

Bridging the Gap Between Strategic Environmental Assessment and Planning: A Geodesign Perspective

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ABSTRACT

Current planning practices in Europe are affected by new regulations aiming at environmental protection and risk reduction, however, planning professionals often face difficulties in properly implementing the principles given by the norms. This paper discusses the influence of the introduction of Strategic Environmental Assessment and of Spatial Data Infrastructures in the EU, highlighting innovation potential and implementation shortcomings and pitfalls. To address these issues, the Geodesign approach is proposed, firstly analysing its relationships with the current planning regulations at the regional level in Italy, and then its opportunities for application in practice with regard to the Sardinian case study (Italy); secondly an integrated Planning Support System is proposed and tested to implement the core phases of the Geodesign approach. The paper concludes suggesting that Geodesign may fruitfully address some of the major issues in the current planning and SEA practice, taking full advantage of the newly available resources of SDI.

KEYWORDS

Dashboard, Geodesign, Indicators, Planning Support System, Sketch-Planning, Spatial Planning, Strategic Environmental Assessment

INTRODUCTION

Over the last decade, innovations in environmental protection regulations have started to affect the planning practice in Europe, as their principles were transposed in the national and regional legislation frameworks of the Member States.

Firstly, the European Directive 2001/42/EC introduced the Strategic Environmental Assessment (SEA) of plans and programs, including regional, urban and sectorial plans. The SEA is a procedure intended to inform the plan-making process since the early stages of elaboration and before plan adoption, with the aim to govern territorial development according to sustainable principles, including the protection of environmental resources, the social and cultural welfare of the communities, the promotion of savvy decision-making and the participation among the stakeholders and the communities involved in the decision process. Secondly, the European Directive 2007/02/EC, currently under implementation, aims at creating an INfrastructure for SPatial InfoRmation in Europe (INSPIRE) in order to enable sharing of territorial information among public authorities at all levels, to better

DOI: 10.4018/IJEPR.2018010103

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facilitate its public access across Europe. This way, the SEA Directive brought potential innovation into the plan-making process, and the INSPIRE Directive contributed to the digital uptake of the planning media.

While these Directives can be seen as two drivers of innovation and they are starting to substantially affect the way the plan-making process is carried out, difficulties in properly implementing these principles are still found. In operational terms, difficulties are found either in developing transparent and democratic informed decision-making processes and in taking advantage of the new digital sources of information which are growingly made available to support data integration, analysis, design, and impact assessment.

To address these current challenges, the authors argue that the Geodesign methodological approach may contribute to address some of the current critical issues and pitfalls of SEA in spatial planning, fostering better integration of the principles of recent regulations, and successfully exploiting the benefits introduced by new technologies and digital data in planning. To this end, after a general discussion of the potential of Geodesign methods with regard to current planning regulations and practice, the implementation of a Planning Support System (PSS) integrating a range of methods and tools is presented, giving a viable example on how to provide planners with novel instruments for representing and analysing the territory and to improve collaborative processes among stakeholders.

The paper is organized as follows: the first section illustrates in detail the innovation potential introduced in spatial planning by the SEA and the INSPIRE Directives. The second section first gives a brief description of the Geodesign methodological approach based on literature review and subsequently highlights current relationships between the principles of the GD approach and the normative principles of planning regulations (with reference to European and Italian laws) as well as to current planning practices (with reference to the Sardinia case study in Italy). In the third section, after a brief definition of Planning Support Systems, an operational demonstration of methods and tools addressing major SEA tasks in local land-use planning is given. The overall aim of the paper is to investigate to what extent the Geodesign approach and PSSs may support planners during the decision-making process, bringing a new systematic and technologic approach to spatial planning, both in terms of process and tools. Bridging the gap between theory and practice is an urgent issue and testing different viable ways to address it may constitute a valuable knowledge base contributing to bring innovation to present and future planning.

INNOVATION IN SPATIAL PLANNING

The SEA Directive

The European Directive 2001/42/EC introduced the Strategic Environmental Assessment as a parallel evaluation process to the preparation of plans and programmes that may have significant impacts on the environment. The main goal of SEA is to ensure that environmental considerations and sustainability principles are taken into account since the early stage of plan-making, to foster informed, responsible and transparent decision-making processes (Fundingsland Tetlow & Hanusch, 2012).

Given that the evaluation process is intertwined with the preparation of the plan since the beginning of the procedure up to the choice of its objectives, the strategies to achieve them, their impacts and finally the monitoring of the expected results, SEA deeply altered (at least in the intents) the traditional way to carry out the planning process. Moreover, it promotes approaches addressing such concepts and principles as public participation, transparency and collaboration among decision makers, planners and experts from various disciplines.

However unfortunately, in spatial planning practice SEA has not always led to satisfactory results (Parker, 2007; COWI, 2009; Brown & Therivel, 2000), for there is often a lack of shared vision on how to implement its principles in terms of methods and tools. According to Fisher and Gazzola (2006) the effectiveness of SEA is related to the presence of specific context conditions, including

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