et consommation d'espace en Belgique. Tendances démographiques récentes" *Acta Geographica Lovaniensia*, 37, 171-183.
- Jensen J.D., 1998. Agriculture in rural areas. Summary and conclusions of the report, AKF (Institute of Local Government Studies)..
- Jensen J.D., 1998. Economy and development in rural areas, SJFI in cooperation with AKF (Institute of Local Government Studies)..
- Jones C., 1996. *A Ward Level Atlas of London*. London Research Center.
- Jordan S., Ross J.P., Usowski K.G., 1998. "U.S. suburbanization in the 1980's" *Regional Science and Urban Economics*, 28, 611-627.
- Julien P., 2000. "Mesurer un univers urbain en expansion", *Economie et Statistique*, 336, 6, 1-33.
- Kafkalas G. (Ed.), 1992. *Cities and Regions in the New Europe*, London.
- Kaufmann V., 1999. "Mobilité et Vie Quotidienne : synthèse et questions de recherche" *2001 Plus (Veille Internationale)*, 48. D.R.A.S.T. Ministère de l'Équipement, des Transports et du Logement.
- Kesteloot, C. *et al.*, 1993. "Vlaams-Brabant, residentieel noodgebied?" *Planologisch Nieuws*, 13, 298-316.
- Kesteloot, C., 1993. "Vlaams-Brabant als stedelijke periferie, een globale interpretatie van een lokale problematiek" *Leuvense Geografische Papers*, 6, 1-16.
- Khan D., Van der Plas G., 1999. "City profile : Amsterdam" *Cities*, 16 ,5, 371-381.
- Knox P., 1995. *Urban Social Geography*. Harlow, Longman.
- Kontuly T., 1992. "National-scale, regional-scale and urban-scale population deconcentration in West-Germany" *Landscape and Urban Planning*, 22, 2-4, 219-228.

- Kontuly T., Schön K.P., 1994. "Changing Western German Internal Migration Systems during the Second Half of the 1980s" *Environment and Planning A*, 26, 10, 1521-1543.
- Kontuly T., Vogelsang R., 1989. "Federal Republic of Germany : The Intensification of the Migration Turnaround" in Champion A.G. (Ed.) *Counterurbanization – The Changing Pace and Nature of Population Deconcentration*. Arnold, London. 141-161.
- Kreukels T., Pollé E.-J., 1997. "Urbanization and spatial planning in an international perspective" *Netherlands Journal of Housing and the Built Environment*, 12, 1, 135-163.
- Kruythoff H., 1991. "Homogeneity and diversity in the Randstad : developments in residential environments 1981-1986" *Netherlands Journal of Housing and the Built Environment*, 6, 2, 79-99.
- Kruythoff H., 1993. "Urban and suburban types of two-earner households in the Randstad" *Netherlands Journal of Housing and the Built Environment*, 8, 2, 211-236.
- Kruythoff H., Jobse R.B, Musterd S., 1992. "Migration and the socio economic structure of the four big Randstad cities and their daily urban systems" *Tijdschrift voor Economische en Sociale Geografie*, 83, 3, 181-195.
- Kunzmann K., 1997. "The future of the city region in Europe" in Bosma K., Hellige H., (Ed.). *Mastering the city I, North European City Planning 1900-2000*. NAI Publishers, The Hague. 16-59.
- Kunzmann K.R., Wegener M., 1991. "The Pattern of Urbanization in Western Europe" *Ekistics*, 58(350-351), 282-91.
- Kupiszewski M., Borgegard L.E., Fransson U., Hakansson J., Durham H., Rees P., 2001. *Internal migration and regional population dynamics in Europe: Sweden case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 01/01, School of Geography, University of Leeds, 70p.
- Kupiszewski M., Bucher H., Durham H., Rees P., 1998. *Internal Migration and Regional Population Dynamics in Europe: German case study*, Report prepared for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 98/11, School of Geography, University of Leeds, 45p.
- Kupiszewski M., Heikkilä E., Nieminen M., Durham H., Rees P., Kupiszewska D., 2001. *Internal migration and regional population dynamics in Europe: Finland case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 00/07, School of Geography, University of Leeds, 54p.
- Kupiszewski M., Illeris S., Durham H., Rees P. 2001. *Internal migration and regional population dynamics in Europe: Denmark case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 01/02, School of Geography, University of Leeds, 54p.
- Kupiszewski, 1999. "Lessons for the projection of internal migration from studies in ten European countries" *ECE-EUROSTAT work session on demographic projections*, working paper n°40. 3-7 May, Perugia, Italy.

- Kurtz H.A., Eicher J.B., 1958. "Fringe and suburbs" *Social Forces*, 37, 32-37. (cited in Thomas, 1990).
- Le Gléau J.P., Pumain D., Saint-Julien T., 1996. "Villes d'Europe : à chaque pays sa définition" *Economie et statistique*. 294-295, 4-5, 9-23.
- Le Jeannic T., 1996. "Une nouvelle approche territoriale de la ville" *Economie et statistique*. 294-295, 4-5, 25-45.
- Le Jeannic T., 1997. "Trente ans de périurbanisation : extension et dilution des villes" *Economie et statistique*. 307, 7, 21-41.
- Leemans S., Pattijn M., Rousseau S., Van der Haegen H., 1989 "Les régions urbaines belges en 1981", *Etudes Statistiques*, 5-25.
- Lefebvre C., 1997. "L'area urbana di Chieti-Pescara tra periferia e centralita (The urban area of Chieti-Pescara between periphery and centrality)" *Bolletino della Societa Geografica Italiana*, 2, 5, 93-118.
- Lengkeek W., 1999. *Land use statistics in the Netherlands*. Netherlands official statistics. CBS.
- Leontidou L., 1990. *The Mediterranean City in Transition*. Cambridge University Press, Cambridge.
- Leontidou L., 1996. "Alternatives to modernism in Southern urban theory" *International Journal of Urban and Regional Research*, 20, 178-195.
- Lever W.F., 1993. "Reurbanisation – The Policy Implications" *Urban Studies*, 30, 2, 267-284.
- Lichtblau K., 1998. "Regional Change in Germany", *IW-Trends*, 4.
- Lichtenberger E., 1998. *Stadtgeographie, band 1: Begriffe, Konzepte, Modelle, Prozesse*. Teubner, Stuttgart.
- Lörzing H., 1996. "It's time to redefine the Green Hart" *Tijdschrift voor Economische en Sociale Geografie*, 87, 5, 452-457.
- Louisse A.F., 1998. "Rural towns and villages of the Netherlands' Green Heart : is a healthy survival possible ?" *Journal of architectural and planning research*, 15, 1, 73-84.
- Lucas P., Van Oort G., 1993. *Dynamiek in een stadrandzone: werken en wonen in de stadrandzone van de agglomeratie Utrecht*. Koninklijk Nederlands Aardrijkskundig Genootschap, Faculteit Ruimtelijke Wetenschappen. Rijksuniversiteit Utrecht.
- Lucy W.H., Phillips D.L., 1997. "The post-suburban era comes to Richmond: city decline, suburban transition, and exurban growth" *Landscape and urban planning*, 36, 259-275.
- Maciocco G., Cenami E., Zoagli E., 1991. "Il processo di periurbanizzazione. Indicatori di dimensione dell'occupazione di suolo" in Maciocco G., Clemente F., *Le dimensioni ambientali della pianificazione urbana*. Metodi del Territorio, Franco Angeli..
- Mackensen R., 1993. "Urbanization under Federalist and Centralist Government – The case of two German States 1980-1988" *Acta Demographica*, 166-195.
- Mäding H., 1998. "Suburbanisation and Urban Development in Germany: Trends - Models – Strategies" *International Conference on Cities in the XXIst Century - Cities and Metropolises: Breaking or Bridging?*, La Rochelle 19-21 October 1998.
- Mäding H., 2000 (forthcoming). "Suburbanisierung und kommunale Finanzen" in Brake K. *et al.* (Ed.), *Suburbanisierung in Deutschland*.

