

# EUROPEAN JOURNAL OF SPATIAL DEVELOPMENT

The European Journal of Spatial Development is published by Nordregio, Nordic Centre for Spatial Development and OTB Research Institute, Delft University of Technology

ISSN 1650-9544

Publication details, including instructions for authors: [www.nordregio.se/EJSD](http://www.nordregio.se/EJSD)

## **Sustainable Development and Spatial Planning: Some considerations arising from the Greek case**

Online Publication Date: 2012-03-05

*To cite this article:* Delladetsima, Pavlos Marinos, Sustainable Development and Spatial Planning: Some considerations arising from the Greek case, Refereed article No. 46, March, 2012, *European Journal of Spatial Development*.

URL: [http://www.nordregio.se/Global/EJSD/Refereed articles/refereed46.pdf](http://www.nordregio.se/Global/EJSD/Refereed%20articles/refereed46.pdf)

# **Sustainable Development and Spatial Planning: Some considerations arising from the Greek case**

**Pavlos Marinos Delladetsima**

## **Author Information**

Professor Pavlos Marinos Delladetsima, Department of Geography, Harokopio University Athens, 70 El. Venizelou str. 17671 Kalithea, Athens, Greece.

E-Mail: p.delladetsimas@hua.gr

## **Abstract**

*The paper aims to elaborate on the notion of sustainable development in relation to spatial planning and to question its applicability based on the experience arising from the distinct socio-economic situation in Greece. Experience accumulated in the country with the adoption of sustainable development as a spatial policy concept proves to be in contradiction with perceptions that consider it as a basis for improving the plan making process and the planning system as whole. In this respect, it is argued that sustainable development is not a feasible proposition for planning in Greece and offers little to alleviate urban development and sprawl problems. Further, the paper highlights how a globalised approach to sustainable development and planning in Greece has made a negligible contribution to reinvigorating a weak and disjointed system, while also creating significant adverse effects in spatial policymaking.*

**Key words:** sustainable development, spatial planning, sprawl, Greece.

# 1. Introduction

Almost a quarter century after its founding statement appeared in the Brundtland Commission Report (WCED, 1987) and following an escalating evolutionary process,<sup>1</sup> sustainable development is present today as a core policy not only in leading international organizations (such as the UN and the EU), but also in most national, regional and local institutions throughout the world (Jabareen, 2009). Needless to state, the mounting international interest in research and policy associated with sustainable development has also systematically affected spatial planning (Redclift, 1992; Rees, 1998; Healey & Shaw, 1993; Rydin, 1998; Girardet, 1999). As a matter of fact, this interrelationship between sustainable development (SD) and spatial planning was plainly foreshadowed in the Brundtland Commission Report (WCED, 1987: 6-7). The report highlighted “concentrated-decentralization” as the ideal pattern for reducing the pressures on major agglomerations through the creation of smaller towns integrated more effectively into the rural areas.<sup>2</sup> The notion of SD, and the way it is incorporated in planning in general, is a pertinent matter in times of dramatic climate change and mounting socio-economic problems in cities and regions. Thus, the relationship between SD and spatial planning is now consolidated under the term sustainable urban development or the more “extreme” sustainable city. It is not an exaggeration to argue that the notion has penetrated and permeated national spatial planning systems, and shapes conceptual principles, organizational patterns, policy priorities, practices and plans at all administrative tiers.

The advancement of SD as a global doctrine has been nourished by two evolutionary trajectories: the first arises from the essential interrelation of the fundamental environmental component with socio-economic and intra/inter-generational considerations (Gilbert *et al.*, 1996).<sup>3</sup> The second trajectory is associated with the exposure of the concept to theories and practices from various disciplines, many of which have been thoroughly embraced within SD (Gow, 1992: 51).<sup>4</sup> While fostering the growth of SD, these two trajectories, make it highly vulnerable to social, political and economic pressures when applied in certain geographical contexts (Norgaard, 1992: 87). This means that SD in practice, as a prevalently “context and disciplinary-dependent” notion (Colantonio *et al.*, 2009: 3), is faced with the imminent danger of losing its fundamental outlook when confronted with different socio-economic realities. This could easily lead to a shift in the internal balance of priorities (Bindwell, 1992; Naess, 2001), in favour of narrow technical perceptions of environmental protection, which operate against the SD founding social equity vis-a-

---

<sup>1</sup> For a detailed analytical survey on the evolution of sustainable development as an international policy notion see: Quental *et al.*, 2009.

<sup>2</sup> It is worthwhile drawing a parallel with the notion of concentrated–deconcentration introduced in the 1972 “Blueprint for Survival”, which stipulated the creation of decentralized, self-sufficient and self-governed settlements.

<sup>3</sup> The three components portrayed by Gilbert *et al.* (1996) are: environmental, economic and social sustainability.

<sup>4</sup> Just to give some examples: theories and policy patterns such as local development, economic policy and regional economic development (Goldin & Winters, 1995; Marshall, 2005), institutional-governance theory (Connor & Dovers, 2004; Kemp & Parto, 2005) and innovation theory (Gillespie, 1992; Rammel, 2003), transportation planning (Banister, 2005), regional development (Nijkamp *et al.*, 1992), urban development and planning (Welbank, 1996; Girardet, 1999), land use policy (Owens, 1992), infrastructure development (Ostrom *et al.*, 1993), and property market analysis (Rydin, 1992).

vis democratic values; and effectively prevents the translation of these values into policies (Layzer, 2012). In many respects, this kind of shift could also jeopardize the possibility to enhance essential political reforms for accomplishing SD objectives.

Consequently, when we come to spatial planning, “a significant arena within which the priorities of SD need to be achieved” (Healey & Shaw, 1993: 772), and where the political components are far more accentuated than in other fields, it becomes difficult to identify a universally accepted value system and policy objectives. Spatial planning policies emanating from the SD context converge on some commonly shared objectives however. These objectives include public participation in planning decisions, local empowerment, urban sprawl containment, compact urban structures, densification, mixed-use development, the reduction of private car transportation flows, urban greening, and the conservation of peri-urban green areas. In Europe today, SD spatial planning objectives appear as a top-down condition with which regional and local systems comply or adjust. The extent to which this occurs depends on the various local and regional characteristics that define the patterns of adjustment and the efficacy of SD policies. Ideally, communities with already developed local SD agendas find better matches with broader policies and hence respond more effectively to the related objectives.

Therefore, this paper aims to elaborate on the notion of SD in relation to spatial planning and to question its applicability based on the experience from the distinct socioeconomic milieu of Greece. It will focus on the two levels of spatial planning experiencing the impact of SD; the planning system as a whole and the plan making process. As a weaker EU state financially, and less organized in terms of planning in particular, Greece can be used as a case study to demonstrate the effects produced by the absorption of globalized top-down SD ideas and policies. Our main concern here relates to the efficacy of SD in dealing with spatial development and focuses primarily on urban sprawl, since this, as experienced in this national context, appears to be an acute – if not unique by European standards – environmental-social and economic problem. It is also a problem that directly exposes the feeble role of spatial planning, particularly when it attempts to promote a SD rationale. Clearly, experience accumulated in Greece is in contradiction with perceptions that consider SD as a basis for improving “current procedural and physical design approaches in contemporary planning scholarship and practice” (Berke, 2002: 22). In this respect, it will be argued that SD is not a feasible planning proposition and offers little to alleviate urban development and sprawl problems. Further, the paper will highlight how a globalised approach to SD and planning has made a negligible contribution to reinvigorating a weak and disjointed planning system, producing significant adverse effects in spatial policymaking.

The first part of the paper contains some descriptive segments. This is done in order to take account of the fact that this journal is addressed to an international audience who might have limited knowledge of the country in question and who may not be fully aware of the EU policies that affect its spatial development trajectories and the planning agenda.

