

# TeMA

Journal of  
Land Use, Mobility and Environment

This special issue collects a selection of peer-review papers presented at the 8th International Conference INPUT 2014 titled "Smart City: planning for energy, transportation and sustainability of urban systems", held on 4-6 June in Naples, Italy. The issue includes recent developments on the theme of relationship between innovation and city management and planning.

Tema is the Journal of Land use, Mobility and Environment and offers papers with a unified approach to planning and mobility. TeMA Journal has also received the Sparc Europe Seal of Open Access Journals released by Scholarly Publishing and Academic Resources Coalition (SPARC Europe) and the Directory of Open Access Journals (DOAJ).

# INPUT 2014

papers selected

## Smart City

planning for energy, transportation  
and sustainability of the urban system

## SMART CITY

## PLANNING FOR ENERGY, TRANSPORTATION AND SUSTAINABILITY OF THE URBAN SYSTEM

Special Issue, June 2014

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# TeMA

Journal of  
Land Use, Mobility and  
Environment

TeMA. Journal of Land Use, Mobility and Environment offers researches, applications and contributions with a unified approach to planning and mobility and publishes original inter-disciplinary papers on the interaction of transport, land use and environment. Domains include engineering, planning, modeling, behavior, economics, geography, regional science, sociology, architecture and design, network science, and complex systems.

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Journal of  
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This special issue of TeMA collects the papers presented at the 8th International Conference INPUT 2014 which will take place in Naples from 4th to 6th June. The Conference focuses on one of the central topics within the urban studies debate and combines, in a new perspective, researches concerning the relationship between innovation and management of city changing.



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## EIGHTH INTERNATIONAL CONFERENCE INPUT 2014

### SMART CITY. PLANNING FOR ENERGY, TRANSPORTATION AND SUSTAINABILITY OF THE URBAN SYSTEM

This special issue of TeMA collects the papers presented at the Eighth International Conference INPUT, 2014, titled "Smart City. Planning for energy, transportation and sustainability of the urban system" that takes place in Naples from 4 to 6 of June 2014.

INPUT (Innovation in Urban Planning and Territorial) consists of an informal group/network of academic researchers Italians and foreigners working in several areas related to urban and territorial planning. Starting from the first conference, held in Venice in 1999, INPUT has represented an opportunity to reflect on the use of Information and Communication Technologies (ICTs) as key planning support tools. The theme of the eighth conference focuses on one of the most topical debate of urban studies that combines , in a new perspective, researches concerning the relationship between innovation (technological, methodological, of process etc..) and the management of the changes of the city. The Smart City is also currently the most investigated subject by TeMA that with this number is intended to provide a broad overview of the research activities currently in place in Italy and a number of European countries. Naples, with its tradition of studies in this particular research field, represents the best place to review progress on what is being done and try to identify some structural elements of a planning approach.

Furthermore the conference has represented the ideal space of mind comparison and ideas exchanging about a number of topics like: planning support systems, models to geo-design, qualitative cognitive models and formal ontologies, smart mobility and urban transport, Visualization and spatial perception in urban planning innovative processes for urban regeneration, smart city and smart citizen, the Smart Energy Master project, urban entropy and evaluation in urban planning, etc..

The conference INPUT Naples 2014 were sent 84 papers, through a computerized procedure using the website [www.input2014.it](http://www.input2014.it) . The papers were subjected to a series of monitoring and control operations. The first fundamental phase saw the submission of the papers to reviewers. To enable a blind procedure the papers have been checked in advance, in order to eliminate any reference to the authors. The review was carried out on a form set up by the local scientific committee. The review forms received were sent to the authors who have adapted the papers, in a more or less extensive way, on the base of the received comments. At this point (third stage), the new version of the paper was subjected to control for to standardize the content to the layout required for the publication within TeMA. In parallel, the Local Scientific Committee, along with the Editorial Board of the magazine, has provided to the technical operation on the site TeMA (insertion of data for the indexing and insertion of pdf version of the papers). In the light of the time's shortness and of the high number of contributions the Local Scientific Committee decided to publish the papers by applying some simplifies compared with the normal procedures used by TeMA. Specifically:

- Each paper was equipped with cover, TeMA Editorial Advisory Board, INPUT Scientific Committee, introductory page of INPUT 2014 and summary;
- Summary and sorting of the papers are in alphabetical order, based on the surname of the first author;
- Each paper is indexed with own DOI codex which can be found in the electronic version on TeMA website ([www.tema.unina.it](http://www.tema.unina.it)). The codex is not present on the pdf version of the papers.