- Mäding H., 2000. "Berlin 2000 – A selective assessment of developments after German unification and prospects for the next decade", *Cities in Region, Workshop of the European Urban Research Association*, Dublin 13-15 April 2000.
- Malinen P., 1999. "Rural area typology in Finland, marginality within rural areas" 2.2. *Typology of cities*, SPESP (Study Programme on European Spatial Planning), annex 9 of the report.
- Malusardi F., Muscara C., 1986. "Italian urbanisation : between scattered settlements and counterurbanisation" *Ekistics*, 57, 22-34.
- Marois C., Deslauriers P., Bryan C., 1991. "Une revue de la littérature scientifique sur l'étalement urbain et sur les relations urbaines-agricoles dans la frange urbaine : le cas de la région métropolitaine de Montréal dans le contexte nord-américain" *Espace, Populations, Sociétés*, 2, 325-334.
- Matheson J., Edwards G. (Eds.), 2000. *Focus on London 2000*. The Stationery Office, London.
- Mathiessen W.C., 1980. "Trends in the urbanization process. The Copenhagen case" *Geografisk tidsskrift*, 98-101.
- Mathiessen W.C., 1999. "Examples of plans and planning system change" *Geografisk Tidsskrift*, Special Issue "Copenhagen", 1, 125-131.
- Meert H. (Ed.), 1993. "Vlaams-Brabant: wonen en werken in de schaduw van Brussel" *Leuvense Geografische Papers*, 6. Instituut voor Sociale en Economische Geografie, K.U.Leuven.
- Meijer H., 1997. "Bibliographie française sur les Pays-Bas 1980-1996" in Van Oort G. (Coord.), "Pays Bas: Dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, 124.
- Mérenne B. (Dir.), 1999. "Quantification de la désurbanisation en Région Wallonne" Conférence Permanente du Développement Territorial, *Thème 7.1 Evaluation des coûts de la désurbanisation*, Rapport final de la subvention 1999, , Université Libre de Bruxelles (GUIDE), Université catholique de Louvain (CREAT), Université de Liège (LEPUR). Ministère de la Région Wallonne.
- Mérenne B., Van der Haegen H., Van Hecke E., 1997. "La Belgique. Diversité territoriale", *Bulletin trimestriel du Crédit Communal*, 202.
- Mérenne B., Van der Haegen H., Van Hecke E., 1998. *Recensement général de la population et des logements au 1^{er} mars 1991: Urbanisation*, Monographie 11A., Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles.
- Mérenne B., Van der Haegen H., Van Hecke E., 1999. *Recensement général de la population et des logements au 1^{er} mars 1991: Migrations de travail et migrations scolaires*, Monographie 11B, Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles.
- Ministry of Environment and Energy, 1997. *National planning report for Denmark. Denmark and European spatial planning policy*. Ministry of Environment and Energy, Copenhagen.
- Mogridge M., Parr J.B., 1997. "Metropolis or Region: on the Development and Structure of London" *Regional Studies*, 31, 2, 97-115.
- Monheim R., 1992. "Town and transport planning and the development of retail trade in metropolitan areas of West Germany" *Landscape and Urban Planning*, 22, 2-4, 121-136.

- Mori H., 1998. "Land Conversion at the Urban Fringe: A Comparative Study of Japan, Britain and the Netherlands" *Urban Studies*, 35, 9, 1541-1558.
- Morill R., Cromartie J., Hart G., 1999. "Metropolitan, urban, and rural commuting areas : toward a better depiction of the United States Settlement System", *Urban Geography*, 20, 727-748
- Motte A., 1991. "La réforme anglaise de la planification spatiale – Etude du plan de développement unitaire de Birmingham" *2001 Plus*, 22. D.R.A.S.T. Ministère de l'Équipement, des Transports et du Logement.
- Muscara C., 1991. "Italian urban geography : counterurbanisation versus peripheral development" *Urban Geography*, 12, 4, 363-380.
- Naess P., 1991. "Environment protection by urban concentration" *Scandinavian Housing and Planning Research*, 8, 247-252.
- Naess P., Roe P.G., Larsen S.L., 1995. "Travelling distances, modal split and transportation energy in thirty residential areas in Oslo" *Journal of Environmental Planning and Management*, 38, 3, 349-370.
- Naess P., Synnøve L.S., 1996. "Workplace location, modal split and energy use for commuting trips" *Urban Studies* 33, 3, 557-580.
- Needham B., 1997. "Land Policy in the Netherlands" *Tijdschrift voor Economische en Sociale Geografie*, 88, 3, 291-296.
- Nelson A.C., Sanchez T.W., 1997. "Exurban and suburban households: a departure from traditional location theory" *Journal of Housing Research*, 8(2), 249-276.
- Nelson A.C., Sanchez T.W., 1999. "Debunking the Exurban Myth: A Comparison of Suburban Households" *Housing Policy Debate*, 10(3), 689-709.
- NRLO (National Council for Agricultural Research), 1998. *Rural Areas put on the Map - Knowledge and Innovation Priorities; Aspirations for the 21st century*. NRLO Report 98/19E, Nationale Raad voor Landbouwkundig Onderzoek, The Hague.
- Nyström J., 1989. "From the City to the City's Countryside" *Geografiska Annaler*, 71B, 3, 183-200.
- Nyström J., 1992. "The cyclical urbanization model – a critical analysis" *Geografiska Annaler*, 74B, 2, 133-144.
- Nyström J., 1998. "The magnetic field model applied to Swedish settlements" *Geografiska Annaler*, 80B,3, 129-138.
- OECD, 1996. *Territorial indicators of Employment, focusing on rural development*. OECD, Paris.
- ONS (Office for National Statistics), 2000. "Population of households in England to 2021" *Population trends*, 13-19.
- Orasi A., Ferruzza A., 2001. "Population and housing censuses in Italy" *Symposium on Global Review of 2000 Round of Population and Housing Censuses*. Dpt of Economic and Social Affairs, UN Secretariat, New York.
- Oris M., 2000. "Périurbanisation et rurbanisation en Wallonie" *Les Cahiers de l'Urbanisme*, 29, 56-58.
- Pacione M., 1987. "The socio-spatial development of the South Italian City: The case of Naples" *Transactions of the Institute of British Geographers*, 12, 433-450.

- Pacione M., 1991. "Development pressure and the production of the built environment in the urban fringe" *Scottish geographical magazine*, 107, 3, 162-169.
- Pacione M., 1993. "Residential Development in the Urban Fringe : A conflict interpretation." *Geography research forum*, 13, 12-31.
- Pacione M., 1998. "The social geography of Rome" *Tijdschrift voor Economische en Sociale Geografie*, 89, 4, 359-370.
- Paquette S., Domon G., 1999. "Agricultural trajectories (1961-1991), resulting agricultural profiles and current socio-demographic profiles of rural communities in Southern Quebec (Canada) : a typological outline" *Journal of Rural Studies*, 15, 3, 279-295.
- Paratore E., Banini T., Paoluzi M.L., Romagnoli L., 1995. "Una proposta di delimitazione dell'area metropolitana romana" *Semestrare di Studi e Ricerche di Geografia*. Istituto di Geografia, Universita degli Studi di Roma La Sapienza, Roma. 1-2.
- Parisi A., Mela A., Michelsons A., "Il processo di periurbanizzazione. Indicatori della dimensione residenziale dei fenomeni" in Maciocco G., Clemente F., *Le dimensioni ambientali della pianificazione urbana*. Metodi del Territorio, Franco Angeli.
- Persson L.O., 1999. "A typology of functional regions in Sweden" 2.2. *Typology of cities*, SPESP (Study Programme on European Spatial Planning), annex of the report.
- Persson L.O., 2000?. *Rural development reseearch in Sweden, a literature review*. Arkelton Centre for rural development research.
- Petsimeris P., 1998. "Urban decline and the new social and ethnic divisions in the core cities of the Italian industrial triangle" *Urban Studies*, 35, 3, 449-465.
- Pettersson O., 2001. "Microregional fragmentation in a Swedish county" *Papers in Regional Science*, 80, 389-409.
- Pohlan J., 1996. "Processes of suburbanisation and its effects on the finances of citites in West Germany: the example of Bremen and the surrounding communities" *Environment and Planning C, Government and Policy*, 14, 1, 25-37.
- Pootemans J., 1993. "Een eigen woning in Vlaams-Brabant: een geografische kijk op de markt van residentieel vastgoed" *Leuvense Geografische Papers*, 6, 37-49.
- Priemus H., 1996. "De Randstad in het spanningsveld tussen urbanisatie en suburbanisatie" *Rooilijn*, 29, 1, 28-32.
- Priemus H., 1998. "Contradictions between Dutch Housing Policy and Spatial Planning" *Tijdschrift voor Economische en Sociale Geografie*, 89, 1, 31-43.
- Pumain D., Mathian H., Rozenblat C., 1999. *A regional typology of rural-urban patterns*. SPESP working group report.
- Pumain D., Saint-Julien T., Cattan N., Rozenblat C., 1992. *Le concept statistique de la ville en Europe*. Eurostat, Opoce, Ined, Equipe Paris CNRS. Nurec.
- Rabino A.G., Occelli S., 1996. "Understanding spatial structure from network data: theoretical considerations and applications" *28th International Geographical Congress*, The Hague.
- Rees P., Durham H., Kupiszewski M., 1996. *Internal Migration and Regional Population Dynamics in Europe: United Kingdom case study*, Report prepared for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and