## 2. Outline of the Sustainable Development-Spatial Planning Evolution in Europe

Before moving to an elaboration of the Greek case, it is necessary to outline EU spatial policy, which basically sets the top down policy context within which the study area can be analyzed. SD is pervasive throughout Europe; from the highest normative and regulatory EU initiatives<sup>5</sup>, to national and regional regimes, down to local policies, plans and projects. For the EU, SD has assumed a growing importance as a fundamental policy principle (CEU, 2006; CEC, 2010: 17), embraced by European Cohesion Policy and sectoral policies, and also in the creation of a common spatial policy framework. Following a long evolutionary process,<sup>6</sup> SD now contributes to the formation of a common European spatial policy and in turn to the convergence of the diverse national planning systems. This is manifest in the making of the *European Spatial Development Perspective* (ESDP) (CEC, 1999), which following a laborious consultation and political process, is now being endorsed as an overall framework by member states (Albrechts, 1999; Faludi & Waterhout, 2002; Faludi, 2004). The ESDP relies heavily on SD, which is portrayed as a principal objective of the entire EU territory, “a balanced, polycentric, sustainable and competitive development” (CEC, 1999). As an extension of the ESDP background, further developments have also taken place. The 2005 *Bristol Accord* provided “a practical comprehensive framework for sustainable development, economic prosperity and social justice in an era of rapid global economic change” (UK Presidency of the EU, 2005), which was supplemented by the adoption of the *EU Sustainable Development Strategy* (2006).<sup>7</sup> In 2007, the Member States ministers signed the *Territorial Agenda of the European Union: Towards a more competitive Europe of diverse regions*, extending the ESDP policy guidelines to six spatial development priorities.<sup>8</sup> The Territorial Agenda was followed by the *Leipzig Charter on sustainable European cities* (German Presidency of the EU, 2007), constituting a complementary attempt to structure a pan-European urban policy basis emphasizing an integrated development agenda and SD objectives (CEC, 2010).<sup>9</sup>

---

<sup>5</sup> On 27 June, 1985, the Council of the European Communities adopted a directive governing the assessment of factors influencing certain public and private projects relating to the environment.

<sup>6</sup> The process was initiated in the 1990s with the study of urbanization and city functions (CEC, 1992a), while a further boost was given by the *Single European Act*, the first 1985 directive on environmental impact assessment (see previous note) and the *Maastricht Treaty* (Article 3(3)). In addition, reference could be given to for instance the *Green Paper on the Urban Environment* (CEC 1990), *Towards Sustainability* (CEC, 1992b), *European Sustainable Cities Report* (1996). For the evolution of sustainable development, European policy and spatial planning see: Murray, 1994; Faludi & Waterhout, 2002; Herodes *et al.*, 2007.

<sup>7</sup> As an extension of the 2001 Göteborg Strategy that proposed measures related to issues such as climate change, poverty and health problems.

<sup>8</sup> Urban policy has thus assumed a more specific political dimension as expressed at the Ministerial Meeting such as: a) Lille 2000 *The Lille Action Programme* (French Presidency of the EU, 2000); b) Rotterdam, *The Acquis-URBAN* (Dutch Presidency of the EU, 2004); c) Bristol, *The Bristol Accord* (UK Presidency of the EU, 2005); d) Leipzig, *The Leipzig Charter on Sustainable Cities* (German Presidency of the EU, 2007); e) Marseilles, *Common Reference Framework For Sustainable Cities* (French Presidency of the EU 2008) considered a tool to facilitate the concrete implementation of the Leipzig Charter. See also Faludi 2007 as well as Evans 2011.

<sup>9</sup> The Leipzig Charter objectives are: a) Creating and ensuring high-quality public spaces; b) Modernizing infrastructure networks and improving energy efficiency; c) Proactive innovation and educational policies; d) Supporting deprived neighbourhoods (German Presidency of the EU 2007: III).

The implications, especially of the Leipzig Charter, for planning practices in Europe remain to be seen. It could be argued that emphasis is shifting towards translating the Leipzig Charter objectives into practical tools and thereby incentivising a common “European Reference Framework for Sustainable Cities”. Evidently, this is a “new round” of policies that have been formulated at the highest EU institutional level and each national state, region and city is expected to “comply” and/or adjust to them differently via eligibility, subsidiarity<sup>10</sup> or conventional implementation methods. Their impact can be foreseen in relation to the planning systems (institutions, organizational structures and decision tiers) of the member states and to the spatial policy priorities implemented at the local-regional level. Clearly, this approach raises a major question concerning the extent to which such top down initiatives are consistent with the nature of local problems, as well as the capacity of the local systems to implement them (Evans, 2011). Further, it cannot be ignored that the aforementioned initiatives are confronted with socio-economic environments defined by privatization, deregulation, expansion of market relations in service provision and above all, by acute budgetary constraints. In many respects, SD driven initiatives in official EU policy seem more closely aligned with the conditions experienced in Northern-Central European development settings (Maloutas, 2003: 167), and far more distant from the less favoured countries with weaker economies, facing accentuated crisis conditions.

The applicability of initiatives like the Territorial Agenda and the Leipzig Charter in different European spatial contexts is not only linked to EU policy background experience, but also to how they dialectically relate to specific local communities and bottom up socio-economic dynamics. Within this framework, it is evident that there are now countries, regions and cities in Europe which have assumed a leading role in adopting a SD planning agenda, while others have significant ground to make up. As a matter of fact, there has been relative autonomy in many European settings, where EU SD oriented initiatives have been anticipated or consolidated within existing dynamics (Griffiths, 1996).<sup>11</sup> In spatial planning, SD is understood and practiced in varying ways depending on the historical trajectories, socio-economic patterns, institutional and legislative traditions, planning traditions (CEC, 1997) and on the intensity and nature of the problems that need to be tackled (Young *et al.*, 2008). Therefore, there are member states where SD provisions are tailored to their institutions and plan making processes, something that eases their compliance to new EU initiatives. Other countries are lagging behind; their compliance may well assume either a disjointed or even a rhetorical position with limited outcomes in policy practice.<sup>12</sup>

---

<sup>10</sup> As argued in the related report the “question of subsidiarity is key. There are massive differences of opinion regarding if and in which way the EU should be active and to ‘interfere’ in this policy area. It is disputed whether ‘cities’ and their problems have a European dimension. However, it is also recognized that territorial policies are particularly visible in urban areas” (German Presidency of the EU, 2007: IV).

<sup>11</sup> Such initiatives have been the European for Sustainable Cities and Towns Campaign, as the outcome of the 1994 Aalborg Charter; while the evaluation of the entire process and the drafting of new directions has taken place at the Lisbon Conference 1996 (The Lisboa Action Plan: from Charter to Action).

<sup>12</sup> The influence of SD also depends on the different planning traditions. In the UK for instance S.D. has found fertile links with the “garden cities” movement and the overall search for equilibrium between the city and the countryside embedded in the planning tradition. In the Netherlands S.D. is closely associated with the core issues on which the Dutch planning system has been constructed, such

### 3. The Case of Greece

Undoubtedly, SD in Greece - as with other theories and policy practices in the past<sup>13</sup> – has been acquired from outside international experience, and has not developed in response to bottom-up demands at the local level. In this sense, SD is an imported concept and has evolved in parallel with processes promoted at the level of a supranational institution: the EU. As such, SD's function in Greece is poorly defined, particularly in relation to the terms and conditions under which the concept influences policies and planning (Sapountzaki & Karka, 2001; Maloutas, 2003). Such top-down conditioning at the institutional level was illustrated as early as 1987, when the *Centre of Renewable Energy Sources* was created.<sup>14</sup> Moreover, in 2000, the *National Centre of Environment and Sustainable Development* was created,<sup>15</sup> operating as an advisory institution to the central government on environmental and sustainable development issues. Finally, in 2002, the country formulated a “National Strategy for Sustainable Development” putting the relevant principles (the Precautionary Principle, the Polluter Pays Principle, and the Equity and Shared Responsibility Principle) into practice. In parallel, consecutive governments have systematically signed all of the international (e.g. the Kyoto Protocol) and EU accords and directives;<sup>16</sup> including the more recent Bristol Agreement, Territorial Agenda and Leipzig Charter. Despite such agreements, most of the binding commitments with supra national institutions have not been transformed into effective policies. Rather, enforcement procedures are conditioned by long delays or lack of jurisdiction in issuing the required legislative acts and decrees. These delays reflect above all an inertia or negative reaction by the institutional, social and economic agents implicated in the planning process. Thus irrespective of the “good” central government intentions as expressed at the international, and especially EU level, for complying with SD oriented initiatives; the actual spatial policy remains unaffected and has proven unable to confront escalating spatial problems of an environmental, social and economic nature.

