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# Improving SEA procedures within Italian regions: Towards a more effective evaluation of urban sustainability

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## 1. Introduction

Sustainable urban development, a major issue at global scale, will become more relevant according to population growth predictions in developed and developing countries. Societal and international recognition of sustainability concerns led to the development of specific tools and procedures, known as sustainability assessments/appraisals (SA). Their effectiveness however, considering that global quality life indicators have worsened since their introduction, has promoted a re-thinking of SA instruments. More precisely, Strategic Environmental Assessment (SEA), – a tool introduced in the European context to evaluate policies, plans, and programmes (PPPs), – is being reconsidered because of several features that seem to limit its effectiveness. Over time, SEA has evolved in response to external and internal factors dealing with technical, procedural, planning and governance systems thus involving a shift of paradigm from EIA-based SEAs (first generation protocols) towards more integrated approaches (second generation ones). Changes affecting SEA are formalised through legislation in each Member State, to guide institutions at regional and local level. Defining SEA effectiveness is quite difficult. Its' capacity-building process appears quite far from its conclusion, even if any definitive version can be conceptualized. In this paper, we consider some European nations with different planning systems and SA traditions. After the identification of some analytical criteria, a multi-dimensional cluster analysis is developed on some case studies, to outline current weaknesses.

## 2. Structuring the analytical matrix

A review of European international reports dealing with SEA legislation at national and regional scales and literature concerning the application of SEA at different institutional levels identified six analytical blocks (a-f). First, a structured legislative process (a) is a priority to avoid blue-print solutions. In fact, SEA should be institution-centred to work effectively with the social capital characterising specific contexts. Second, the integration between SEA and PPP (b), referring to effective interactions between these two processes. Thus considering that SEA is required

to be autonomous and impartial towards the PPP. Third, and connected to the previous step, is the need to identify sustainability goals (c) as either the plan or the SEA process should consider parameters and indicators to evaluate PPP impacts on quantitative/qualitative targets. The fourth block deals with the technical side of SEA organisation (d), referring to the apparent inertia between practical and theoretic evolution of this procedure, with the former striving to implement the increasing hints coming from the latter. The problem does not seem to be due to a shortage in the methods available but rather in the lack of guidelines to support local communities on the instruments to use, and the way to manage information among the characters involved. The fifth block is about participatory organisation (e), considering how the general public and specific institutions have both the right to be informed and the one to participate at the decision-making process. The sixth and final step of SEA procedure is the monitoring phase (f), nowadays debated about suitable methodologies to use and relationships with SA at other levels ('tiering'). Based on these blocks (figure 1) we constructed a matrix to verify in which degree (total, partial, none) each criteria was satisfied. For this purpose, we considered institution reports and academic publications assessing SEA approaches in the countries analysed. The nations were selected to compare European countries with different sustainability assessments (SA) traditions, thus realising how the north-south European divide still influences the SEA formalisation. In detail, within the United Kingdom, Scotland was considered as separate case presenting some improvements to UK legislation. If the UK is an example of northern European SA tradition, France lays in the middle between northern and southern one. Unlike the UK, French legislation relies on national structures articulated at the regional level, addressing local authorities. At last, the Italian system is structured with regional bodies defining their own SEA legislation, according to national guidelines, in a scenario quite poor of SA tradition.

## 3. The national comparison

Consequently, a matrix was build placing the single criteria (figure 1) in rows and the 26 case studies in columns. This matrix was filled considering how the case studies legislation met each analytical criterion, implementing contents coming from higher hierarchical levels. The correlation analysis, developed in AddaWin software, identified some 'common features' to the majority of the cases. These mainly involve the "in-itinere"<sup>1</sup> process of the SEA, the public participation process, the distinction between scoping and environmental report, the influence of the assessment process on the planning one. Some common deficiencies were also identified, namely involving temporal SEA scenarios, criteria and tools to structure PPP alternatives, and the use of thematic reports from environmental agencies within the SEA procedure. The frequency analysis consequently developed on