## SMART CITY PLANNING FOR ENERGY, TRANSPORTATION AND SUSTAINABILITY OF THE URBAN SYSTEM Special Issue, June 2014

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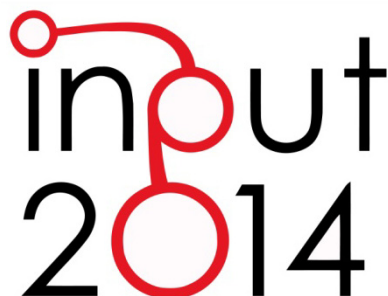
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## SPECIAL ISSUE

Eighth International Conference INPUT  
Smart City - Planning for Energy, Transportation and Sustainability  
of the Urban System

*Naples, 4-6 June 2014*

The logo for the INPUT 2014 conference. It features the word "input" in a lowercase, sans-serif font, with the "i" and "n" connected by a red line that forms a circle. Below "input" is the year "2014", where the "0" is a large red circle. The "1" and "4" are in a standard black font.

## FROM RLP TO SLP: TWO DIFFERENT APPROACHES TO LANDSCAPE PLANNING

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### ABSTRACT

The concepts of governance and sustainable development are concepts related to complex systems and processes, in terms of problems and implications, with a variety of people involved in different ways and whose number has increased over time. In the processes of regional governance, the concept of sustainability interacts with the environment and to the territory.

Since 2006, year of approval of its Regional Landscape Plan (RLP), the Region of Sardinia, has been experiencing a new era of regional governance characterised by a new understanding of environmental resources; and by a different relational approach among regional government bodies, as well as between them and local communities.

In 2009 began the revision phase of the plan recently concluded with the approval of the Sardinia Landscape Plan (SLP). This paper will highlight a comparison between RLP and SLP focusing on three aspects: i) the concept of protection and safeguarding of the territory; ii) the institutional governance; iii) the application of the Strategic Environmental Assessment.

### KEYWORDS

Regional Landscape Plan, Sardinia Landscape Plan, Strategic Environmental Assessment

## 1 INTRODUCTION

The concepts of governance and sustainable development are concepts related to complex systems and processes, in terms of problems and implications, with a variety of people involved in different ways and whose number has increased over time.

In the processes of regional governance, the concept of sustainability interacts with the environment and to the territory. In accordance with the European Landscape Convention (Florence, 2000) part of territory is the landscape as perceived by local people or visitors, which evolves through time as a result of being acted upon by natural forces and human beings. "Landscape policy" reflects the public authorities' awareness of the need to frame and implement a policy on landscape. The public is encouraged to take an active part in its protection, conserving and maintaining the heritage value of a particular landscape, in its management, helping to steer changes brought about by economic, social or environmental necessity, and in its planning, particularly for those areas most radically affected by change, such as peri-urban, industrial and coastal areas.

Based on these principles the Region of Sardinia, in 2006 approved<sup>1</sup> its RLP that in according with the regional Law n. 45/89 "Norme per l'uso e la tutela del territorio regionale" had the function of coordinating and directing the organizational choices of the entire regional territory.

The Legislative Decree of January 22, 2004 n. 42 "Codice dei beni culturali e del paesaggio" (Urban's Code) introduces the RLP as the main tool for regional planning. The RLP's expectations are binding for the plans and are immediately predominant over other regulations that might be contained in the urban tools themselves. Regarding landscape preservation, the regulations contained in it are predominant over the orderings of other planning deeds according to the sector's norms, including those, if more restrictive,<sup>2</sup> concerning nature reserves boards. Municipalities, provinces and nature reserve boards, must adapt their respective plans to the RLP's expectations, by specifying and integrating the contents.<sup>3</sup>

With the RLP the Region of Sardinia, has experienced a new era of regional governance characterized by: a new understanding of environmental resources; and by a different relational approach among regional government bodies, as well as between them and local communities. This paper compares some key governance aspects of the RLP with that of its revision was completed in 2014 with the approval of SLP.<sup>4</sup>

The first paragraph examines the concept of protection and safeguarding of the territory in the planning process in the Region of Sardinia, especially in the RLP and in the SLP. The second paragraph examines the institutional governance in the processes of formation of RLP and SLP. The third paragraph examines the application of the Strategic Environmental Assessment in the processes of formation of both plans.