### 4. Urban Sprawl Dynamics and the Feasibility of Sustainable Development Objectives

A major spatial development problem in Greece that plainly encapsulates the overall spatial policy weakness and the inherent contradiction with the implementation of core SD objectives (such as containment of urban sprawl, compact city and conservation of peri-urban green areas) is the poorly managed trend of urban sprawl that prevail across the country. Sprawl dynamics dominate peri-urban spaces in all of

---

as: “natural protection” and “conservation of landed assets” (Van Zijst, 2006). The same applies to the German system, founded on 19<sup>th</sup> century liberal ideas and the reciprocal tradition built on maintaining a balanced urban settlement system and the natural and cultural heritage. In the case of France, the historic notion of the “Pays” (recently re-proposed) provides a basis for the integration of environmental protection considerations in spatial planning. See also Faludi (2004).

<sup>13</sup> As this has been in the case of the modernization-urbanization doctrines of the 1960s, growth poles of the 1970s, the balanced equilibrium development of the 1980s, local development of the 1990s etc. (Angelidis, 2005).

<sup>14</sup> Presidential Decree 375/87.

<sup>15</sup> Presidential Decree 325/2000.

<sup>16</sup> For a more extensive analysis see Beriatis, 2000: 82-83.

the major agglomerations in the country and are threatening areas of exceptional environmental and cultural value (e.g. island of Santorini in the Cyclades-Aegean Sea; mount Parnitha in Attica). Established systems that ensure a balance between the natural and man-made environment are being overturned by processes that are damaging to the natural environment as a result of the expansion of built up-artificial areas and subsequent “natural phenomena” (water supply shortage, landslides, flooding and coastal erosion). Hence, cumulative pressure is placed on physical and manmade assets; exposing vulnerabilities and changing the nature, intensity and frequency of catastrophic events (whether earthquakes, forest fires, floods, landslides, erosions, coastal erosion, slide-prone slope failures, and soil liquefactions) which form a vicious cycle of overall degradation of the natural and built environment.

There is very limited information on sprawl at a comparative European level. However, the valuable work produced by the European Environment Agency (EEA, 2005), the only such information available on the matter, reveals that Greece is fifth among 23 member states that have experienced (between 1990-2000) an above average increase in Total Artificial Land Cover Uptake (TALCU) in Europe (together with Portugal, Ireland, Spain, the Netherlands, Portugal and Germany). Sprawling differences between countries are not easily comparable, since they are strongly associated with population densities, the initial extent of urban-artificial areas and other parameters (tenure relations, average plot size, planning systems, land development types etc.). Greece has thus experienced a 13,5% TALCU increase in one decade, consuming previously undeveloped land (see Table 1). The land that has been “consumed” (311.748 ha) by this increase was primarily “arable land and permanent crops” (41%), “pasture and mixed farmland” (34%), “forest and transitional forest shrub” (10,9%) and “natural grassland” (12,4%) (see Figure 1).

Evidently, the aforementioned figures represent a very limited view of the real situation, since sprawl patterns in Greece assume numerous typologies that cannot be recorded and evaluated without systematic empirical work. Sprawl typologies differ in the various cities and regions and involve: a) Formally planned urban land-use expansion zones; b) Single plot developments on agricultural or natural land with an average 4.000 m<sup>2</sup> plot size, as is generally allowed in existing legislation; c) Tourist and leisure uses; d) Shopping malls and retail uses; e) Private speculative housing complex redevelopments; f) Industrial uses; g) Transport and technical infrastructure; h) Illegal construction involving housing and the entire spectrum of peri-urban uses (building without permit, breaching building laws, exceeding area coverage and floor space indices, buildings in forest areas and coastal zones). The fact that artificial land cover take-up consumes predominately high productivity agricultural land and even forest at a rate that is above the European average (see Figure 2), exposes Greece’s inherent inability to implement a consistent land-use policy regardless of the adoption of SD objectives in the official spatial planning documents. In essence, it also exposes how an imported SD rationale in planning is detached from the distinct socio-economic environment and undermines critical determinants that lie at the heart of the current sprawl trends.

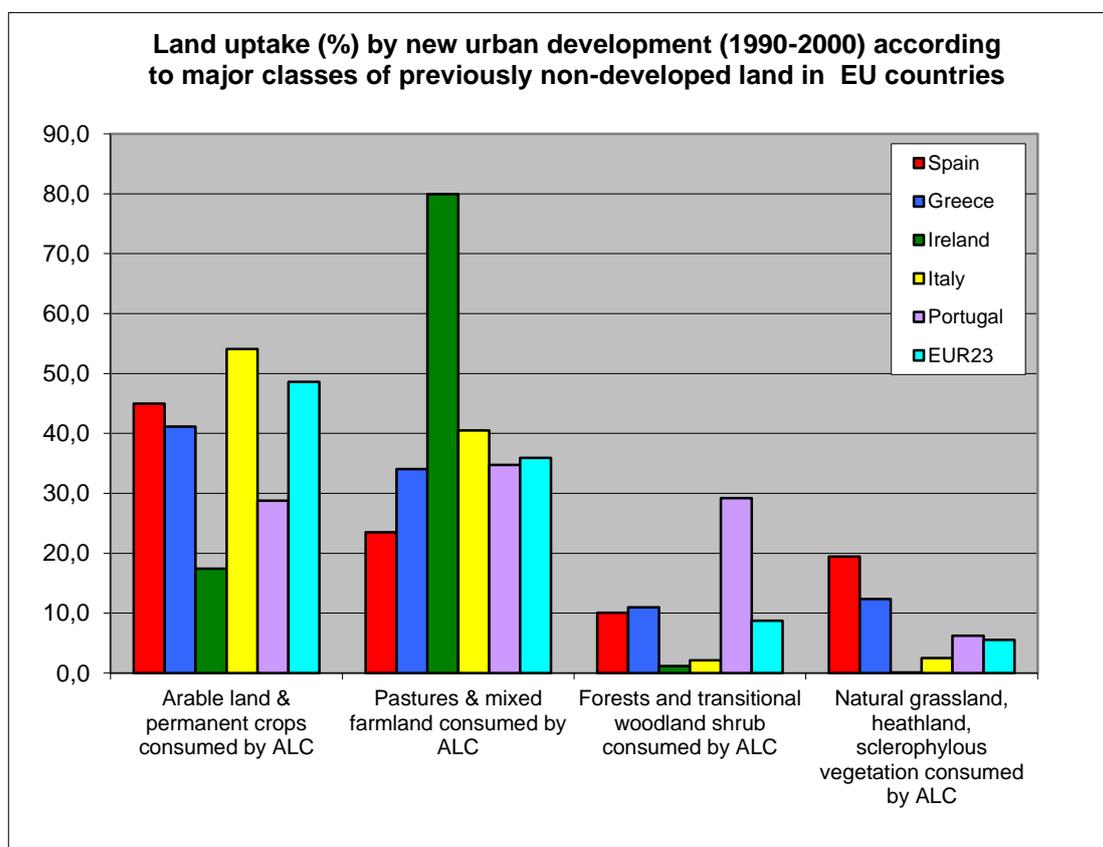
**Table 1: Artificial Land Cover in 23 EU member states (Source: EEA 2005).<sup>17</sup>**