- Social Affairs - DG V), Working Paper 96/20, School of Geography, University of Leeds. 81p.
- Rees P., Kupiszewski M., 1999. *Internal migration and regional population dynamics in Europe: a synthesis*, Council of Europe Press.
- Rees P., Ostby L., Durham H., Kupiszewski M., 1997. *Internal migration and regional population dynamics in Europe: Norway case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 98/04, School of Geography, University of Leeds, 66p.
- Rees P., Stillwell J., Convey A., Kupiszewski M., 1996. *Population migration in the European Union*. Wiley and Sons, London.
- Rees P., Todisco E., Terra Abrami V., Durham H., Kupiszewski M., 1997. *Internal migration and regional population dynamics in Europe: Italy case study*. Report for Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 98/11, School of Geography, University of Leeds, 67p.
- Rees P., van Imhoff E., Durham H., Kupiszewski M., Smith D., 1998. *Internal migration and regional population dynamics in Europe: Netherlands case study*. Report prepared for the Council of Europe and for the European Commission. (Directorate of Social and Economic Affairs, Population and Migration Division) and European Commission (Directorate General Employment, Industrial Relations and Social Affairs - DG V), Working Paper 98/06, School of Geography, University of Leeds. 78p.
- Reginster I., 1998. Qualité de l'environnement urbain et choix de localisation résidentielle: construction d'une méthodologie et analyses. Thèse de doctorat en sciences, UCL, Louvain-la-Neuve. 181p.
- Robinson G.M., 1990. *Conflict and change in the countryside: rural society, economy and planning in the developed world*. Behalven Press, London.
- Romagnoli C., 2001. *Bibliografia su Area Metropolitana*. Ufficio Area metropolitana e decentramento, Firenze.
- Rouyer A., 1995. "Berlin, le parti pris de la densification" *Bulletin de l'Association des Géographes Français*,
- Rouyer A., Scherrer F., 1996. "Lebensraum stadt – La ville, espace de vie - mobilité et communication dans les grandes villes allemandes en 2020: deux scénarios" *2001 Plus*, 40. D.R.A.S.T. Ministère de l'Équipement, des Transports et du Logement (France).
- Saglie I.L., Synnøve L.S., 1997 "Urban Expansion in Norway - Development by plan ?" *Scandinavian Housing and Planning Research*, 14, 51-70.
- Salvatori F., 1997. "Population mobility and new industrial districts: the case of the Third Italy" in Blotevogel H., Fielding A. (Eds.) *People, jobs and mobility in the new Europe*. John Wiley, Chichester. 217-225.
- Schmitt B., Perrier-Cornet P., Blanc M., Hilal M. (Eds), 1998. *Les campagnes et leurs villes*. INSEE-INRA, coll. Contours et caractères. Paris. 203p.
- Schön, K.P., 1991. *Urbanisation-Counterurbanisation-Reurbanisation. Where is Germany today?* . Bonn (Bundesforschungsanstalt für Landeskunde und Raumordnung).

- Schoonbrodt R., Maréchal L., 2000. *La ville, même petite*, Collection Quartier Libre, Bruxelles, 93p.
- Schultz J., 1997. "Mutations des Structures et Espaces Urbains: Les Capitales de l'Europe Médiane" in Maurel M.C. (Ed.), *Recomposition de l'Europe Médiane*. SEDES, Paris. 117-155.
- Serrano J.M., 1993. "Crecimiento y distribución espacial de la población en España durante los años noventa. Aproximación a su estudio." *Revista paralel Granada*. 37(14-15), 163-182.
- Serrano J.M., King R., 1994. *Urban systems and regional organization in Spain*. Research papers in geography. University of Sussex, Brighton.
- Serrano J.M., 1995. "Changes in the interregional migratory pattern in Spain" *Bulletin de la Société Belge de Géographie*, 64, 1, 7-26.
- Serrano J.M., 1998. "La croissance urbaine en Espagne (1950-1991). La fin d'un processus qui eut des conséquences négatives pour l'équilibre territorial" *Acta Geographica*, 113, 51-73.
- Serrano J.M., 1999. "Population and the system of cities". Region of Murcia. Instituto de Fomento, Feder, Cámara oficial de Comercio, Industria y Navegación de Murcia. Coord. J.Aranda, A Martínez. 67-81.
- Sforzi F., 1991. "La delimitazione dei sistemi urbani: concetti, definizioni e metodi" in Bertuglia S., La Bella A. (Eds), *I sistemi urbani*. Franco Angeli, Milano. 443-485.
- Sieverts T., *Zwischenstadt - zwischen Ort und Welt, Raum und Zeit, Stadt und Land*. Bauwelt Fundamente, Vieweg, Wiesbaden, 1997, 182p.
- Skifter Andersen H., Andersen H.T., Aero T., . "Social polarisation in a segmented housing market: social segregation in Greater Copenhagen" *Geografisk Tidsskrift, Danish Journal of Geography*, 100, 71-83.
- Slegers W.F., 1987. *Regional population dynamic and migration in the Netherlands*. Doctoral Dissertation. Dpt Geography. Erasmus Universiteit Rotterdam.
- Spencer D., 1995. "Counterurbanisation-The local dimension" *Geoforum*, 26, 2, 153-173.
- Spencer D., 1997. "Counterurbanisation and rural depopulation revisited: landowners, planners and the rural development process" *Journal of Rural Studies*, 13, 1, 75-92.
- SPESP, 2000. *Study Programme on European Spatial Planning*. Final report. 58p+annexes.
- SSB (Statistics Norway), 1994. *Standard for kommuneklassifisering 1994 (Standard Classification of Municipalities 1994)*. Official Statistics of Norway, Kongsvinger, Oslo.
- SSB (Statistics Norway), 2000. *Population Statistics 1998, with Figures as of 1 January 1999*. NOS C607, Statistics Norway publication. 186 p.
- SSB (Statistics Norway), 2001. *Population and land area in urban settlements, 1 January 2000*. Statistics Norway, article 06 December 2001, + 7 tables.
- Stanback T.J., 1991. *The New Suburbanization. Challenge to the City*. Westview Press, Oxford.
- Statistics Sweden, 1992. *Local labour market areas and employment regions, a new regional division of local labour market areas in Sweden grounded on commuting statistics*. SCB, Labour Information, 1991/7.
- Stern M.A., Marsh W.M. (Ed.), 1997. "The Decentered City: Edge Cities and the Expanding Metropolis" *Landscape and Urban Planning*, 36, 243-246.
- Stewart M., 1997. "Urban Policy in Britain" *Hommes et Terres du Nord*, 1, 18-24.

- Stillwell J., Garcia Coll A., 2000. "Inter-provincial migration of the Spanish workforce in 1988 and 1994" *Regional Studies*, 34, 693-711.
- Stillwell J., Rees P., Boden P. (Eds), 1992. *Migration processes and patterns - vol.2: Population redistribution in the United Kingdom*. Belhaven, London. 256p.
- Storti D. (Ed.), 2000. *Tipologie di Aree Rurali in Italia*. Istituto Nazionale di Economia Agraria (INEA), Roma.
- Storti D., 2000. "The multifacets of rurality in Italy" *International Conference: European Rural Policy at the Crossroads*, Arkleton Centre for Rural Development Research, King's College, University of Aberdeen.
- Strijker D., Sijtsma F., 1996. "Rural areas: definition and economic structure" *Tijdschrift voor Economische en Sociale Geografie*, 87, 1, 80-85.
- Talbot J., 2001. "Les déplacements domicile-travail. De plus en plus d'actifs travaillent loin de chez eux", *INSEE Première*, 767, 2001.
- Thomas D., 1989. "The edge of the city" *Transactions of the Institute of British Geographers*, 15, 131-138.
- Thomas D., 1990. "The Edge of the City" *Transactions of The Institute of British Geographers*, 15, 131-138.
- Thomsin L., 1998. "L'apport du concept de contre-urbanisation au cas de la Belgique" *Bulletin de la Société Géographique de Liège*, 35, 57-66.
- Thomsin L., 1999. *Contribution à l'étude de la rurbanisation en Wallonie. Interrogation d'avenir du processus en Europe continentale du Nord-Ouest*. Thèse de doctorat en sciences, ULG, Liège.
- Thomsin L., 2000. "La reprise démographique rurale en Wallonie et en Europe du Nord-Ouest" *Espace, Populations, Sociétés*, 1, 83-99.
- Tolbert C.M., Sizer M., 1996. *U.S. Commuting zones and Labor Market Areas : a 1990 update*. ERS-USDA (Economic Research Service, US Dept of Agriculture) Staff Paper No AGES 9614.
- Townsend A.R., 1992. "The urban-rural cycle in the Thatcher growth years" *Transactions of the Institute of British Geographers*, 18, 207-221.
- Treu. M.C., Magoni M., Steiner F., Palazzo D., 2000. "Sustainable landscape planning for Cremona, Italy" *Landscape and urban planning*, 47, 79-98.
- URU, OTB, 2000. "Stedelijk ruimtegebruik" *Monitoring verstedelijking*. Report to the Rijksplanologische Dienst, URU (Urban Research, Universiteit Utrecht) and OTB (Onderzoek Instituut, TU Delft).
- Van Dam F., 1996. "The turnaround after the turnaround after the turnaround ? The urban-rural migration wave in the Netherlands, 1973-1994" *28th International Geographical Congress*, The Hague.
- Van Dam F., Huigen P., 1997. "L'espace rural aux Pays-Bas: un changement fondamental" in Van Oort G. (Coord.), "Pays Bas: Dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, 115-123.
- Van den Berg L., 1993. "Patterns of Harmony and Conflict between Horticulture and Urban Growth in The Netherlands" *Geography Research Forum*, 13, 32-45.

