

## **CONTRIBUTION OF ENVIRONMENTAL PROTECTIONS SPECIALISTS TO SUSTAINABLE LOCAL AND REGIONAL DEVELOPMENT IN ROMANIA**

**Liliana Petrișor<sup>1</sup>, Alexandru-Ionuț Petrișor<sup>2</sup>**

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**Abstract.** While sustainable development involves acquiring the equilibrium of four pillars – economic, social, environmental and cultural, it also has a spatial dimension, which must also balance these criteria. To achieve it, urban and spatial planning, though different by scale and objectives, represent participative processes demanding the presence of inter- and multidisciplinary teams. The paper examines in detail the particular issue of the involvement of specialists with a background in environmental protection in the elaboration and coordination of such plans, focusing on their spatial distribution and potential area of influence. The results of GIS-based spatial analyses indicate that the distribution and influence are uneven, concentrating around large university centers.

### **Introduction**

If attempting to summarize the essence of the “sustainable development” concept, it can be described by balancing three traditional pillars – economic, social and environmental (Bugge and Watters, 2003), to which a fourth cultural one was added by the Oagadougou Summit of Francophony (Iliescu, 2005). Such a balance must be achieved by the development policies also in a territorial perspective (Petrișor, 2008).

The spatial policies are materialized in urban and spatial planning, differing by scale, but also by aim – urbanism refers to punctual interventions, while spatial planning provides for the general guidelines (Petrișor A.-I., 2010). Regardless of their scale and specific objectives, both aim for a sustainable spatial development.

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<sup>1</sup> Lecturer Ph.D., “Ion Mincu” University of Architecture and Urbanism, București, Romania, alexandru\_petrisor@yahoo.com

<sup>2</sup> Ph.D., Romanian Registry of Urban Planners, București, Romania, liliana\_petrisor@yahoo.fr

The process of spatial planning is participative (Lacaze, 1990). Meeting economic, social and environmental needs in a spatial perspective requires a tight collaboration of specialists with different backgrounds (Petrișor, 2006). Nevertheless, the planning process must be coordinated by an urban planner specialized in urbanism, who can interpret the scientific evidence provided by the specialists with different backgrounds from a spatial perspective and use their conclusions in the decision making process. The planning process requires in addition negotiation skills in order to defend the project in front of the authorities habilitated by law to approve it (Lacaze, 1990).

This paper aims to use statistical evidence to look at the contribution of specialists in environmental protection (ecologists, engineers and geographers) to spatial planning by analyzing their spatial distribution. Since the urban areas are at the core of environmental deterioration, generating pollutants and expanding over the natural systems (Petrișor and Sârbu, 2010; Petrișor *et al.*, 2010), a particular attention will be given to the presence of environmental protection specialists attested to contribute to urban and spatial plans in large cities and their potential areas of influence.

### **1. Urban planners**

In the beginning, several legal definitions must be stressed out (Romanian Registry of Urban Planners, 2010). First of all, the concept of “urban planner” needs to be explained. The term is preferred to “urbanist” for two reasons. First, it expresses clearly that the person is a practitioner, as urbanists could be also theorists (Choay, 2011). Second, since the concept of “urbanism” has many definitions, ranging from art or science to activity and system of regulations (Petrișor A.-I., 2010), the term points again toward the practical side. An urban planner is a practicing specialist in urban planning, with legally attested rights of signature.

While professionals with a background in planning – architecture or urbanism (the latest are relatively new in Romania, as the first class has graduated in 2002) – are entitled by law to coordinate the process based on their specific qualification proven by the academic transcripts, connected professionals – engineers, sociologists, ecologists, geographers, economists etc. – are mainly responsible for the elaboration of specific chapters, based again on their background, and can coordinate entire plans only in specific circumstances.

Both categories are entitled to add the qualification “urbanist” to their professional background upon the attestation of their rights of signature by the Romanian Registry of Urban Planners. While those with a background in planning receive the attestation immediately, after the verification of their educational background and professional portfolio, connected specialists must in addition be

examined by a commission and prove their extensive knowledge of the legal requirements related to urban and spatial planning and present in detail their specific work experience in this field (Fig. 1). Upon the attestation of their rights of signature, their professional title becomes, as stated before, “engineer-urbanist”, “sociologist-urbanist”, “ecologist-urbanist” etc.

**2. Specialists in environmental sciences involved in urban and spatial planning**

By law (Romanian Registry of Urban Planners, 2010), urban and spatial planning specialist responsible for the elaboration of specific chapters dealing with environmental issues can have the following backgrounds: urbanism, landscape, geography, biology, ecology and engineering. They are entitled to request rights of signature for the chapters “nature and environmental quality”, “protection and development of the natural heritage” and “environmental quality”. Among the professionals other than architects and urbanists, only geographers and some engineers can also coordinate the elaboration of spatial plans, but not of the urban plans.