<i>Total Artificial Land Cover Uptake (TALCU)</i>		TALCU area in 1990 (ha)	Observed change in TALCU as of 1990 (ha)	Observed change in TALCU as % of country's TALCU area in 1990	TALCU mean annual change (ha)	TALCU mean annual change as % of country's TALCU area in 1990	TALCU mean annual change as % of total EUR23 mean annual change in TALCU
Portugal	pt	168.985	66.124	39,1	4.723	2,8	4,9
Ireland	ie	102.275	31.958	31,2	3.196	3,1	3,3
Spain	es	637.542	172.718	27,1	12.337	1,9	12,8
the Netherlands	nl	367.918	84.644	23,0	6.046	1,6	6,3
Greece	gr	238.445	32.119	13,5	3.212	1,3	3,3
Luxembourg	lu	19.124	1.602	8,4	146	0,8	0,2
Germany	de	2.723.207	205.945	7,6	20.594	0,8	21,4
Italy	it	1.348.014	83.941	6,2	8.394	0,6	8,7
France	fr	2.560.094	138.857	5,4	13.886	0,5	14,4
Denmark	dk	297.631	13.485	4,5	1.348	0,5	1,4
Austria	at	340.528	11.919	3,5	795	0,2	0,8
Belgium	be	605.517	19.961	3,3	1.996	0,3	2,1
Estonia	ee	85.647	2.432	2,8	405	0,5	0,4
Czech Republic	cz	475.426	11.324	2,4	1.416	0,3	1,5
United Kingdom	uk	1.780.684	36.476	2,0	3.648	0,2	3,8
Hungary	hu	519.131	10.107	1,9	1.263	0,2	1,3
Slovakia	sk	274.381	5.331	1,9	533	0,2	0,6
Poland	pl	1.021.850	19.752	1,9	2.469	0,2	2,6
Bulgaria	bg	541.021	3.509	0,6	351	0,1	0,4
Slovenia	si	49.804	285	0,6	57	0,1	0,1
Romania	ro	1.488.260	8.093	0,5	1.012	0,1	1,1
Lithuania	lt	210.586	716	0,3	143	0,1	0,1
Latvia	lv	83.747	121	0,1	24	0,0	0,0
Europe23	EUR 23	14.159.133	961.418	6,8	96.142	0,7	100,0

The most significant factor that is contributing to sprawl in Greece is the dominance of small self-financed property developments. This pattern prevails through the hegemony (socio-economic, political and cultural) of small-scale owner occupation and the absence of large amounts of investment capital within this spatial arena. Consequently, the pattern has evolved as a result of interplay among the following factors: a) The role of real estate as the inherent financing mechanism of the building construction process; b) The limited presence of major financing mechanisms in the process, which has stimulated the 'relative autonomy' of property development from big construction capital; c) The parallel, but reduced, role of the state in the sphere of production and in all policy aspects (housing and social infrastructure) that directly or indirectly impinge on the spatial environment. In other words, the pattern puts private property in a central and tangible position as an in-built value factor of the development process.

<sup>17</sup> <http://www.eea.europa.eu/data-and-maps/figures>; Accessed on: February 1st, 2011. Additional information: <http://www.eea.europa.eu/data-and-maps/indicators/land-take-2>; <http://www.eea.europa.eu/data-and-maps>.

**Figure 1: Land uptake by new urban development according to major classes of previously non-developed land in 5 EU member states (Source: EEA 2005)<sup>18</sup>**



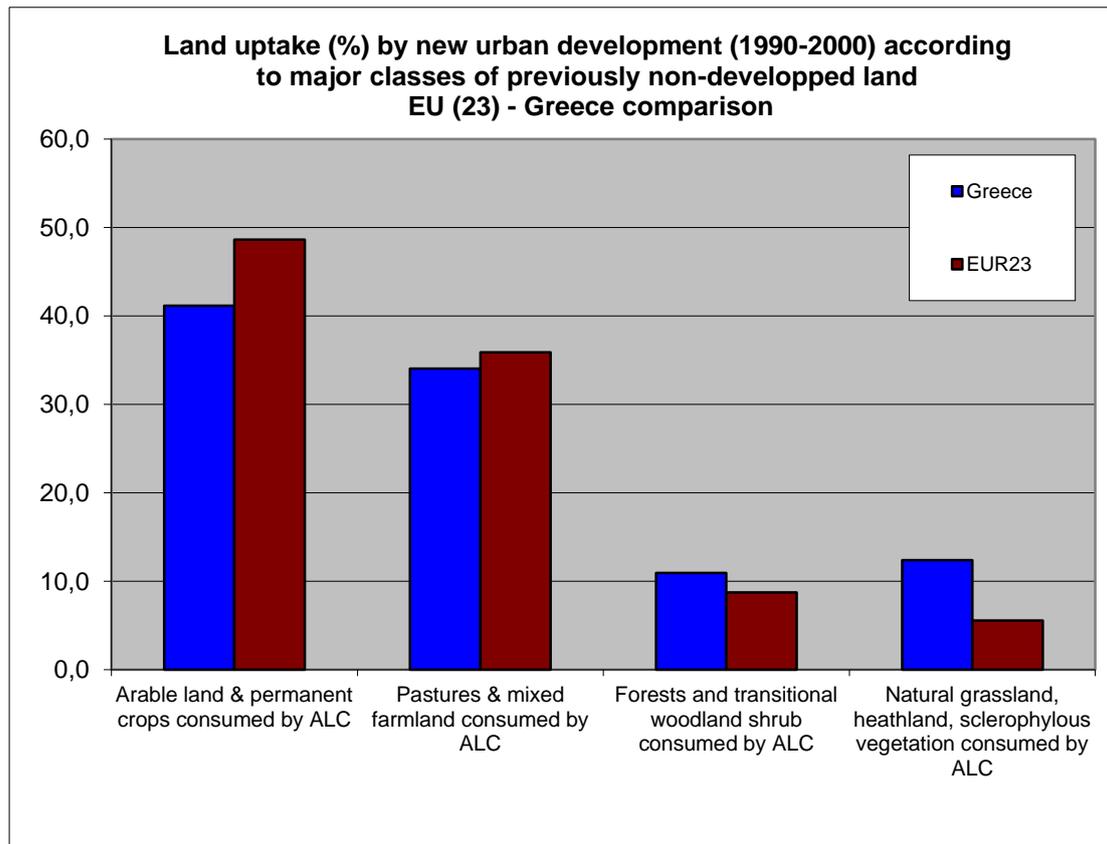
Development that takes place through the conventional pattern results in the production of a complicated property and rent structure. Each newly created asset is, in principle, composed of a higher number of new owners (buyers) occupying the same piece of property. Increased numbers of property owners and intensified use of the same plot entail additional obstacles to any attempt at potential urban restructuring that could arise in response to demands posed by either specific social needs (public housing, social and physical infrastructure) or the globalization of the spatial economy. In order to overcome these obstacles, cities are forced to perpetuate urban sprawl. Simultaneously, every plot of land in a favourable location is perceived as a mere potential development site, something that operates against the maintenance of lower value uses such as agriculture, forestry and industry. Spatial conditions determined by the conventional property pattern are coupled by supplementary problems connected to environmental degradation, the reduction of public space, air pollution and increased carbon dioxide emissions,<sup>19</sup> especially in the major agglomerations of the country. Additionally, the decline of the built environment in an array of urban enclaves, the escalating in-migration flows from non-EU states that concentrate in central areas (especially in Athens and Salonica) and functional and traffic congestion all serve as “push factors” which contribute to sprawl, with considerable negative effects on the natural environment. Therefore, it is not an

<sup>18</sup> <http://www.eea.europa.eu/data-and-maps/figures>; Accessed on: February 1st, 2011).

<sup>19</sup> Based on the Kyoto Protocol and established Community levels, emissions should have increased in Greece by just 25% -relative to 1990 levels -.while by the 2007 they had reached 26%.

exaggeration to argue that SD, as it has been introduced and adopted, has had a negligible impact on spatial policy, and in turn on the acute problems experienced. At this point, it becomes necessary to elaborate on the role of SD considerations both in the planning system itself and on the plan making process.