The conclusion holds some reflections about the various decision-making models applied to landscape planning in Sardinia.

## 2 PROTECTION AND SAFEGUARDING OF THE TERRITORY IN THE PLANNING PROCESS IN THE REGION OF SARDINIA

The RLP is the first plan in Italy, which proposes a new method of interpretation of the regional territory through an innovative process of knowledge, redesign and management of available resources; it was innovative in terms of operational approach to regional and urban transformation.

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<sup>1</sup> With Resolution by Regional Council n. 36/7 of 05/09/2006.

<sup>2</sup> Sardinia RLP, Technical and implementation norms, art. 4, c.1 and 2.

<sup>3</sup> Sardinia RLP, Technical and implementation norms, art. 105, 106, 107.

<sup>4</sup> With Resolution by Regional Council n. 6/18 of 14/02/2014, recently canceled with Resolution by Regional Council n.10/20 del 28/03/2014 after the change of political leanings of regional government.



In the RLP the legislation governing twenty-seven Landscape Areas that constitute the first homogeneous areas, corresponding to the total coastal territory.

Passed in 2006 as a tool for directing the sustainable development of the Region, it faced multiple political and cultural issues that following political changes, resulted in beginning a revision process in 2009, that ended with approval of SLP.

The RLP has interpreted the concept of environmental sustainability by defining legislation aimed at protecting the environment. The SLP instead defines protection less restrictive.

The regulations framework of the RLP and the SLP is essentially based on the distinction of two normative classes:

- The first one refers to the single territorial elements which need to be conserved according to articles 142 and 143 of the Urban Code ("goods regarding preset categories whose elements can be picked out within *jure criteria's*"), as well as to the components which, although they are not goods, need to be kept under control in order to avoid damage to the territory and favor its requalification;
- the second class refers to territorial areas whose natural and ecological characteristics are defining, and will be the starting place for establishing directions, directives and prescriptions also for urban areas. They will become operative through subsequent planning, in particular for defining landscape quality objectives, conservation directives and relational directions, which aim at preserving or recreating specific relational systems between the different components.

The most relevant element, among those of the first category, is the coast in all of its parts. Even though it is made up of different types of goods (sand dunes, cliffs, ponds, headlands) it is a territorial resource of huge relevance: not only for the value of each single part, but for the superior, uncommon quality determined by their composition. In particular, the 2 km wide preservation belt, transiently granted by the regional Law 8/2004, becomes a strip of variable width called "*bene paesaggistico d'insieme*" (collective natural heritage) on the strength of the territory's structural and morphological qualities.

The norm sets twenty-seven different territorial areas, which constitute the first homogeneous area of expertise the coastal landscape. The purpose is to protect a part of the Sardinia considered economically strategic and environmentally sustainable at the same time.

Through this division, based on unclear and coherent standards, the RLP and the SLP propose to safeguard the coastal landscape.

The plans require on all municipalities the obligation of having a city Masterplan as a tool for rules and rights, in step with the general legislative directions. Thanks to the approval of the city Masterplan, municipalities will have prerogatives that were not within the jurisdiction of local authorities, such as those concerning the management of territorial waters, through the approval of the Coastal Plan of use, and those regarding arrangements with the provinces, via the planning of urban and industrial development.

The RLP and the SLP, however, interpret in different ways the concept of sustainable development and this can create confusion in the adaptation of the city Masterplans.