- a) Legislative process
  - 1 Existent legislation about SEA
  - 2 Models to structure SEA related to specific PPPs
  - 3 List of PPPs requiring SEA
  - 4 'Tiering' within SEA tools hierarchy
  - 5 Availability of Guidelines
  - 6 Authorities/agencies involved in the SEA process
  - 7 Distinction between Scoping and Environmental report
  - 8 Identification of environmental skilled authorities
  - 9 Legislation at national and regional level
- b) Integration between SEA and PPP
  - 1 SEA possibility to stop unsustainable PPP
  - 2 SEA conceived as 'in itinere' assessment
  - 3 Separation between SEA assessment authority and PPP customer
  - 4 Separation between SEA drafting profile and PPP customer
  - 5 SEA possibility to influence PPP contents
  - 6 SEA coherent with PPPs at superior level
- c) Sustainability goals
  - 1 Specific parameters to assess PPP impacts
  - 2 Reference to human development limits
  - 3 Need to assess cumulative impacts of PPP actions
  - 4 Criteria to evaluate PPP alternatives sustainability
  - 5 Temporal scenarios independent from PPP customer political mandate
  - 6 Transboundary/inter-scale PPP sustainability
- d) Technical organisation
  - 1 Database provided by specific agencies/authorities
  - 2 Thematic reports provided in the SEA procedure
  - 3 SEA and PPP required to use the same database
  - 4 Use of modelling to assess PPP impacts
  - 5 Quantitative assessment of PPP internal coherence
  - 6 Criteria and tools to structure alternative options
- e) Participatory organisation
  - 1 Joint consultative processes for socio/eco/environmental organizations
  - 2 Feedbacks from socio/eco/environmental authorities and institutions
  - 3 Involvement of transboundary and inter-scale authorities and institutions
  - 4 Public consultation 'in-itinere'
  - 5 Joint consultative processes for public authorities
  - 6 Tools to use arranging public participation
  - 7 Report about the effective use of opinions/advice coming from health and environment authorities
- f) Monitoring phase
  - 1 Standardised monitoring methods for similar PPPs
  - 2 PPP impacts compatible with higher level PPPs
  - 3 Compulsory mitigation actions by PPP customer
  - 4 Involvement of thematic competent bodies
  - 5 Draft of a non-technical summary

Figure 1– Logic blocks and related criteria identified

the European Union, French, UK, Scottish and Italian cases showed how the 4 countries have differently implemented the EU regulatory system. Improvements are mainly registered on the legislation side, the participatory organization, and in a limited way in the sustainability goals one. This happened especially in Scotland, UK, France, while Italy struggled implementing the EU Directive. Limited differences were instead outlined, among these countries, about the level of integration between SEA and planning process (block b), the technical organisation (block d) and the SEA outcomes (block f). In detail, the criteria of block b appear quite structured in all the nations considered, while some relevant lacks are identified in blocks d and f. This seems quite acceptable in cases where regional bodies have specific authorities on sustainability assessments (e.g. Italian case), but it might cause problems where the national level is the only one defining protocols to be followed at the local level. From this perspective, the weaknesses of the Italian system could be balanced with a structured regional level. These things considered, the Italian case seems anyway the weakest, with only 74% of the analytical criteria partially or fully satisfied (same amount of the EU level), whereas France, Scotland and UK reach 89% threshold.

#### 4. The Italian regional survey

A further analysis was developed to identify the differences among SEA legislation in Italian regions, to outline which priorities should be pursued in each case. This goal was achieved with a multi-dimensional cluster analysis developed with the AddaWin

software. In the analysis the criteria were considered variables and the regions were considered statistical units. The first step involved the elimination of variables strongly correlated. Thus, the aforementioned ten 'common features' were excluded together with two other criteria with high correlations, reducing at 27 the number of useful variables. Then, basing on a principal components analysis and a non-hierarchical one, the 21 regions (considering the autonomous provinces of Trento and Bolzano) were divided in five classes with similar profiles. The final evaluation was structured on three levels: i) the understanding of the relationships between axes and variables explained; ii) the reading of the graphic representation of these clusters, referred to the two main axes in terms of inertia explained; iii) the interpretation of the classes profiles, considering the relationship between clusters and variables.