**Figure 2: Land uptake by new urban development (1990-2000) according to major classes of previously non developed land; comparison between 23 EU member states and Greece (Source: elaboration from EEA 2005)<sup>20</sup>**



## 5. The Planning System

The planning system in Greece is based on a hierarchical but fragmented structure involving central state departments and institutions (such as the Ministry of Environment and Climate Change and its affiliated organizations), the “peripheries” (centrally controlled regional institutions that manage major investment flows and the European Union Community Support Framework funds), the prefectures (democratically elected regional and sub-regional institutions), and the municipalities, at the local level. The array of institutions normally involved in planning and spatial development is indicative of a complex decision-making process. The situation is further complicated by the scarcities resulting from the mid-1990s administrative reform,<sup>21</sup> which did not provide sufficient transparency in the allocation of new competencies and funds, especially with respect to the position of the prefectures.

<sup>20</sup> <http://www.eea.europa.eu/data-and-maps/figures> Accessed on: February 1st, 2011.

<sup>21</sup> Law 2218/1994.

Broadly speaking, in the current state of affairs, the competencies of local authorities evolve within a conventional sphere of service provision and policy, while developmental initiatives are, in principle, *ad hoc* in character. The most recent regional reform is meant to alleviate some of the aforementioned problems through the creation of bigger regions and municipalities,<sup>22</sup> but it is too early to have any clear view on this, since it has not yet been implemented.

In the current state of affairs, administrative competencies and jurisdictions appear to be irrationally delineated. The power of local authorities has gradually been reduced, but without a coherent rationale. As a result, implementation is hindered by overlapping and contradictory competences of various institutions; causing significant delays or even blight. In principle, planning falls within the jurisdiction of the central state and is executed by the central and peripheral administrative tiers. However, the allocation of planning competences “between legislative and executive institutions and between central and local government, has been liable to consecutive constitutional restraints. Numerous decisions by the Council of State have gradually subtracted powers conceded to municipal and prefecture government institutions, leaving with them a consulting role” (Economou & Papamichos, 2003: 174-75). This disjointed framework looks as if it has found a cohesive *raison d'être* in SD; which is partly explainable by the fact that local administrations are ‘eager to comply’ with the governing SD discourse simply to legitimize their actions and to gain access to EU financing. With an overall lack of effective control mechanisms, many initiatives that have little to do with SD objectives are financed as such. Hence, under the “umbrella” of the SD discourse, differentiated interests are allowed to coexist within the same policy context and at worst, fragmented or shortsighted interests prevail against long term development prospects (Blowers, 1992, 1993).

The situation was further complicated when SD was upgraded to an extra-legal concept in support of the Greek Council of State (CoS) verdicts with regard to physical planning and environmental protection. As such, it is endorsed (Dekleris, 2000: 26) with an ecological emphasis (including ecological balance, carrying capacity, biodiversity protection, safeguarding vulnerable eco-systems, protection of natural beauty areas, compulsory environmental damage repair, heritage protection). Other SD principles of greater socio-economic importance remain undervalued in the various CoS interpretations (convergence of public policies with environmental aims, comprehensive spatial governance, sustainable urban environment, health value system). Nonetheless, it is critical to stress that the adoption of SD by the CoS has taken place during a period where its role in the decision-making process has escalated; owing to the weakness of the legislative system and the inefficacy of public administration. The adoption of SD as an extra-legal concept has been highly conditioned by the growing involvement of the CoS in spatial affairs and has thus been approached as a mere legal issue, based on vague knowledge of the evolution of spatial planning theory and practice. As a result, the CoS planning ideas are unequivocally congruent with an outdated “rational comprehensive” vision and a rigid hierarchical structure constituted at the highest level by a national plan (replicating the French *plan national d'aménagement du territoire* of the 1950s), followed by regional and local land use plans. More specifically, the first level consists of the National and Peripheral Plans; the second of the intermediate plans (Master Plans,

---

<sup>22</sup> Law 3852/07/07/2010.

Local Land Use Plans, other land use plans) and the third level of development control regulations (building by-laws, distinct developmental actions and related environmental criteria). All actions emanating from the three levels, according to the CoS perceptions are required to contribute to SD goals. Consequently, the CoS verdicts on contested planning decisions are essentially based on the examination of the various cases in relation to their compatibility with existing plans and regulations at different levels. In cases where a plan has not been endorsed or implemented, the CoS judgments measure existing plans based on the extent to which the contested decision constitutes a breach of environmental SD objectives. In this respect, the role of the CoS has proven to be critical in protecting areas from extreme negative environmental impacts resulting from specific (public or private) actions. At the same time however, its growing involvement in spatial decisions has reduced the role of planning as a social practice, since the CoS verdicts are compartmentalized within a “closed” environmental SD criteria structure. At the broader institutional policy level, this safeguards and reproduces (unintentionally) the existing system, curtailing the prospect of any necessary planning reform.

## 6. The Plan Making Process

As a matter of fact, land use planning only assumed nationwide coverage in the late 1970s and early 1980s, relying heavily on a physical deterministic blueprint rationale and development control practices. This process has remained practically unaltered and is now wrapped in a SD rhetoric, which is based on an exclusively environmental stance, paying negligible attention to socio-economic components. Hence, environmental SD overrides all other aspects of planning policy and respective legislation. It constitutes the leading component in the plan making process and initiatives (programmes, plans and projects), whether in urban policy,<sup>23</sup> regional policy<sup>24</sup> or national planning policy.<sup>25</sup> Normal national public policies like the land registry are portrayed as contributions to SD and more specifically as a “basic and necessary tool for planning and sustainable development” (Ministry of the Environment, Planning and Public Works, 1995). The same applies for all planning projects, major public works and highways where SD is used as discursive cover. All of the projects from the 2004 Olympic Games were presented predominately as initiatives that would foster SD of the Athens Region.

However, there appears to be an inherent contradiction; while planning legislation and the derived plan making process are officially presented as contributors to SD, the legislation contradicts SD objectives, pronouncing a virtually “unsustainable” spatial organization. The planning process has proven unable to enforce planning regulations and land-use control, perpetuating urban sprawl. Planning laws, because of their reciprocity to the conventional property development pattern, favour an expansionist-urban growth tendency (Sayas, 2006). In other words, the conventional self-financed real estate development model is deeply rooted in the Greek society. This has fostered a system that encapsulates a long-standing interrelationship (defined either by periods of consensus or contradictions) between: the state, real estate and all the key actors influencing the land development structure (real estate firms, engineering and

---

<sup>23</sup> Act 17-7-1923, Act 947/1979, Law 1337/82 and Law 2508/97.

<sup>24</sup> Law 2742/1999 Regional Planning and Sustainable Development.

<sup>25</sup> National General Framework 16/4/2008.