The RLP aim at better preserving the landscape. It refers to nondescript system policies and to a coastal landscape project headed towards sustainable tourism and the territory's preservation rather than housing growth.<sup>5</sup>

The RLP guides directives and prescriptions towards safeguarding the territory by binding multiple transformations against the "rush for the privatization and exploitation of the territory and its resources". This approach clashed with the Sardinian pattern of development based on the "Brick culture", which counts

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<sup>5</sup> RLP, Report of the Science Committee in the General technical report of the RLP, p.157.

on construction for development. In particular, the RLP promotes the “protection of undamaged areas”: the identification of those areas, which are still untouched by unbridled coastal housing.

According to many, a flaw in the RLP was focusing its regulation framework on the so-called “preventive control” of human activities in relation to the preservation of the territories value. This tied-way of acting did not really prove to be successful as it phased out the plan's practicality; there is no reference to the types of transformative interventions or simply its correct usage. In other words, more relevance is given to the environment's sustainability and in particular its preservation, than to rules and instructions for guiding the project itself.

The SLP instead defines protection less restrictive. Referring to the new version of the Urbani's Code,<sup>6</sup> the SLP defines different rules concerning the various territorial, depending on the value of the landscape.

The difference in approach of the two planes can be seen by comparing the rules as well as coastal areas even those agricultural areas.

According to many SLP is a critical aspect of the building and the transformations in areas of environmental value that change the rural landscape. The rule proposed by the SLP, about the new building in areas with extension of an acre (Regione Autonoma della Sardegna, 2013, art.65, paragraph 2), is deemed inconsistent with the protection of the rural landscape as it may lead to a wide urban sprawl scattered in areas of environmental value, as well as in agricultural areas.<sup>7</sup>

The SLP inspite of most parts suggest the concept of protection of landscape allows the implementation of the urban tourist areas as provided for in city Masterplan in force at the date of approval of the RPL (SLP, Technical and implementation norms, art. 72), returning in this way, in fact, to an old orientation coastal planning development-oriented building more than to that sustainable.

### 3 THE MULTILEVEL GOVERNANCE OF THE PLANNING PROCESS IN THE REGION OF SARDINIA

As stated above, territorial planning in the Region of Sardinia has been going through a phase of extraordinary relevance, characterized by a process of adaptation of all its planning tools at different levels and in different fields; this has been a very complex project because it concerns different fields of activity on the territory as well as numerous social, economic and cultural fields.

In fact, the RLP is the first plan in Italy that proposes a new method of interpretation of the regional territory through an innovative process of knowledge, redesign and management of available resources. In addition, it was innovative in terms of operational approach to regional and urban transformation despite multilevel governance is ignored in the general and implemental design of the first draft of the RLP as its legislation lacks a close examination of questions regarding the planning of a wide area; But the problems related to multi-level governance are, however, also present in the new phase of the revision of SLP

In the analysis of the governance workings that led to the formation of the first version of the RLP and those concerning its current realization and revision, there have been two fundamental elements: the presence of different corporate moments concurrent with both the plan's stages, and an educational experience in the regional offices where the main plan's application problems by privates, municipal and provincial authorities were encountered.

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<sup>6</sup> The Code has been modified by Legislative Decree n. 63 of 2008.

<sup>7</sup> In RLP buildings were permitted in agricultural areas with a size of at least three acres for activities related to an agricultural enterprise (Regione Autonoma della Sardegna, 2006, art. 83).

The collective process which led to the definition of the normative framework and to the first draft of the RLP was characterized by choices not agreed on by local authorities and by inadequate institutional cooperation: the Region of Sardinia called conferences (the Planning Conferences of 2006) with municipalities and provinces, to present a plan which had already been written down and adopted.

The multi-level governance has been ignored in the early design of the first draft of the RLP, as its norms lacked an in-depth examination of questions regarding the planning of a large area. In the implementation of the plan, the territorial areas did not actually represent a link between regional and urban planning. It should be noted that among one hundred and two coastal municipalities, which should have adapted their urban tools, only four have concluded their adjustments and eight have obtained an unbounded act for the SEA from their province. Evidently, there is a great difficulty for local authorities in applying the prescriptions and directions of the RLP, and to conciliate them with their low financial and cognitive resources

Through the revision process started in June 2009; the regional administration organized a series of provincial conventions called "Sardegna Nuove Idee", in order to listen to the criticisms regarding the first draft of the Plan in particular the aims was to guarantee loyal cooperation between the various government bodies within institutional relations, which were totally absent during the Planning Conferences of 2006.