The cluster with the lower level of criteria satisfaction is the n. 2, including four regions (Veneto, but especially Molise, Basilicata and Sicilia) basically relying on national SEA legislation thus showing poor values in the variables assumed. Strong regional legislation characterises the cluster n. 4, despite the lack of positive performances in the other blocks suggests that this class (Trento, Piemonte, Val d'Aosta, Umbria) is characterised by weak legislations bringing limited contributions to the SEA capacity-building process. Unlike the previous ones, the cluster n. 1 (Bolzano, Friuli-Venezia-Giulia, Toscana, Lazio, Campania, Puglia, Liguria) has an intermediate characterisation, with a quite structured SEA legislation, presenting developed but limited participatory organisation

skills. The two remaining clusters have their centre in the right part of the diagram, being characterised by positive values for most of the variables assessed. In detail, cluster n. 5 (Emilia Romagna, Abruzzo, Sardegna) satisfies many criteria within the blocks a, e, f, meeting few minimum requirements in blocks c and d. The class n. 3 (Lombardia, Marche, Calabria) shows a similar profile, with legislation criteria (block a) fully satisfied, generally positive values for blocks b, e, f, and relevant weaknesses in blocks c and d, despite variable values above the general mean.

Within the Italian case, it seems that most of the regions are still struggling developing a complete SEA legislative system, only a few (clusters 3 and 5) presenting satisfactory legislation and related guidelines. Notwithstanding some regions seem more advanced in the SEA legislative path, relevant lacks on technical and sustainability goals issues are common to all the cases examined, characterising the Italian SEA scenario both at the national and regional level. Without considering the specific needs of each region, two major categories are identified. The first one deals with regions (clusters 2, 4, 1) needing improvements in nowadays legislation, to define in unique ways procedures, characters involved and technical issues useful to support the capacity-building process at the urban scale. On the other side, a minority of regions (clusters 3, 5) with quite structured SEA legislations limited by significant weaknesses about technical issues.

#### 5. Discussion and Conclusions

Some critics could be moved to the methodology used, asserting that it doesn't consider: i) the role of environmental competent agencies to the planning process of SEA drafting, and ii) the role of the provincial institutional level. In order to prevent these critics, it is necessary to consider the high fragmentation of the Italian system, both in terms of environmental agencies and provincial institutions. On one side, the contribution of environmental authorities at the Italian regional level (ARPA) is influenced by a fragmented situation probably affecting the development of unique policies about SEA. In the same way, the provincial institutional level can't be identified as suitable to fix the open issues about SEA, in lack of specific instructions from higher levels. In fact, provincial administrations have nowadays relevant discretionary powers to develop own SEA indicators and methods, contributing to a highly heterogeneous scenario. These things considered, the regional legislative level appears the most suitable to identify nowadays lacks, not to rely on virtuous and sporadic initiatives of local communities, provincial administrations or regional environmental authorities. Whereas only a co-ordinated improvement of SEA tools can avoid fragmented and uneven developments of this instrument, the recent reform of the Italian administrative system could be the occasion to re-think regional SEA legislation for the ten 'metropolitan cities' replacing the former provinces. These areas, among the most impacting in terms of population density

and urban land use, might be suitable to experiment new SEA approaches based on: i) a wider involvement of authorities with relevant environmental database; ii) a broader use of sustainability indicators relating the availability of resources with their use by human communities. The results of this paper suggest that such experimentation should be primarily pursued at the regional level, implementing nowadays legislative lacks. In this sense, virtuous regions and 'metropolitan cities' belonging to countries with different SEA traditions could be involved in a joint project, inspired for instance by the Enplan project experience.

#### Notes

1 The SEA procedure has to be developed simultaneously with the PPP process.

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