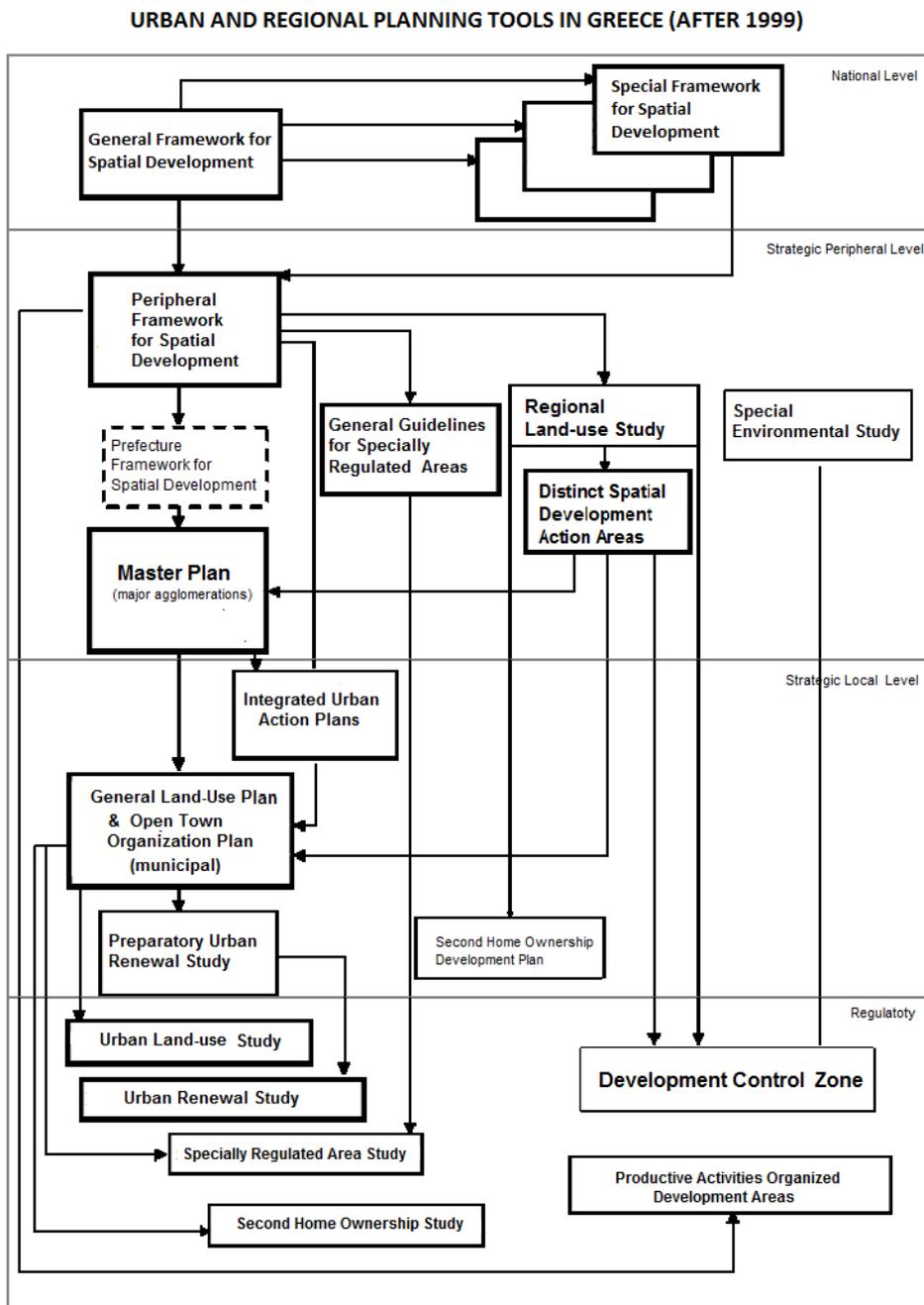
architectural firms, contracting-subcontracting firms, building material suppliers, professional chambers and construction sector trade unions). The entire spectrum of institutional and legislative regulations related to planning, physical development and property taxation, has evolved around this dominant pattern. All basic planning legislative actions embody a fundamental “conventional” logic, in which real estate is officially perceived as a starting capital in direct support of the construction cost. From the existing weak, but highly complex, legislative planning system (See Figure 4), plan making provisions for most national and intermediate levels remain either unimplemented - especially those related to regional planning - or assume an exclusively central outlook (General Framework for Spatial Development, Special Outlook for Spatial Development and Master Plans for the major agglomerations). Hence, the consultative procedures that accompany them are confined within the jurisdictions of public institutions and various central, regional-local authorities. The overwhelming emphasis of planning legislation is on “new expansion land” for development, undermining the possibility of implementing urban renewal, containment or compact city policies. To give an indication, urban renewal and regeneration policies were only launched as institutionally feasible propositions in 1997 with the enactment of Law 2508/97 (Arvanitaki, 2005: 2), which also served as the basis for Urban Renewal Studies which, to date remain utterly unimplemented. Consequently, it could be argued that the overall planning practice focuses predominantly on the Local Land Use Plans and in turn on the Urban Land Use Studies for expansion areas.

The formulation of the General Land Use Plan (or Local Land Use Plan) entails consultations with all public agencies (central, regional local), while the municipality is obliged to launch open public meetings, with the participation of the private planning firm in charge of drafting the plan, local agents, institutions and the public. The municipality is also obliged to publicize plan proposals with posters in municipal buildings, announcements in the press and on the web. These informative-participatory actions are not compulsory parameters for the ultimate plan approval procedures however. On the whole, the plan formulation process is conditioned by the land owning interests and the land development actors, since they are socially active and in most cases are over represented as elected members in the municipal councils. Needless to say, in the plan formulation process and the respective consultative-participatory procedures, little attention is given to enhancing a SD spatial organization.

The implementation stage of the General Land Use Plan is first defined by the formulation of an Urban Land Use Study. This study is basically a property systemization and land-use plan, identifying the necessary space for social amenities, social-technical infrastructure and green zones. The study deals with urban expansion areas which are either built up (in most cases) or peripheral, undeveloped land. The implementation is finalized with an Implementation Action which is used to determine a “betterment levy” or compensation value - proportional to the plot sizes. The proposed plan is then publicized and each land owner has the right to appeal before the final enactment. In principle, land owners tend to safeguard and maximize the potential values of their property assets. Clearly, their interests cannot become part of any purposive action for achieving SD or other collective objectives for the localities in question. The redevelopment process thus becomes a segmented, if not individualized practice, dealing with single land owners and, in the absence of a

collective social negotiation, between the local state, the developers and the local communities. Hence the more localized the planning action becomes; the more detached it is from any SD agenda. At the same time, set in the current situation of acute economic austerity which the country is experiencing, the state has embarked on the adoption of highly anti-SD policies that lead to reduced planning controls as an ad hoc incentive to attract major investment and in parallel to the legalization of: a) building by-laws violations (e.g. the filling up of the so called semi open spaces) by the owners-contractors and b) more recently of illegal constructions as a means of meeting urgent fiscal needs.

**Figure 4. Urban and regional planning tools in Greece after 2009 (Source: Arvanitaki 2005: 7)**



Within this context, objectives set at a higher level that stipulate concentrated-decentralization and the compact city are introduced, leaving the “expansionist” (local) legislative framework untouched. Interestingly, densification in Greece was also an objective in the 1960s, seen at the time as a factor in modernizing the country and promoting economic efficiency. Nowadays, concentrated–decentralization and the compact city are portrayed as SD environmental protection factors. In this respect, the debate on the new Athens Metropolitan Master Plan (*Rythmistiko Sxedio*) is developing in relation to the adoption of the compact city objective. The same applies to the Master Plans (Law 2508/97) of four other major agglomerations in the country that are being put forward (Patras, Volos, Ioannina, Larissa), in which the idea of the compact city appears as a leading concept (Arvanitaki *et al.*, 2009). Even at this early pre-implementation stage, contradictory issues have arisen. They relate to the compatibility of the compact city objective with other policies (economic, transportation, taxation) and question the efficacy of land use planning to fulfill this objective in practice.<sup>26</sup>

Moreover, the setback that has characterized the development of planning in Greece, compared to other countries in Europe, has led to a duplication of physical deterministic planning ideas. These ideas have been consolidated and remain unchanged, despite the striking transformations in the country, which fosters the need to pay more attention to social processes, as shaped by the critical importance of real estate. As such, with the mid-1980s attempt to align spatial planning with SD, the “social” aspect of SD continues to be undervalued, if not ignored. The attempt has simply generated an exclusive “alliance” between physical deterministic and environmental considerations that has dragged spatial policy to a theoretical and practical standstill. Since the late 1980s, no systematic debate has been generated relating to the role of planning, its content, its methodologies and objectives, as compared to previous decades. The limited planning debate has been confined mainly within academic institutions and administrative elites. Thus, through the years and continuing today, the enacted planning policy legislation has received an overwhelming consent by all agents involved in the process (state institutions, local authorities, professional chambers, universities). It would seem that the problem has evolved primarily around environmental SD and a search for standards and indices. Greece clearly exemplifies what Rydin (1992) stressed very early on in the UK; that where there is a growing interest in SD, there is an inordinate move towards the identification of building and technical guidelines, paying remarkably little attention to socio-economic parameters. As a result, there is now evidence revealing the wide divergence between the rationality of environmental standards and the dynamic nature of spatial problems taking place (Maloutas, 2003). This is illustrated in recent development and environmental regulations, which have a greater emphasis on SD criteria and which have inflicted substantial costs on the building unit. Their implementation therefore appears to be socially unfeasible within current budgetary constraints and the crisis conditions many households face. The high expenditure levels required to meet these SD standards – in compliance with EU policy – prove to be realistic only for wealthier individuals. People with lower incomes are instead