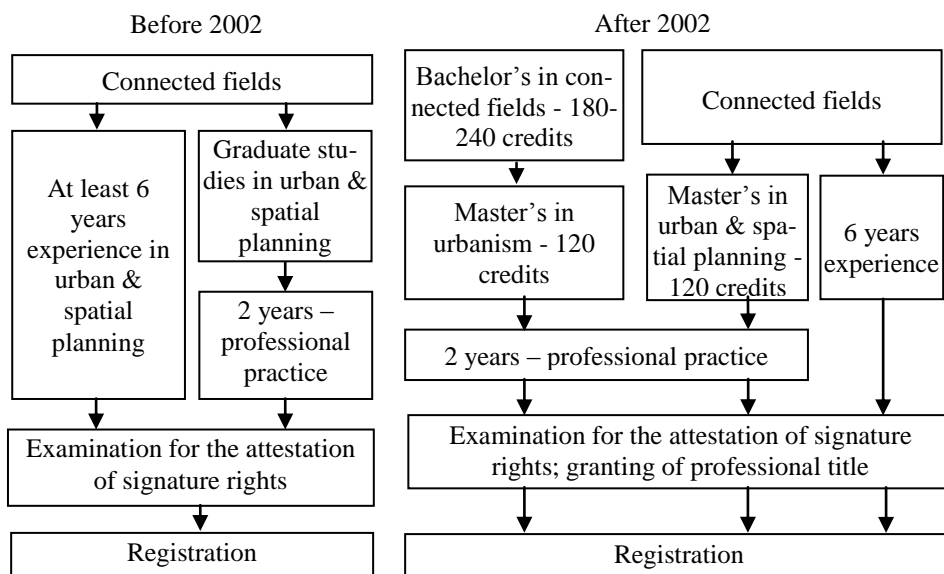


Fig.1 – Procedure for the attestation of the signature rights – connected specialists

Since its foundation in 2004, the Romanian Registry of Urban Planners attested the rights of signature for 1488 architects, 138 urbanists, 79 conducting architects (lesser educational credits) and 131 specialists with a background in

environmental sciences, out of which 3 are entitled to coordinate the elaboration of urban plans and 25 of spatial plans.

### 3. Geographical distribution of environmental sciences specialists with attested rights of signature in urban and spatial planning

The distribution of environmental sciences specialists is presented in Table 1 in relationship to their county and attestation of the rights of signature for the elaboration of specific chapters or coordination of the elaboration of urban and spatial plans.

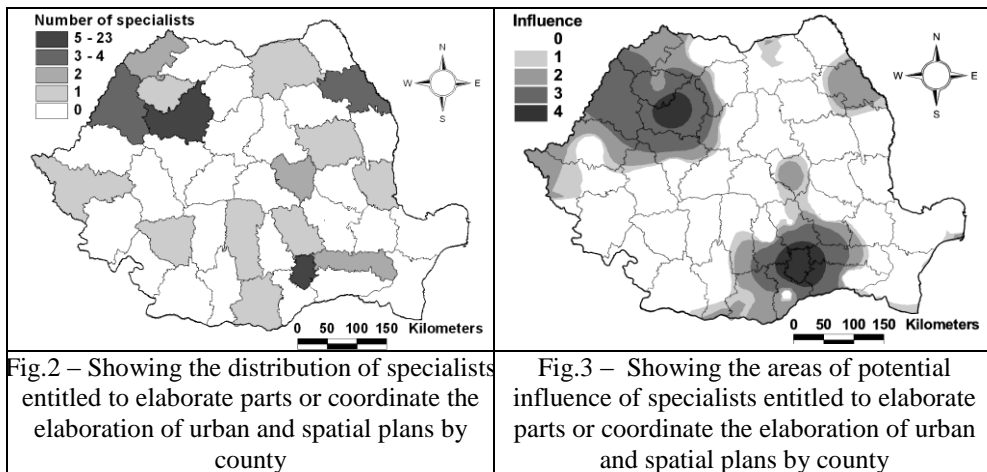
The distribution displayed in Table 1 is mapped in Fig. 2. The figure indicates using the darker shades counties with most specialists. As it can easily be seen, the specialists are distributed unevenly, and most counties do not benefit upon the presence of attested environmental specialists able to contribute to the coordination and elaboration of urban and spatial plans. The underlying causes are that the specialists are grouped around large cities with a strong tradition in education, as they are most likely graduates of these university centers – Bucharest, Cluj Napoca, Iași and, to a lesser extent, Timișoara (Petrișor L. E., 2010).

Table 1. Distribution of environmental sciences specialists entitled to elaborate parts or coordinate the elaboration of urban and spatial plans by county

County	Elaboration of chapters	Coordination of urban plans	Coordination of spatial plans	Total
Argeș		1		1
Bacău	1			1
Bihor	1		3	4
Bucharest	13	1	9	23
Cluj	10		6	16
Covasna	1		1	2
Galați	1			1
Gorj			1	1
Ialomița			2	2
Iași	3			3
Prahova	1			1
Sălaj			1	1
Satu Mare	1	1		2
Suceava			1	1
Teleorman			1	1
Timiș			1	1

**4. Potential territorial influence of environmental sciences specialists with attested rights of signature in urban and spatial planning**

The potential influence of environmental sciences specialists was assessed using a spatial analysis technique called radial basis functions, which produces extrapolation surfaces by creating a special type of neural networks passing through the values from which extrapolation originates (Johnston *et al.*, 2001). The centers used in extrapolation are the actual geometric county centers. The method was used to generate five areas of influence based on the magnitude of influence, displayed in Fig. 3 using darker shades for increasing influence.



The areas of influence clearly show that the environmental sciences specialists who can influence the process of elaborating urban and spatial plans and contribute to writing specific chapters concentrate around the large university centers (Bucharest, Cluj Napoca, Iasi and Timisoara), but also indicate other two nuclei positioned in the counties Covasna and Bihor.

**Conclusions**

While the legislation provides for the involvement of environmental planning specialists in the elaboration of urban and spatial plans since 2004, very few Romanian specialists have taken this advantage. Most of the attested specialists are concentrated around the large university center and can influence the surrounding counties, suggesting an uneven distribution. Its consequence is that a large number of counties lack specialists that know the territorial reality of their area and are able to contribute to its sustainable spatial development.

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