- Van den Berg L., Braun E., Van der Meer J., (Eds), 2000. *National urban policy in the European Union, responses to urban issues in the fifteen member states*. Euricur series, Aldershot, Ashgate. 480p.
- Van den Berg L., Wintjes A., 2000. "New rural lifestyle estates in the Netherlands" *Landscape and Urban Planning*, 48, 169-176.
- Van der Cammen H., 1988. *Four metropolises in Western Europe: development and urban planning in London, Paris, Randstad Holland and the Ruhr region*. Van Gorcum, Assen.
- Van der Cammen H., Witsen P.P., 1995. Hartelijke groeten uit het Groene Hart : Tweeëntwintig vaak gestelde vragen over het Groen Hart-beleid. Ministerie van Volkshuisvesting Ruimtelijke ordening en Milieubeheer. Den Haag.
- Van der Haegen H., 1991a. "Les franges périurbaines en Belgique : quelques éléments de recherche concernant leur délimitation, leur population et leurs caractéristiques sociales" *Espace, Populations, Sociétés*, 2, 259-269.
- Van der Haegen H., 1991b. "Migrations métropolitaines, reflet du cycle de vie. L'exemple de Bruxelles Capitale" in Pumain D., Saint-Julien T., Van der Haegen H. (Eds). "Villes en mouvement" *Acta Geographica Lovaniensia*, 31, 96-107.
- Van der Haegen H., Pattijn M., Rousseau S., 1981. "Dispersion et relations de niveau élémentaire des noyaux d'habitat en Belgique, situation en 1980", *Bulletin Statistique*, n°5-6.
- Van der Haegen H., Van Hecke E., Juchtmans G., 1996. "Les régions urbaines belges en 1991" *Etudes Statistiques*, 104, 42p.
- Van der Haegen H., Van Hecke E., Juchtmans G., 1998. "Les régions urbaines" in Mérenne B., Van der Haegen H., Van Hecke E. *Recensement général de la population et des logements au 1^{er} mars 1991 : Urbanisation*, Monographie 11A., Ministère des Affaires Économiques, Institut National de Statistique (I.N.S.), Services fédéraux des Affaires scientifiques, techniques et culturelles (S.S.T.C.), Bruxelles. 79-148.
- Van der Hertten B., 1999. "Les chemins de fer vicinaux et le désenclavement des campagnes belges (1865-1913)", *Bulletin trimestriel du Crédit Communal*, 209, 19-40.
- Van der Laan L., 1996. "Changing urban systems : an empirical analysis at two spatial levels" *Regional Studies*, 32, 3, 235-247.
- Van der Veer J., 1994. "Metropolitan government and city suburban cleavages – differences between old and young metropolitan-areas" *Urban Studies*, 31, 7, 1057-1079.
- Van Hecke E., 1991. "Migrations et dynamique de l'espace belge" *Bulletin de la Société Belge de Géographie*, 2, 159-211.
- Van Hecke E., 1992. "Evolution de l'agriculture en Belgique" , *Courrier Hebdomadaire du Centre de Recherche et d'Information Socio-Politiques (C.R.I.S.P.)*, 1346-1347.
- Van Hecke E., 1992. "Ruimtelijke analyse van de migraties naar leeftijd" *Bevolking en Gezin*, 3, 77-103.
- Van Hecke E., 1996. "L'agriculture dans les régions urbaines belges" in *Recherches de géographie humaine, hommage au professeur C.Christians*. Société Géographique de Liège, Liège. 223-229.
- Van Hecke E., 1999. *De stedelijke hiërarchie in België*. Paper of the Instituut voor Sociale en Economische Geografie, KULeuven, 1999.

- Van Kempen R., Bottenberg Y., Hooimeijer P., 2000. "Viva Vinex ? wonen in Leidsche Rijn" *Leidsche Rijn Monitor 2000*. Utrechts Nieuwsblad, Berenschot, Universiteit Utrecht. 69-90.
- Van Kempen R., Van Weesep J., 1997. "Les villes: mutation des populations urbaines" in Van Oort G. (Coord.), "Pays Bas: Dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, 81-91.
- Van Kempen R., Van Weesep J., 1998. "Ethnic residential patterns in Dutch Cities: backgrounds, shifts and consequences" *Urban Studies*, 35, 10, 1813-1833
- Van Oort G. (Coord.), 1997. "Pays-Bas : dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, numéro spécial.
- Van Oort G., Lucas P., 1997. "La frange urbaine : une analyse des processus de conversion" in Van Oort G. (Coord.), "Pays Bas: Dynamique des villes et des campagnes" *Hommes et Terres du Nord*, 2, 99-105.
- Van Oort, 1996. "Rural-urban fringes: another approach" in Singh S.B., *New perspectives in urban geography*. New Dehli, M.D. Publications PVT Ltd. 97-112.
- Van Staalduine J., Drexhage B., 1995. "The state of the nation after five years of national spatial planning" *Tijdschrift voor Economische en Sociale Geografie*, 86, 2, 191-196.
- Van Uum E., 1998. "Spatial planning scenarios for the Netherlands" *Tijdschrift voor Economische en Sociale Geografie*. 89, 1, 106-116.
- Vandermotten C. (Ed.), 1991. "Les Franges Périurbaines" *Espace, Populations, Sociétés*, 2, 257-300.
- Vandermotten C. (Ed.), 1994. "Gestion des métropoles: Bruxelles" *Revue Belge de Géographie*, 118, 1-92.
- Vandermotten C., 1991. Editorial in "Les Franges Périurbaines" *Espace, Populations, Sociétés*, 2, 257-258.
- Vandermotten C., Vandewattijne P., 1985. "Les étapes de la croissance et de la formation des armatures urbaines en Belgique" in "La cité belge d'aujourd'hui, quel devenir" *Bulletin du Crédit Communal*, 41-61.
- Vandermotten C., Vermoesen F., 1995. "Structures Sociales Comparées de l'Espace de Trois Villes Européennes: Paris, Bruxelles, Amsterdam" *Espace, Populations, Sociétés*, 3, 395-404.
- Vandermotten C., Vermoesen F., De Lannoy W., De Corte S., 1999. "Villes d'Europe – Cartographie Comparative" *Bulletin trimestriel du Crédit Communal*, 207-208.
- Vartiainen P., 1989. "The end of drastic depopulation in rural Finland: evidence of counterurbanisation?" *Journal of Rural Studies*, 5, 2, 123-136.
- Vartiainen P., 1992. "Residential development and housing policy in the city's countryside: the case of Joensuu, Finland" *Scandinavian Housing & Planning Research*, 9, 165-179.
- Vartiainen P., 1993. "Local Government as a promoter and regulator of the dispersing settlement structure in the city's countryside. A case study of Joensuu, a middle-sized city region in Eastern Finland" *Geography Research Forum*, 13, 46-60.
- Vartiainen P., 2000. "Method of description for the urban network in the Baltic Sea region" *The Finnish Environment*, 397. Ministry of the Environment, Land Use Dpt. Helsinki.
- Vartiainen P., Antikainen J., 1999. "The Dynamics of Finnish Urban Regions in the 1990s" in Pikkala S. (Ed.) *Finnish Local Government Approaching the New Millennium*. Finnish Local Government Studies 3, 1999, 396-409.

- Voith R., 1998. "Do suburbs Need Cities ?" *Journal of Regional Science*, 38, 3, 445-464.
- VROM (Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer), 2000. *Nota Mensen, Wensen, Wonen - hoofdstuk 3: Analyse van de woonopgave 2000-2010*. VROM. 22p.
- Wassenberg F.A.G., Kruythoff H., Leliveld T.A.L., Van der Heijde J.E.H., 1994. *Wonen op niveau: de marktverrag voor vinex-locaties in de Randstad gepeild*. VROM (Ministerie van Volkshuisvesting Ruimtelijke ordening en Milieubeheer), Den Haag.
- Wassenberg F., 1996. "Weg uit de Randstad" *Geografie*, 5, 2, 10-11.
- Werner K., 1982. "Le suivi statistique des mutations foncières: l'exemple de l'Allemagne" *Etudes Foncières*, 15, 31-33.
- Wessel T., 1998. "Housing and Welfare in Norway: Compensation and Double Deprivation" *Norsk Geografisk Tidsskrift*, 209-219.
- Wessel T., 2000. "Social polarisation and socio-economic segregation in a welfare state : the case of Oslo" *Urban Studies*, 37, 11, 1947-1967.
- Whitehand J.W.R., 1990. "Makers of the residential landscape: conflict and change in outer London" *Transactions of the Institute of British Geographers*, 51, 87-101.
- Wiegandt C.C., 2001 (forthcoming). "Urban Development in Germany – perspectives for the future" *GeoJournal*.
- Wynn M., 1984. *Planning and urban growth in the Southern Europe*. Mansell, London.
- Zerbi M.C., 1979. *Geografia delle aree periurbane*. Unicopli, Milano.