---

<sup>26</sup> There seem to be problems in to enshrining an environmentally sensitive (e.g. bio-climatic) design regulations, and energy saving and RES measures (European Parliament and the Council of Europe, 2001). The “green” incentives underestimate broader area wide SD planning considerations and are accessible to higher income households and businesses in a position to obtain loans from the banking system.

faced with serious difficulties in complying with these rising norms and standards at great expense; requiring the support of a shaky banking system.<sup>27</sup>

## 7. Conclusion

Whatever the role of SD internationally, it is clear that in the case of Greece, we have a straightforward situation that is based on different socio-economic grounds and serves different objectives from those commonly shared internationally. The concept has grown to become a wider national policy, conditioned by EU guidelines and initiatives, but there is a large gap between this global-national level policy and regional-urban planning dynamics. Clearly, the notion has had an adverse impact on the planning system and the plan making process. In essence, this impact has consisted of providing a cohesive discourse for a fragmented planning system and decision-making structure. Thus, while SD has become a widely shared agenda (or rhetoric) in spatial policy, it has not acted “as an overarching framework for helping communities to recognize the links among economy, environment, and equity” (Berke & Conroy, 2000). Additionally, SD has been operating as a legitimatizing factor for the existing system, at all government tiers, accentuated by its adoption as an extra-legal notion by the CoS. Given that the role of the CoS role has increased in recent years; transformed from “guarantor to co-producer of public rule” (Giannakourou, 1994: 39), the application of SD at such a supreme level has conditioned the development of the entire planning system. The planning system’s actions are bound to fulfill SD objectives and are “judged” by the CoS with the adoption of plain environmental criteria. In consequence, the planning system as a whole is becoming isolated from critical socio-economic processes with which it is meant to correlate dialectally. In the context of a weak and disjointed plan making process, SD remains a loose notion with no effective impact on the content and quality of land-use plans. The impact of SD on the plan making process has meant above all a consolidation of blueprint methods and physical standards. This impractical association reduces the reliability of the plan in the socio-economic environment within which it has to operate, relegating it to a mere development control exercise accompanied by some additional technical-environmental indices and regulations. In the absence of an integral effective spatial plan, some recent SD-planning objectives, such as the compact city, appear to be totally detached from contemporary urban development trends and incapable of dealing with existing sprawl dynamics.

The purpose of this paper has been to explore the impact of SD on spatial planning following its introduction in a distinct context like Greece. It has raised a number of questions about the inadequacy of the notion to deal with spatial (especially sprawl) problems, to introduce new tangible objectives in spatial planning and to act as a factor of renewing planning both as a system and the plan making process in Greece. It could be argued, that within the existing conditions, sustainable spatial development does not appear to be a viable perspective. To achieve this, there is above all a need for SD to become a far more shared social priority and not a political option that is determined quasi-exclusively by EU top-down conditioning. This also requires a re-

---

<sup>27</sup> Taxation policies for example are strongly grounded on regular or exceptional incomes generated by building construction (only very recently on existing property assets) and therefore the system has depended on the perpetuation of construction activity; hence favouring the lessening control on peri-urban development.

introduction in the debate and practice of the founding SD principles such as: “equity”, “participatory decision making” and “balanced combination of environmental, social and economic considerations”. Finally, to meet the prospect of sustainable spatial development, a key precondition is the reconstruction of spatial planning as a social practice, something that for the time being is almost missing.

## References

- Albrechts, L. (1999) In pursuit of new approaches to strategic spatial planning, *International Planning Studies*, 6 (3): 293-310.
- Angelidis, M. (2005) Polycentricity in Policies: The Greek Case, *Built Environment*, 31 (2): 112-121.
- Arvanitaki, A. (2005) *Urban renewal in Law 2508/97 provisions: A challenge for new forms of governance at the central and local level* (in Greek), Corfu Meeting. Directorate of Urban Planning – Ministry of the Environment Planning and Public Works.
- Arvanitaki, A., Themou, M., Gekas, V. (2009) *The compact city model and its implementation prospects in Greece* (in Greek). Athens: Ministry of Environment, Energy and Climatic Change.
- Banister, D. (2005) *Unsustainable transport: city transport in the new century*, London: Routledge.
- Beriatos, H. (2000) Environmental Planning for Cities (in Greek), in: Modinos, M., Efthymiopoulos, H. (Eds.) *The Sustainable City*, Athens: Stohastis: 71-85.
- Berke, P., Conroy, M. (2000) Are we planning for sustainable development? An evaluation of 30 comprehensive plans, *Journal of the American Planning Association*, 66 (1): 21-33.
- Berke, P. (2002) Does Sustainable Development Offer a New Direction for Planning? Challenges for the Twenty – First Century, *Journal of Planning Literature*, 17 (1): 21-36.
- Bindwell, R. (1992) Sustainability: The link Between Conservation and Economic Benefits, *Environmental Impact Assessment Review*, 12 (1-2): 37-48.
- Blowers, A. (1992) Sustainable Urban Development: the Political Prospects, in: Breheny, M. (Ed.) *Sustainable Development and Urban Form*, London: Pion: 24-38.
- Blowers, A. (1993) (Ed.) *Planning for a Sustainable Environment*, London: Earthscan.
- Colantonio, A., Dixon, T., in collaboration with Ganser, R., Carpenter, J., Ngombe, A. (2009) *Measuring Socially Sustainable Urban Regeneration in Europe*. Oxford: Oxford Institute for Sustainable Development (OISD), School of the Built Environment, Oxford Brookes University.
- CEC, Commission of the European Communities (1990) *Green Paper on the Urban Environment*, Communication from the Commission to the Council and Parliament, com (90), 218 final, 27/06, Brussels: CEC.
- CEC, Commission of the European Communities (1992a) *Urbanization and the Function of Cities in the European Community*, Regional Development. Studies 4 Brussels: CEC.
- CEC, Commission of the European Communities (1992b) *Towards Sustainability: the Fifth Environmental Action Programme*, Luxemburg: CEC.

