Models of Urban Land Use in Europe: Assessment Tools and Criticalities

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ABSTRACT

The aim of this paper is to examine available homogenous data on urban conversion of land in Western European countries and determine whether they are suitable to make an international comparison between land policies and management behaviour at the local level. This paper provides some results obtained from currently available information, but it stresses major data production criticalities which hinder the performance of comparable and reliable overall statistical studies. Conclusions stress the need for greater detail in the production of primary data on the features and magnitude of territorial urbanisation in Europe, as the EEA is doing for main cities. Moreover, this paper includes some remarks on the contents of the preliminary documents of EU soil directive. In particular, it focuses on the issue of urban transformation thresholds over time, a topic that has already been tackled by some northern European countries, however using techniques which cannot be applied as they are to all other countries.

Keywords: Land Uptake, Land Use Change, Soil Consumption, Urban Sprawl

INTRODUCTION

The issue of excessive urban conversion of natural land has been raised at European level only in recent years, mainly through initiatives undertaken by the European Environmental Agency (EEA, 2004. 2006) to analyse this phenomenon and its consequences.

Furthermore, it is worth recalling that the European Commission, based on a need to tackle soil productivity, risks to human health and environment, and to provide opportunities for climate mitigation and adaptation as well as stimulating business opportunities for soil remediation, proposed a Soil Framework Directive in 2006, which amends directive 2004/35/EC (on environmental liability with regard to the prevention and remedying of environmental damage) and reaffirms the status of “non-renewable resource” for this particular territorial component and the need for its conservation. The European Parliament adopted its first reading on the proposal in November 2007 by a majority of about two thirds. During
March 2010 Environment Council, a minority of Member States blocked further progress on grounds of subsidiarity, excessive cost and administrative burden. No further progress has since been made by the Council. The proposal remains on the Council’s table.

The 2006 EEA report states:

All available evidence demonstrates conclusively that urban sprawl has accompanied the growth of urban areas across Europe over the past 50 years. This is shown from a recent European perspective. The areas with the most visible impacts of urban sprawl are in countries or regions with high population density and economic activity (Belgium, the Netherlands, southern and western Germany, northern Italy, the Paris region) and/or rapid economic growth (Ireland, Portugal, eastern Germany, the Madrid region). Sprawl is particularly evident where countries or regions have benefited from EU regional policies.

The aim of this paper is to examine available homogenous data on urban conversion of land in Western European countries and determine whether they are suitable to make an international comparison between land policies and management behaviour at the local level. Our paper provides some results obtained from currently available information, but it stresses major data production criticalities which hinder the performance of comparable and reliable overall statistical studies.

BACKGROUND

The EEA study, the most advanced in this field at EU level, focuses a great deal on urban development, sprawl drivers and their multiform impacts, providing extensive data on the growth of some sample cities and territories, of which an example is shown in Figure 1.

From this EEA research it can be inferred that average European land uptake between 1990 and 2000 amounts to about one million hectares. For many years, some European countries have implemented policies to curb land uptake caused by urbanisation, while other countries have faced the problem more gradually, such as Switzerland or the Netherlands (Datec, 2005; Zonneveld, 2007).

In other continents, signs that risk thresholds, tied to various economic and territorial “diseases”, had been crossed, emerged much earlier and various authors wrote papers to this regard over a time span of almost seventy years.

In the United States, China, India and Latin America, the emergence of “sprawl” (the encroachment of urban land upon the countryside with new suburbs) has now reached alarming proportions in some cases, in relation to coinciding favourable economic, social and physical-climatic conditions (Ewing, 1994). Studies performed in the United States over the past fifty years have mainly focused on the adverse effects that urban sprawl has on the quality of an urban area in terms of community, mobility and energy consumption (Altshuler, 1977; Buttenheim & Cornick, 1938; Dowling, 2000; Flint, 2006; Gaffney, 1964; Gordon & Wong, 1985; Haskell & Whyte, 1958; Hess, 2001; Jenks et al., 1996; Mumford, 1961; Rodwin, 1956). More recently undertaken studies focus on environmental integrity in a broader meaning of the term (Irwin & Bockstael, 2007; World Watch Institute, 2007).

In Europe, the debate has been lively with regard to political stances and has involved many social and territorial governance issues, as well as issues concerning participation in planning processes (Barlow, 1995; Cheshire, 1995). Investigation of the issues of the city-region and the sustainable development of this type of settlement is invaluable in this debate (Hesse, 2007; Herpsberger & Bürgi, 2009; Krueger & Savage, 2007). There are a number of interesting studies that consider urban sprawl as a territorial “disease” for which curbing and mitigating actions and measures need to be studied (Brett-Crowther, 1985; Clarke, 2008; Couch et al., 2007; Dietzel & Clarke, 2007; Johnson, 2001; Kasanko et al., 2006), including the cited work carried out by the EEA (2006)
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