LIST OF FIGURES AND MAPS

Figures

1. (Part I)	Eurostat classification along the urban-rural gradient.....	14
2. (Part I)	OECD classification along the urban-rural gradient.....	15
3. (Part I)	Urban classification according to Corine Land Cover.....	19
4. (Part II, Netherlands)	CBS urbanisation classes and Rees classes.....	33
5. (Part II, Netherlands)	Ageing of the population scenario.....	36
6. (Part II, Netherlands)	Net internal migration rates by age in 1984 and 1994	38
7. (Part II, Belgium)	Relative share of population according to the different size of the cores.....	48
8. (Part II, Belgium)	Population change from 1981 to 1995 in the different urban classes	52
9. (Part II, Great Britain)	Population change by functional region types and zones	64
10. (Part II, Germany)	Share of population within the urban classes	70
11. (Part II, Germany)	Urban land use evolution by area types	77
12. (Part II, Italy)	Typology of urban expansion types	87
13. (Part II, Italy)	Natural and migration rates by Italian regions in 2000	89
14. (Part II, Italy)	Population change by urban zones	92
15. (Part III)	Comparing spatial typologies (F, NL, B, G and GB).....	116

Maps

1. (Part I)	French peri-urban areas.....	7
2. (Part I)	Urban classification from Corine Land Cover.....	18
3. (Part II, Netherlands)	Address density based classification and urbanisation classes.....	32
4. (Part II, Belgium)	Urban regions and residential commuter zones.....	46
5. (Part II, Belgium)	Functionnal and morphological urbanisation in Belgium.....	49
6. (Part II, Great Britain)	Functional regions in Great Britain.....	61
7. (Part II, Germany)	Commuter catchement areas and urban regions.....	69
8. (Part II, Germany)	Urban and rural areas in Germany.....	71
9. (Part II, Germany)	Migration rates in Germany 1993.....	76
10. (Part II, Italy)	Urban sprawl index.....	86
11. (Part II, Italy)	Population growth in the province of Rome.....	93
12. (Part II, Italy)	Volume of migration flows for young adults by province.....	95

LIST OF ANNEXES

- A: Terms of reference note of the project (in French)
- B: Description of catalogues and databases (in French and English)
- C: Keywords used in bibliographical databases
- D: Country specific interrogations and consulted organisations
- E: French definitions of urban and rural areas (from Schmitt *et al.*, 1998)
- F: European typology of urban-rural regional contexts (cluster analysis) (SPESP, 2000.p.26)
- G: European typology of urban rural relationships (hierarchy, travel time and mono- or poly-centric areas)
- H: Classification of urbanisation patterns of the Netherlands (by Rees *et al.*, 1998)
- I: Size and growth of cores in Belgium 1991 (from Halleux, 1998, p.31)
- J: Classification of Italian urban systems (from Italian working group SPESP)
- K: 10 Metropolitan provinces in Italy

L'ETAT DE LA PERIURBANISATION EN EUROPE : CAHIER DES CHARGES

L'objectif est d'**éclairer les réflexions prospectives** menées en France dans le cadre de la DATAR grâce à un état des lieux de la situation en Europe, éventuellement élargi à l'Amérique du Nord.

Pour cela, **la question posée** est : quelle est l'extension du périurbain en Europe et quelles sont les tendances démographiques récentes du mouvement de périurbanisation (flux migratoires, composition sociale des migrants, etc.) ? Pour y répondre, il faut au préalable savoir si l'extension / étalement des villes est analysé par des concepts proches de celui de « périurbain à la Française » (cf. infra) (si non, quel est le cadre conceptuel ?).

*
* * *

Par « périurbain », on entend ici des espaces :

sous influence urbaine en ce sens qu'un nombre important d'actifs périurbains travaillent dans des pôles urbains,

présentant des caractéristiques rurales : présence d'une activité agro-forestière qui occupe une part importante des sols, donc faibles densités de populations.

En termes négatifs, le périurbain n'est donc pas défini comme les villes (et le rural, qui est le solde), à partir de critères qui reposent le plus souvent sur un seuil de taille de population et de contiguïté du bâti. Il peut y avoir des villes comme des communes rurales dans le périurbain. La définition du périurbain n'est pas non plus celle de la frange urbain/rural qui ne concerne généralement qu'une mince bande autour des villes. Le concept diffère aussi de celui de counter-urbanization, au sens de T. Champion, i. e. un mouvement de desserrement de la hiérarchie urbaine pouvant concerner le rural « profond » tout comme le périurbain.

En termes positifs, le périurbain correspond en France aux aires contiguës autour de pôles urbains (ces derniers étant un ensemble urbain contigu autour d'une ville-centre) composé de commune qui envoient au moins 40 % de leurs actifs travailler dans le pôle. Cela couvre _ du territoire français et concerne _ de la population (cf. zonage INSEE en aires urbaines pour plus de précisions). En termes positifs encore, le périurbain peut être défini, pour un économiste, comme un espace « mixte » (ou « intégré ») : activités de consommation (résidentielle) et de production (agricole) y coexistent.

*
* * *

Il s'agit de faire une synthèse des recherches en démographie, géographie et économie : essentiellement par un dépouillement de la littérature scientifique : revues, ouvrages et thèses, publications statistiques, éventuellement par quelques interviews d'experts nationaux.

On attend un document composé d'un résumé d'une dizaine de pages et du rapport lui-même donnant les résultats de l'étude pour les principaux pays européens. Soit, au minimum : Royaume-Uni, Allemagne, un pays de Sud (Espagne ou Italie), Benelux, un pays du Nord (Danemark, Finlande ou Suède). Selon les éléments recueillis, des éclairages pourront être donnés pour d'autres pays Européens ou Nord-Américains. Le rapport comportera une bibliographie et des illustrations éventuelles. Un pré-rapport sera remis le 30 mars 2001 et le rapport définitif le 30 juin 2001 au plus tard.

Le financement DATAR pour cette opération est de FF 30 000 (TTC ou HT ?).

(alphabetical order)

Current Contents

<http://www.bib.ucl.ac.be/erl-cc.html>

Edités par ISI (Institute for Scientific Information), les Current Contents recensent les articles de périodiques dans les sept sections suivantes: Life science , Clinical medecine , Agricultural, biological & environmental sciences , Physical, chemical & earth sciences , Engineering, computing & technology , Serials & behavioral sciences , Arts & humanities

En tout 5500 périodiques sont répertoriés. La base de données comporte, outre la table des matières, les ABSTRACTS pour plus de 70 % des notices. Les Current Contents sont disponibles depuis janvier 1994.

Dissertation Abstracts

<http://www.bib.ucl.ac.be/dissertation.html>

Dissertation Abstracts contient des thèses depuis 1861 jusqu'à nos jours. Les thèses après 1980 sont munis d'un résumé de 350 mots rédigé par l'auteur. Les thèses de " masters " ont un résumé de 150 mots. Des 1, 5 M titres recensés, plus d'un million sont disponibles en full-text avec possibilité de commande en format électronique, papier ou microforme.

Les thèses viennent de plus de 1000 graduate schools américains ainsi que des universités européennes.

EconLit

<http://www.bib.ucl.ac.be/erl-econlit.html>

La base de données EconLit de l'American Economic Association sur CD est une version étendue de la base de données bibliographique de livres, journaux et dissertations du Journal of Economic Literature(JEL).

EconLit comprend également les citations d'articles des volumes collectifs indexés dans les volumes annuels de Index of Economic Articles ainsi que les abstracts et les citations de journaux non imprimés dans le JEL.

De plus, EconLit comprend toute la base de données des Abstracts of Working Papers in Economics, une publication des Cambridge University Press.

La base de données EconLit est équivalente en contenu et couverture à Economic Literature Index disponible sur DIALOG © sous le nom File 139

et sur DIALOG's KNOWLEDGE INDEX © sous le nom File ECON1.

LIBIS-Net

http://www.libis.kuleuven.ac.be/lbsfra/lib_f.htm

Les bibliothèques suivantes sont des partenaires actifs du réseau LIBIS. Elles forment la base de la structure organisationnelle du LIBIS-Net :

Academia Belgica, Rome (Italie) - Academia Belgica Bibliothèque

Assurantie Belgische Boerenbond-Belgische Boerenbond, Leuven - ABB/BB

Parlement belge, Bruxelles

Facultés Universitaires de Notre-Dame de la Paix, Namur - FNDP Namur

Facultés Universitaires Saint-Louis, Bruxelles - FU Saint Louis Bibliothèque

IBM International Education Centre, La Hulpe - IBM

Instituut voor Hygiëne en Epidemiologie, Bruxelles - IHE/BELGACOM

Katholiek Documentatie en Onderzoekscentrum, Leuven - KADOC

Katholieke Universiteit Brussel - KU Brussel

Katholieke Universiteit Leuven - K.U.Leuven Bibliothèque

Katholieke Vlaamse Hogeschool, Anvers - Hogescholen Antwerpen

École Royale Militaire, Bruxelles - ERM Bibliothèque

Sociaal Economische Raad voor Vlaanderen - SERV

Vlaams Centrum voor Volkscultuur, Bruxelles - IHE/VCV

Vlaams Parlement, Bruxelles

Vlaamse Economische Hogeschool - Hogescholen Brussel VLEKHO Bibliothèque

Les bibliothèques suivantes sont d'anciens partenaires du réseau. Leurs données sont encore présentes dans le catalogue, mais elles ne sont plus actualisées.

ROLDUC, Kerkrade (NL)

Universiteit Gent - RUGent Bibliothèque

Université Catholique de Louvain, Louvain-la-Neuve – UCL Bibliothèque

PopLine

<http://www.bib.ucl.ac.be/erl-popline.html>

Base de données produite par la "US Library of Medicine", Popline offre des notices concernant la démographie, la santé publique, le planning familial, la prévention en matière de santé, incluant la santé maternelle et infantile dans les pays en voie de développement, les politiques démographiques, les problèmes légaux et les questions éthiques.

Population Index

<http://popindex.princeton.edu/>

This bibliography is designed to cover the world's demographic and population literature, including books and other monographs, serial publications,

journal articles, working papers, doctoral dissertations, and machine-readable data files.

Along with the approximately 400 journals surveyed on a regular basis, many other periodicals covering biological, geographical, economic, and sociological literature are reviewed by scanning the principal bibliographic journals for each discipline, including Biological Abstracts; Current Contents: Social and Behavioral Sciences; Current Geographical Publications; Geographical Abstracts: Human Geography; Journal of Economic Literature; PAIS International in Print; and Sociological Abstracts.