- CEC, Commission of the European Communities (1996) *European Sustainable Cities. Report: Expert Group on the Urban Environment. Directorate General XI-Environment, Nuclear Safety and Civil Protection.*: Brussels: EU.
- CEC, Commission of the European Communities (1997) *The EU compendium of spatial planning systems and policies*, Brussels: Office for Official Publications of the European Communities, Luxembourg.
- CEC, Commission of the European Communities (1999) *European Spatial Development Perspective: Towards Balanced and Sustainable Development of the Territory of the European Union (ESDP)*, Report: Agreed at the Informal Council of Ministers responsible for Spatial Planning in Potsdam, May 1999, Brussels: European Commission.
- CEC, Commission of the European Communities (2010) Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union, *Official Journal of the European Union*, C 83 Volume 53.
- CEU, Council of the European Union (2006) *Renewed EU Sustainable Development Strategy as adopted by the European Council*, 15/16/06, 10917/06. Brussels: CEU.
- Connor, R., Dovers, S. (2005) *Institutional change for sustainable development*. Cheltenham: Edward Elgar.
- Council of the European Communities (1985) Environmental Assessment Council Directive of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment: 85/337/EEC, *Official Journal No L 175*, 05/07: 0040-004.
- Dekleris, M. (2000) *The Legal Right of Sustainable Development* (in Greek), Athens: Sakoulas.
- Dutch Presidency of the European Union (2004) *Ministerial Meeting Urban Policy: Cities Empower Europe-Acquis – URBAN*, Ministry of the Interior and Kingdom Relations: Rotterdam.200
- Economou, D., Papamichos, N. (2003) Planning for Metropolitan Areas (in Greek), in: Getimis, P., Kafkalas, G. (Eds.) *Metropolitan Governance*, Athens: Ziti: 169-191.
- EEA, European Environment Agency (2005) *National Statistics from land cover accounts (LEAC/CLC) 1990-2000*. CSI014; Hazeu, G., Paramo, F., Weber, J.-L., 06/05. 01/02/2011.
- European Parliament and the Council of Europe (2001) Directive, on the promotion of electricity produced from renewable energy sources in the internal electricity market (RES) *Official Journal of the European Communities*, 27.10.2001, L 283/33.
- Evans, N. (2011) Lost in Translation? – The Bristol Accord and the Sustainable Communities Agenda, Refereed article No. 44, December 2011, *European Journal of Spatial Development* ([www.nordregio.se/Global/EJSD/Refereed%20articles/refereed44.pdf](http://www.nordregio.se/Global/EJSD/Refereed%20articles/refereed44.pdf)).
- Faludi, A., Waterhout, B. (2002) *The Making of the European Spatial Development Perspective*, London: Routledge.
- Faludi, A. (2004) Spatial Planning Traditions in Europe: Their Role in the ESDP Process, *International Planning Studies*, 9 (2–3): 155-172.
- Faludi, A. (2007) Making Sense of the Territorial Agenda of the European Union, *Refereed Articles, Nov. 2007, European Journal of Spatial Development* ([www.nordregio.se/EJSD/refereed25.pdf](http://www.nordregio.se/EJSD/refereed25.pdf)).
- French Presidency of the European Union (2000) *Lille Action Programme – A multi-annual programme of co-operation in urban affairs in the European Union*,

- adopted at the Informal Meeting of Ministers dealing with urban affairs in Lille 2/11.
- German Presidency of the European Union (2007) *Leipzig Charter on Sustainable European Cities*, agreed on the occasion of the Informal Ministerial Meeting on Urban Development and Territorial Cohesion, Leipzig on 24/25-5.
- Giannakourou, G. (1994) The new framework of the spatial policy in the 90's: institutional reorientations and incertitudes' (in Greek), *Topos*, 08, pp. 15-40.
- Gilbert, R., Stevenson, D., Giradet, H., Stern, R. (1996) *Making Cities Work: the role of local authorities in the urban environment*, London: Earthscan.
- Gillespie, A. (1992) Communications technologies and the future of the city, in: Breheny, M. (Ed.) *Sustainable Development and Urban Form*, London: Pion: 67-78.
- Girardet, H. (1999) *Creating sustainable cities*, Dartington: Green Books for the Schumacher Society.
- Goldin, I., Winters, A. (1995) (Eds.) *The Economics of Sustainable Development*, Cambridge: Cambridge University Press.
- Gow, D. (1992) Poverty and natural resources: Principles for environmental management and sustainable development, *Environmental impact assessment review*, 12 (1/2): 49-65.
- Griffiths, J. (1996) Lessons from Europe, Town and Country Planning Summer School Proceedings, *The Planner*, 9: 7-18.
- Healey, P., Shaw, T. (1993) Planners, Plans and Sustainable Development, *Regional Studies*, 27 (8): 769-776.
- Herodes, M., Adelle, C., Pallemarts, M. (2007) *Environmental Policy Integration at the EU Level: A Policy Review*, EPIOGO Paper No5, Berlin: Ecologic Institute for International and European Policy.
- Jabareen, Y. (2008) A new conceptual framework for sustainable Development, *Environment, Development and Sustainability*, 10: 179-192 (<http://www.eqb.state.mn.us/documents/EnvDevSust10p179ANewConceptualFrameworkforSustainableDevelopment.pdf>; accessed November 2011).
- Kemp, R., Parto, S., Gibson, R.B. (2005) Governance for sustainable development: moving from theory to practice, *International Journal of Sustainable Development*, 8(1-2): 12-30.
- Layzer, J.A. (2012) *The Environmental Case: Translating Values Into Policy*, Massachusetts Institute of Technology, Mass: CQ Press.
- Maloutas, T. (2003) Promoting social sustainability; The case of Athens, *City*, 7(2): 165-179.
- Marshall, G. (2005) *Economics for Collaborative Environmental Management - renegotiating the commons*, London: Earthscan.
- Ministry of the Environment, Planning and Public Works (1995) The Land Registry in Greece (in Greek), Ministerial Informational Bulletin, Athens: Ministry of the Environment, Planning and Public Works.
- Murray, S. (1994) Towards a European urban policy', *Local Economy*, 9 (3): 266-277.
- Naess, P. (2001) Urban Planning and Sustainable Development, *European Planning Studies*, 9 (4): 503-524.
- Nijkamp, P., Lasschuit, P., Soeteman, F. (1992) *Sustainable Development in Regional System*, in: Breheny, M. (Ed.) *Sustainable Development and Urban Form*, London: Pion: 39-66.

- Norgaard, R.B. (1992) Sustainability as Intergenerational Equity: Economic Theory and Environmental Planning, *Environmental Impact Assessment Review*, 12: 85-124.
- Ostrom, E., Schroeder, L., Wynne, S. (1993) *Institutional Incentives and Sustainable Development*, Boulder-San Francisco-Oxford: Westview Press.
- Owens, S. (1992) Energy, Environmental Sustainability and Land-Use Planning, in: Breheny, M. (Ed), *Sustainable Development and Urban For*, London: Pion: 79-105.
- Quental, N., Lourenço, J.M., Nunes da Silva, F. (2009) *Sustainable Development Policy: Goals, Targets and Political Cycles*, 19 (1), pp. 15-29 (DOI: 10/sd.416).
- Rammel, C. (2003) Sustainable development and innovations: Lessons from the Red Queen, *International of Journal of Sustainable Development*, 6 (4), pp. 395-416.
- Redclift, M. (1992) The Meaning of Sustainable Development, *Geoforum*, 23 (3): 395-403.
- Rees, W.E. (1998) A Role for Environmental Assessment in Achieving Sustainable Development, *Environmental Impact Assessment Review*, 8: 273-291.
- Rydin, Y. (1992) Environmental impacts and the property market, in: Breheny, M. (Ed.) *Sustainable Development and Urban Form*, London: Pion: 217-241.
- Rydin, Y. (1998) Land use planning and environmental capacity: Reassessing the use of regulatory policy tools to achieve sustainable development, *Journal of Environmental Planning and Management*, 41 (6): 749-765.
- Sapountzaki, K., Karaka, H. (2001) The Element of Sustainability in the Greek Statutory Spatial Planning System: A Real Operational Concept or a Political Declaration?, *European Planning Studies*, 9 (3): 65-89.
- Sayas, J.P. (2006) Urban sprawl in the periurban coastal zones of Athens, *The Greek Review of Social Research*. Special issue 121: 71-104.
- UK Presidency of the European Union (2005) *Bristol Accord: Conclusions of the Ministerial Informal Meeting on Sustainable Communities in Europe*. Bristol 6-7/12.
- Van Zijst, H. (2006) *Sustainable Development Strategy of the Netherlands Background report for the peer review of SDS in the Netherlands 2007*, The Advisory Council for Research on Spatial Planning, Nature and the Environment. Den Haag: RMNO Publications.
- Welbank, M. (1996) The search for a sustainable urban form, in: Jenks, M., Burton, E., Williams, K. (Eds) *The Compact City: A Sustainable Urban Form?*, London: E & FN Spon:74-82.
- WCED, World Commission on Environment and Development (1987) *Our Common Future*. Oxford: Oxford University Press.
- Young, O. R., Schroeder, H., King, L.A. (2008) *Institutions and Environmental Change*, Cambridge, MA: MIT Press.