This attempt, however, has not pursued because even in the new revision of the SLP the issues concerning the cooperation between institutions have remained the same. In the Technical and implementation norms, there is no reference to the bureaucratic simplification and reduction of bureaucracy, despite being guaranteed greater ease in applying the rules.

Also, the SLP has been contested constitutionally by the Ministry of Cultural Heritage for violation of the practice of planning coordination e prescribed by Urbani's Code. The unilateral revisions of the RLP to landscape have been justified by the Regional administration by virtue of the powers conferred by Special statute of the Region of Sardinia. In fact, the ratio of devolution enshrined in the reform of Title V of the Italian Constitution, as well as by Urbani's Code is that the regions can expand the level of protection by national law, while the regional legislature is precluded the reverse, namely the introduction of restrictions on the scope of protection. The Urbani's Code requires, in articles 135 and 143, the principle of cooperation in planning (State-Region) on the landscape heritage. This principle is a fundamental norm of socio-economic reform in the Italian Republic.

The State's participation in the planning cooperation procedures is essential for the value of the environment and landscape of Sardinia has for the national and international community, and for the specific expertise of the Superintendents to build a framework for shared protection. Moreover, the cooperation planning procedures with the state had been successfully undertaken by the Protocol signed of 19 February 2007, and confirmed in the Technical Regulations of March 1, 2013.

Among these criticisms, some interpretations about landscape planning are found which suggest territorial cooperation. The weakness of the governance system and the lack of coordination between normative tools and regional development policies are the most criticized aspects for the enacting of new regional landscape policies. Only by solving these problems, can the regional planning become a key tool for the governance, as a strategic process for a new normative, administrative and organizational framework for the regional territory.

The critical elements highlighted in the Sardinian case study are the cause of a long planning period that comes from a variety of different approaches, which caused a hard and complex institutional process that eventually defined shared decisions. In the future, a scale of responsibility is desirable between the different economic, social and institutional bodies, new interests in decisional processes and new regional

development policies. This might be the cause of new intra-institutional conflicts and, therefore, must be adequately governed.

This is what territories expect from the SLP, as only through the correct redesigning of territorial areas in regards to the environment and infrastructure, from agriculture to tourism, industries and services, it is possible to integrate these issues in order to improve positive aspects and reduce negative impacts. It is at this level indeed that a regional tool can permit an overall view over the fragmented processes enacted by plans, programs and policies, which in fact act in a relevant way and need to be governed by an adequate institutional plan regarding all of them.

#### 4 SEA

An important governance tool, useful in guiding the plan of action to the paradigm of sustainable development, is the Strategic Environmental Assessment (SEA). Compared to its relationship with governance, the SEA could be defined as a set of rules, principles, techniques and tools with the function of continually supporting the decision making process in order to generate consensus on actions to be taken and, above all, to ensure that such consent will last over time and become a network of stable relationships that can ensure continuity and consistency in the planning process.

The 2001/42/EC Directive has introduced a change of perspective in approaching spatial planning, which views the SEA as a flexible, transparent, participatory and systemic tool for building knowledge. The integration of the SEA within the planning process and programming, participation, sharing, acceptance and consideration of environmental concerns, are aspects that should characterize the SEA, but as we shall see in later, in practice they are often lacking or ineffective.

The cause is attributed primarily to the lack of culture regarding environmental assessment, intended as a further complication of decision-making processes rather than as an essential tool for planning and programming. Its widespread use in several countries much earlier than in Italy should make us reflect on the potential of this tool.