Social Sciences Citation Index

<http://www.isinet.com/>

<http://wwwsci.sia.ucl.ac.be/isicgi411/WoS/help/helptoc.html#ssci>

The Social Sciences Citation Index is a multidisciplinary database, with searchable author abstracts, covering the journal literature of the social sciences. It indexes more than 1,725 journals spanning 50 disciplines, as well as covering individually selected, relevant items from over 3,300 of the world's leading scientific and technical journals.

SSCI:

Provides access to current information and retrospective data from 1973 forward.

Averages 2,700 new articles per week.

Includes approximately 50,500 new cited references per week.

Includes approximately 138 new cited references to patents each year.

Contains a current total of over 3.15 million articles.

Contains searchable, full-length, English-language author abstracts for approximately 60% of the articles in the database.

Some of the disciplines covered include:

Anthropology , History, Industrial Relations, Information Science & Library Science , Law, Linguistics, Philosophy, Political Science, Psychiatry, Psychology, Public Health, Social Issues, Social Work, Sociology, Substance Abuse, Urban Studies, Women's Studies

Base search (Main keywords)

Periurb(-an,-anisation,-anization,-ain)

Suburb(-an,-anisation,-anization,-ain)

Counterurb(-an,-anisation, -anization)

Desurb(-an,-anisation, -anization)

Exurb(-an,-anisation, -anization)

Rurb(-an,-anisation, -anization)

Urban AND Rural

Urban AND Countryside

Urban AND Spatial

Urban spr(-ead, -awl)

Spatial development

Spatial pattern

Land use pattern

Commut(-ing, -er)

Travel to work

Functional region

Resident AND Spatial

Resident AND migration

Resident AND mobility

Population Density

Density gradient

Compact city

Refined by locations

Europe, EU, EEC

name and adjective of each European country

name of main European cities (not exhaustively)

Search on each resulting authors (see bibliography)

Our bibliography results from the interrogation of searchable reference databases but also from more specific interrogations into publications of national authors or institutions:

General and comparative :

- Eurostat and other EU publications
- The more general publications from national authors
- The series *2001 Plus* from D.R.A.S.T. Ministère de l'Équipement, des Transports et du Logement, France.
- SPESP Report

Netherlands :

- Publications from NETHUR, Netherlands Graduate School of Housing and Urban Research (Network composed by 5 Dutch Universities)
- Publications from URU, Urban Research Centre Utrecht
- Publications of following authors : Van Oort, Hooimeijer, Van Dam
- Publications from Ministry of Housing, Physical Planning and the Environment (VROM)

Great Britain :

- Publications from "Royal Geographical Society" and "Institute of British Geographers"
- Publications of following authors Rees P., Champion A.G.
- Publications from DETR (Department of the Environment, Transport and the Regions)
- Publications from the Office for National Statistics

Germany :

- Publications from DIFU (Deutsches Institut für Urbanistik)
- Publications from BBR (Bundesamt für Bauwesen und Raumordnung)
- Publications of the Federal Office of Statistics

Belgium :

- Ulg/SEGEFA (Geography Dept, Liège) library
- KUL/Ward (Geography Dept, Leuven) library

- Publications from KUL/ *Sociale en Economische Geografie*
- Publications of following authors : Halleux J.M., Mérenne B., Van der Haegen H., Vandermortten, Van Hecke
- Publications from INS, Institut National de Statistique

Denmark :

- Publications from Spatial Planning Department of the Ministry of Environment and Energy
- Publications of the Institute of Local Government studies
- Publications of following authors : Andersen H.T., Nielsen B.

Sweden :

- Publications of following authors: Borgegard, Hakansson, Nystrom

Finland :

- Publications of Vartiainen P.
- (To complete according to searches following his e-mail)

Norway:

- Publications from NIBR (Norwegian Institute for Urban and Regional Research)
- Publications of Naess P., Saglie I.L.

Spain :

- Publications from Instituto Statistica
- Bibliography (and coloquio de Geografos espanoles espacios periurbanos) from Serrano J.M.

Italy :

- Publications from Istituto di Statistica
- Dpt de urbanistica Venezia (IUSTA)

(to be completed with web sites)

These definitions are taken from the sections 1.1, 1.2 and 1.3 in Schmitt *et al.*, 1998.

Communes rurales et unités urbaines:

Unité urbaine: ensemble d'une ou plusieurs communes sur le territoire desquelles se trouve un ensemble d'habitations tel qu'aucune ne soit séparée de la plus proche de plus de 200 m et qui comporte au moins 2 000 habitants.

Commune urbaine: commune appartenant à une *unité urbaine*. Les autres communes sont dites *rurales*.

Aires urbaines:

Pôle urbain: *unité urbaine* offrant 5000 emplois ou plus et n'appartenant pas à la *couronne périurbaine* d'un autre *pôle urbain*.

Aire urbaine: ensemble de communes, d'un seul tenant et sans enclave, constitué par un *pôle urbain* et par des *communes rurales* ou *unités urbaines* dont au moins 40 % de la population résidente ayant un emploi travaille dans le *pôle urbain* ou dans des communes attirées par celui-ci.

Couronne périurbaine: ensemble des communes d'une *aire urbaine* à l'exclusion de son *pôle urbain*.

Communes multipolarisées: communes rurales et unités urbaines situées hors des aires urbaines, dont au moins 40 % de la population résidente ayant un emploi travaille dans plusieurs aires urbaines, sans atteindre ce seuil avec une seule d'entre elles, et qui forment avec elles un ensemble d'un seul tenant.

Communes périurbaines: ensemble des communes des *couronnes périurbaines* et des *communes multipolarisées*.

Espace à dominante urbaine: ensemble des *pôles urbains* et des *communes périurbaines*.

Espace à dominante rurale: ensemble des *communes rurales* et des *unités urbaines* n'appartenant pas à l'*espace à dominante urbaine*.

Espace à dominante rurale:

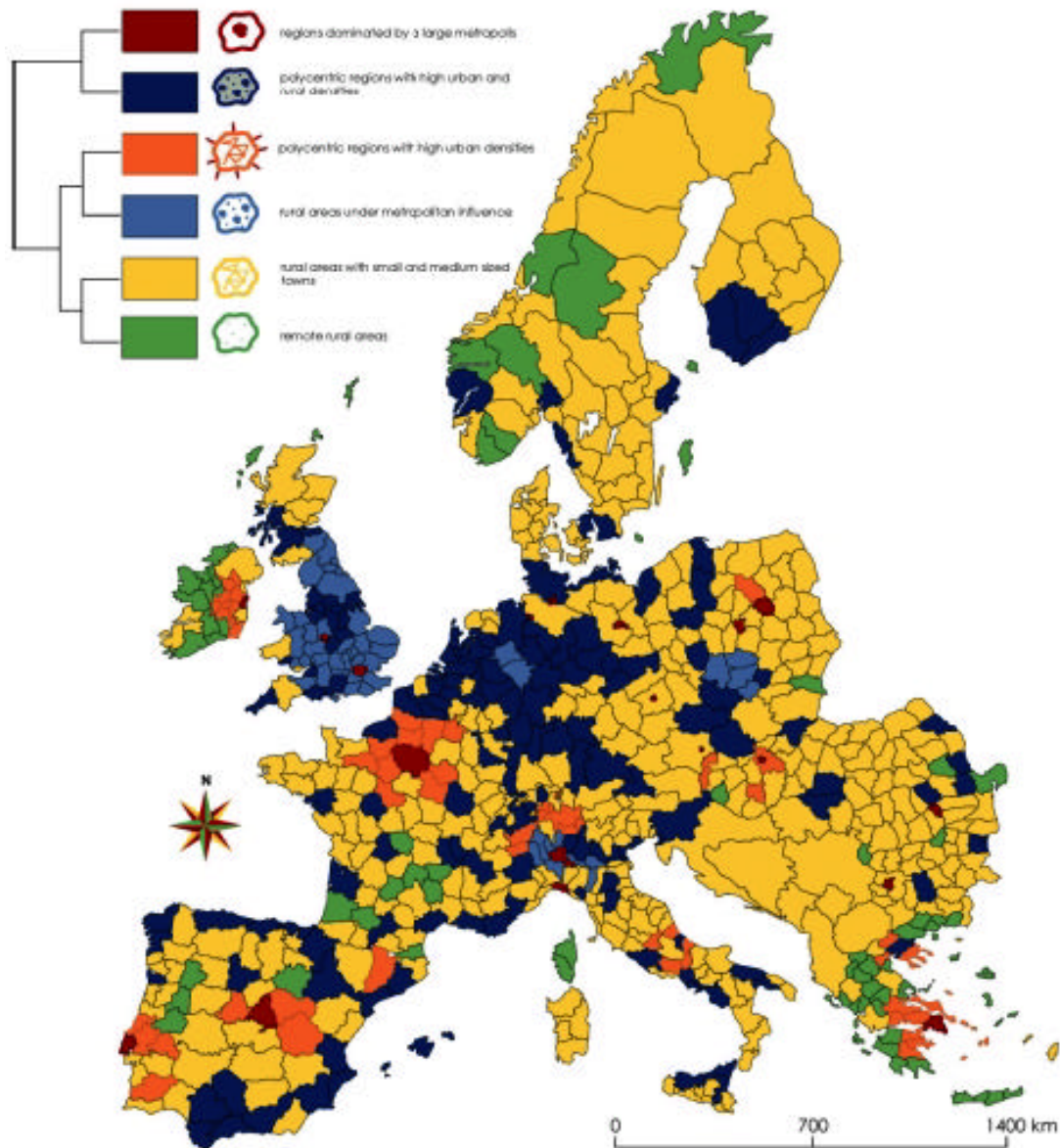
Pôles ruraux: *unités urbaines* ou *communes rurales* appartenant à l'*espace à dominante rurale*, offrant de 2 000 à 5 000 emplois et dont le nombre d'emplois offerts est supérieur ou égal au nombre d'actifs résidents.