There are multiple criticisms for the first draft of the RLP, starting with the rejection of the development policy imposed by the Plan itself, and the not application of the SEA to the Plan that was meant to conciliate regional planning with territorial government tools and with national and regional economic development programs. The Plan's revision was submitted to the SEA, but it did not follow the directives regarding the beginning of the evaluation process and the approval of the plan that has taken place without the "reasoned opinion" issued by the competent authority required by the procedure of SEA (art. 5 Legislative Decree 152/2006 letter m-ter).<sup>8</sup>

The participatory aspects, important elements in the SEA's process, which are seen as missed in the preparation of LRP, were much emphasized in the preparation of the SLP. On this occasion the workshops of "Sardegna Nuove Idee" represented the moments participatory prescribed by SEA's regulations.

The SEA's document (Scoping document and Environmental Report) of the SLP do not take into account the results obtained from the workshops of "Sardegna Nuove Idee", and therefore it is unclear what their role has been, in terms of objectives for the revision of the RLP.

A criticism found in the Scoping Document concerning the multi-level regional governance and in particular the relations between the Regional Administration of Sardinia and the other government bodies. In relation

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<sup>8</sup> For lack of "reasoned opinion" the SLP was not in force following approval the Resolution by Regional Council n.10/20 del 28/03/2014. This is one of the reasons for the decision of Regional Administration to cancel the Resolution n.10/20.

to this, it was said that “the implementation of the RLP is realized by city Masterplan” (Regione Autonoma della Sardegna, 2011, p.12), but it is different of what was stated by the norms for the plan's realization: “the predictions of the RLP are implemented via the provincial and municipal planning and the plans of nature reserves (art. 11, c.1). The provinces, according to what was indicated in the Scoping Document, not to be helpful in the implementation of the RLP, even though they had encountered difficulty adapting themselves to the plan. As a matter of fact, only one in eight has finished the adapting process for the RLP, and therefore it should be stated, as reported in the Scoping Document, that there is a need for an “accurate control for the problems relative to the realization of the RLP, also on a local planning level” (Regione Autonoma della Sardegna, 2011, p. 5).

There are other critical aspects of the Environmental Report of the SLP regards the not comprehensive assessment of the impacts on the environment and on the landscape; would have to clearly compare the predictions of the RLP and SLP, in terms of legislation and in terms of mapping and lists of protected areas and property. The SEA is the tool set up with the aim of assessing the impacts of the implementation of the Plans, and as the Plan in force is option number zero, respect to the new proposal, it would be necessary to compare the two planning tools to understand the differences content and impact on the environment and make their assessment of the expected effects. Also, would have to consider other options that would increase the level of protection of environmental and landscape values, rather than decrease it, obviously proving incontrovertibly, and not merely to declare it.

## 5 CONCLUSION

Compared to the experience of landscape planning in Sardinia, the RLP has proven to be, from 2006 to today, the main reference tool for regional planning.

Compared the concept of protection and safeguarding of the territory, the RLP interprets this concept in a more restrictive manner than SLP. The RLP and the SLP have two different models of protection and preservation of territory and a different concept of development.

The RLP is characterized by a form of protection of the environment very binding and by an alternative idea of development to building growth (this approach takes into account, for example, of the population growth and of the pressures on coastal areas). However, RLP defines, only theoretically, interventions on the landscape as a planning tool, of “shared transformation” as well as in its actual safeguard, in order to offer the opportunity for a new sustainable development. The directions for application are not well explained in the RLP. As far as economic sustainability, the Plan does not address the economic issues of the territory, in particular those related to each single area. Nevertheless, the RLP theoretically aims at reconciling landscape planning with the territory's governmental tools and with the national and regional economic development projects (art. 145 of Urbani's Code).

Building the plans on valuable and innovative principles is of little use if the appropriate tools and resources for their implementation do not support them.

The absence of an effective relationship between the means of protection, enhancement and transformation has considerably weakened, and partially undermined, the innovative capacity of RLP.

One cannot make concrete the sustainability of the choices at the planning level through an exclusively limiting approach. An approach of this type does not have much chance of success from an operational standpoint, since it covers only the environmental dimensions and not the economic and social sustainability. These problems were caused by three elements that have characterized the formation, implementation of the RLP: insufficient institutional coordination, the lack of involvement of local communities and the lack of

integration between policies and the requirements of the RLP with the instruments of the regional and sectorial government, in accordance with art. 145 of Urbani's Code.