Rural sous faible influence urbaine: ensemble des *communes rurales* et des *unités urbaines* appartenant à l'*espace à dominante rurale*, qui ne sont pas des *pôles ruraux* et dont 20 % ou plus des actifs résidents travaillent dans des *aires urbaines*.

Périphérie des pôles ruraux: ensemble des *communes rurales* et des *unités urbaines* de l'*espace à dominante rurale*, n'étant ni *pôle rural*, ni *sous faible influence urbaine* et dont 20 % ou plus des actifs résidents travaillent dans les *pôles ruraux*.

Rural isolé: ensemble des *communes rurales* et des *unités urbaines* appartenant à l'*espace à dominante rurale* et n'étant ni *pôle rural*, ni *sous faible influence urbaine*, ni *périphérie des pôles ruraux*.

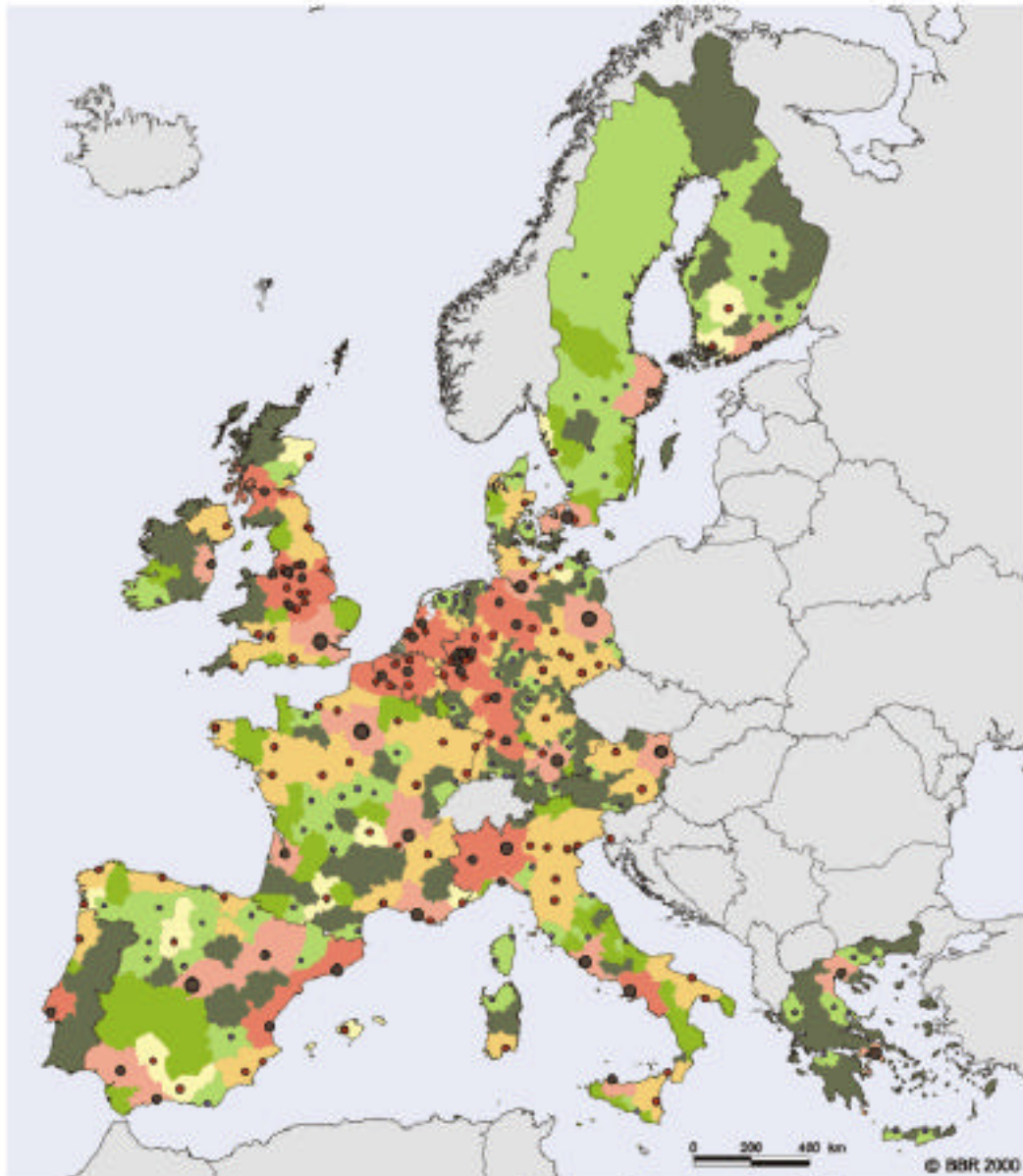
(**Actifs résidents:** personnes ayant un emploi comptabilisées sur leur lieu de résidence. Les **emplois** sont comptabilisés au lieu de travail.)



GDR LIBERGEO - EQUIPE P.A.R.I.S. Sources : Moriconi - Ebrard, Geopolis, 1994, et Eurostat.

Six indicators of urban-rural spatial patterns of settlements were involved in this exercise:

- *urbanisation rate: the urban population in relation to the total population;*
- *rural population density per square kilometre;*
- *the degree of contrast in the distribution of settlement size;*
- *average distance to any urban settlement, weighed by population;*
- *the primacy of the largest city, measured in terms of population size;*
- *the size class of the main centre, also measured in terms of population size.*