These problems have led to the revision of the RLP. While reviewing the Region of Sardinia tried to overcome these problems trying to set up on a shared concept more protection. Through "Sardegna Nuove Idee" the Sardinia Region has aimed to build up shared scenarios with their relative action strategies by proposing a collective agreed on regional planning.

The result, in the SLP case, are decisions not shared by the community but only interest groups. The contrasts between the Region of Sardinia and the Ministry of Cultural Heritage show that even in the case of the formation of SLP there has been a multi-level territorial governance inadequate. In this case, due to a confusion about the legislative powers of the Region of Sardinia in the field of landscape. There is also confusion in the application of SEA to the SLP in terms of procedure and assessment of the effects on the environment. In particular, as seen, the SLP was approved without the reasoned opinion required by legislation on SEA and the Environmental Report regards not comprehensive assessment of the impacts on the environment and on the landscape.

In conclusion, based on the experiences in the formation of the RLP and the SLP, we can say that it is necessary a dynamic balance, among the choices of governments, communities and groups (Hardy and Zdan, 1997). The equilibrium can, therefore, only be achieved through decision making moments, characterised by a greater coordination between the levels of government, the consistent involvement of the community and careful evaluation of all aspects of sustainability. In this sense, the ability to make concrete the "mirage" of sustainable development and of the sustainability depends crucially on the ability to implement incisive forms of territorial governance (Gambino, 2005).

It is possible to affirm that a model of public decision-making based on the conceptual and methodological approach set out in SEA can be inserted into a broader model of regional governance oriented towards a paradigm of sustainability. According to this approach, the SEA is not only the method of verification of the environmental compatibility of choices, but a fundamental support for the construction of the same. In it, the words of Khakee (1998), governance, planning and evaluation are inseparable concepts, in which the participation of all stakeholders (environmental experts, the public and the interested public) become an "immaterial learning infrastructure" (Micelli, 2001), which should reduce or eliminate the distance between those who make choices and those who implement the choices (Mazzucato, 2009).

## REFERENCES

- Gambino, R. (2005), Prefazione. In F. Minucci (ed.), *L'evoluzione del governo del territorio e dell'ambiente*, Turin: UTET Libreria.
- Hardy, P. and T. Zdan (1997), *Assessing Sustainable Development. Principles in Practice*. Winnipeg: International Institute for Sustainable Development.
- Khakee, A. (1998), Evaluation and Planning. Inseparable Concepts, *Town Planning Review*, 69, 4: 359-74.
- Mazzucato, A. (2009), *La valorizzazione di Monte Pendice nei Colli Euganei: un caso-studio di approcci partecipativi alla gestione delle aree protette*, Thesis which are supervisors Paola Gatto and Diego Gallo, Course of Study of Forestry Sciences and Environmental of Faculty of Agriculture, University of Padova. Available on the Internet at: [http://tesi.cab.unipd.it/25180/1/Tesi\\_Alessandro\\_Mazzucato.pdf](http://tesi.cab.unipd.it/25180/1/Tesi_Alessandro_Mazzucato.pdf) [last access: March 29, 2014].
- Micelli, E. (2001), Temi e strumenti della valutazione in urbanistica. In N. Stame (ed), *Valutazione 2001*, Milan: F. Angeli.
- Regione Autonoma della Sardegna (2006) *Legge Regionale 25 Novembre 2004, n.8. Norme tecniche di attuazione*. Available on the Internet at: [https://www.regione.sardegna.it/documenti/1\\_73\\_20060524220223.pdf](https://www.regione.sardegna.it/documenti/1_73_20060524220223.pdf) [last access: March 29, 2014].

Regione Autonoma della Sardegna (2011) *Valutazione ambientale strategica della revisione del Piano Paesaggistico Regionale: Documento di scoping*. Paper presented during the public scoping meeting held in April 27, 2011 at the Regional Library in Cagliari.

Regione Autonoma della Sardegna (2013) *Delibera della Giunta regionale n. 45/2 del 25 ottobre 2013. Norme tecniche di attuazione*. Available on the Internet at: <http://www.sardegna.territorio.it/j/v/1293?s=242464&v=2&c=11437&t=1> [last access: March 29, 2014].

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