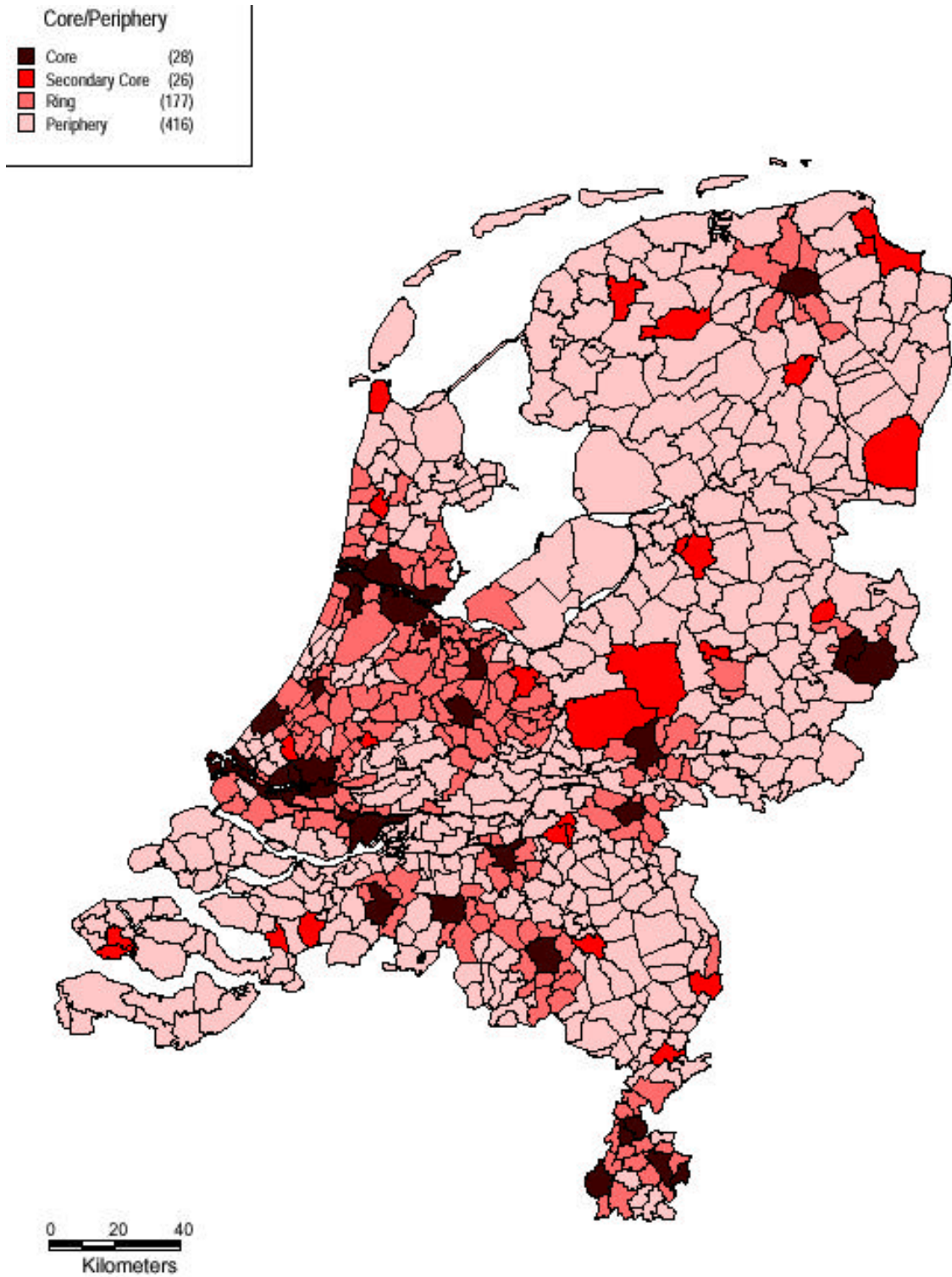


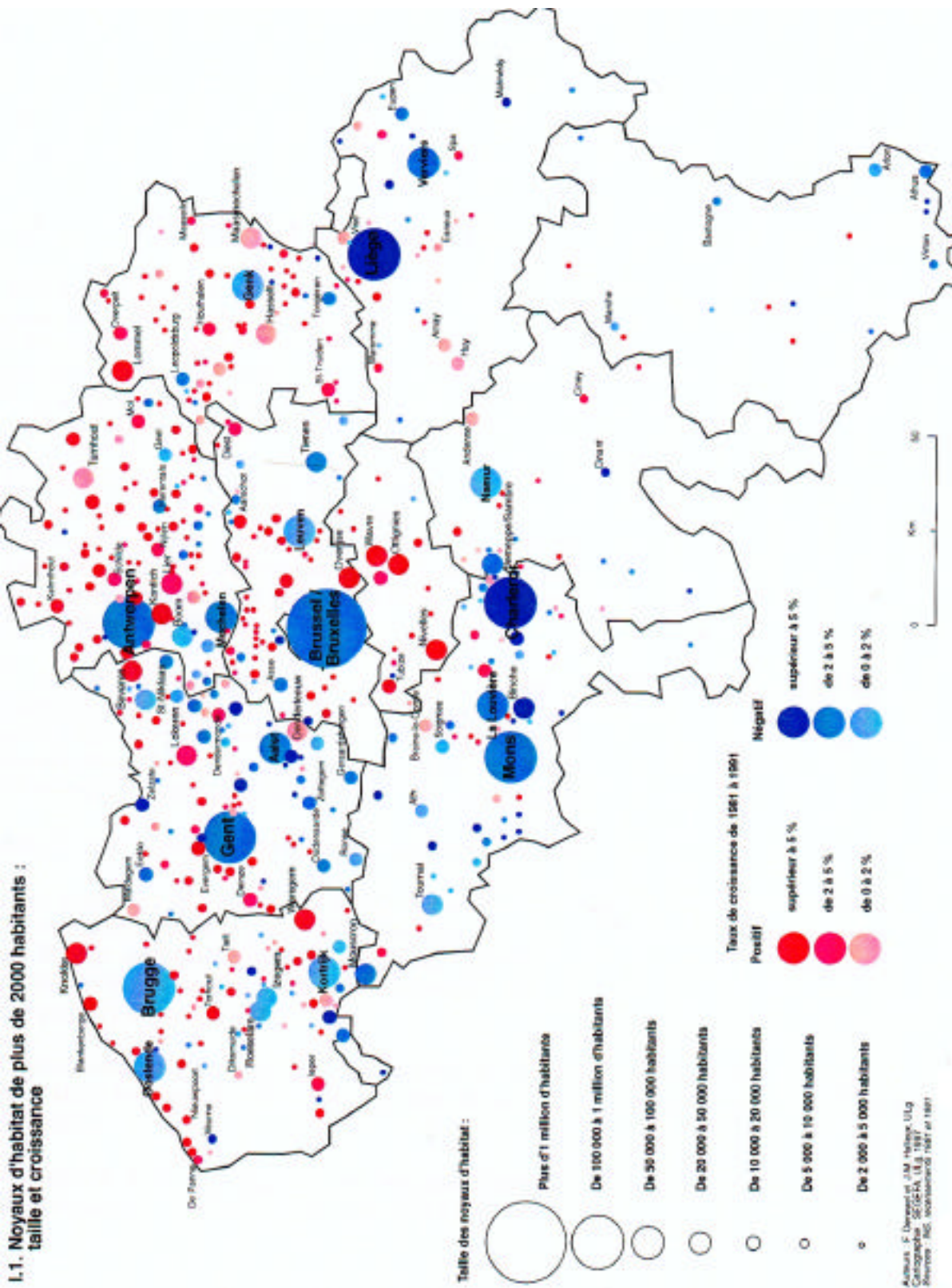
- Metropolitan area**
- Metropolis $\geq 3,000,000$ inhabitants
 - Metropolis 1,000,000 - 2,999,999 inhabitants
 - Metropolis 500,000 - 999,999 inhabitants
 - Polycentric
 - Monocentric

- Regions with medium-sized cities**
- City 200,000 - 499,999 inhabitants
 - Polycentric
 - Monocentric

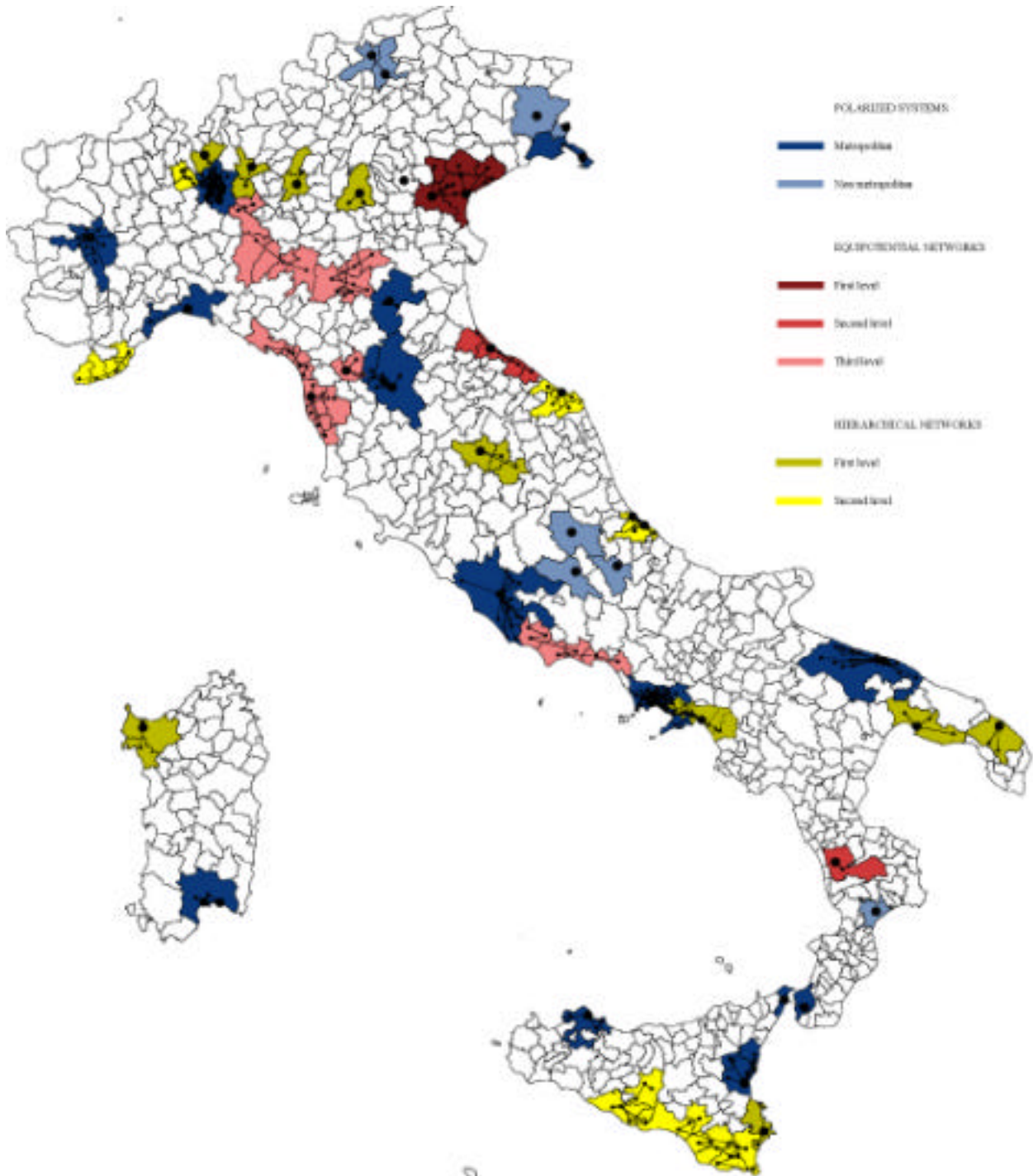
- Regions dominated by smaller cities**
- City 50,000 - 199,999 inhabitants and primacy rate $\geq 25\%$
 - Polycentric
 - Monocentric
 - Region without city $\geq 50,000$ inhabitants

Federal Office for Building and Regional Planning, Bonn





Italian Urban systems based on Local labour market areas



Metropolitan provinces (according to official ISTAT grouping and Rees et al., 1998 definitions)

