



Strategic Environmental Assessment in Germany – Practice and open questions

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ABSTRACT

Eight years after the enactment of the EU Strategic Environmental Assessment Directive (2001/42/EC) (European Parliament and the Council, 2001) it is time to investigate where and how SEA are being implemented in Germany in order to find out open questions and research needs. In this study, we analysed in which planning types SEA are common practice, and where can deficits be identified, and to what extent differences occur between spatial and sectoral planning with respect to carrying out SEA. Pressing challenges in performing SEA as well as open questions are addressed such as the handling of cumulative effects and the interrelationships between the environmental factors, and how the monitoring of environmental effects is considered by the practitioners. The results show that SEA is well implemented in local land-use planning, regional planning, and in local landscape planning, while the implementation in sectoral planning varies widely. The SEA in clean air planning is looked at in more detail, because this is discussed controversially in the specialist field, and obstacles against SEA are identified in this field. Finally some new topics are addressed for which solutions in spatial and environmental planning including SEA must be found, e.g. the consideration of biological diversity and the potential role of SEA in climate change. A European study on the identified open questions and their handling in different contexts and countries may allow for a qualitative amendment in practice.

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1. Introduction

Since the enactment of the European SEA Directive (European Parliament and the Council, 2001), many environmental assessments have been carried out and documented in the Member States, and some practice guidelines have been developed. Undoubted progress is evident in the practice of SEA especially in urban, regional and landscape planning. But still important questions remain open. Cumulative environmental effects and the interrelationships between environmental effects pose serious methodical challenges. Monitoring environmental effects with regard to the implementation of plans portrays, at least in theory, a prerequisite for an effective and environmentally sound use of land and further resources, but is still not usual practice.

The status of SEA practice in sectoral planning varies indeed; while EIA already have a long history in transport planning, SEA have less frequently been carried out to date. In water resources management the first examples for SEA are available, while the SEA is still 'virgin soil' for clean air planning; it is still discussed controversially. Arguments 'pro' and 'contra' SEA in clean air planning are interesting here. Furthermore, several additional new topics require solutions in spatial and environmental planning including SEA, among others climate change.

2. Research questions and methods

Eight years after the enactment of the SEA Directive this paper investigates SEA practice and open questions in Germany. Documentations of SEA examples as well as expert opinions on SEA procedures and methods were taken into consideration.¹

The following questions were subject to the investigation:

1. In which planning types SEA are common practice in Germany, and where can deficits be identified?
2. Do differences exist between spatial planning and sectoral planning with respect to SEA procedures?
3. What are the most pressing challenges in performing SEA?
4. What open questions in selected sectoral planning types can be identified?

The information required to answer these questions was obtained by three different methods:

1. Literature review: based on an extensive literature review planning types were identified and briefly characterized wherein SEA regularly are carried out.
2. Written survey of SEA specialists: with the help of the EIA association, eighty SEA experts were identified and received a

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¹ This investigation served as preparation for the Congress of the EIA-Association on Environmental Assessments in Germany in 2008 and was presented as keynote speech by the author; but is not yet published.

semi-standardized questionnaire. The experts are either members of planning institutions on various levels experienced in performing SEA in land programmes and planning, regional planning, land-use planning and/or legally binding land-use planning, or they are researchers in the respective fields. Additionally, practitioners and scientists in transport planning, water and waste management, clean air planning and noise control were interviewed.

The questionnaire covered a.o. planning subjects considered in SEA, applied methods and considered environmental goods, projected monitoring measures, and positive as well as negative experiences of the interviewees with SEA. Finally, recommendations of the interviewees were asked. Out of 80 questionnaires sent out, 20 could be evaluated (return rate 25%). The majority of the answers were given by practitioners (75%), while a clear distinction between practitioner and researcher is not always possible because several interviewees do research while being consultant at the same time. The rest of the answers consisted of referrals to publications of the interviewee or further recommendations. Most of the interviewees addressed open questions and challenges very frankly. Due to the return rate of 25%, the results of the interviews additionally were drawn upon the literature review mentioned above.

3. Telephone interviews of clean air planning experts: because only partly experiences with SEA exist in sectoral planning and only a limited number of publications, additional telephone interviews were carried out in clean air planning. Of 61 Clean Air Plans, Action Plans and Combined Clean Air and Action Plans (see [Metto 2007](#)) 10 randomly chosen authorities were asked, 1) whether they had carried out one or more SEA and 2) for which reasons they were not carried out.

These three methods shall permit a) to give a review in which planning types the SEA Directive in Germany are both being implemented in practice and subject to scientific discourse, b) to go more in detail in specific questions that are considered pressing challenges in performing SEA and c) to provide an insight into planning types showing resistance against SEA and to reveal and discuss arguments against carrying out SEA.

All investigations for this paper are explorative and not representative; the persons asked are known to the author but remain anonymous.

3. SEA in spatial and landscape planning

SEA are carried out and published in Germany on various levels of spatial planning as well as in local landscape planning. The majority of SEA experiences and handbooks are available for land-use planning on local level (see e.g. [BStMI/BStUGV, 2007](#); [Jansen and Koch, 2007](#); [Saad and Schneider, 2006](#); [Spannowsky, 2006](#); [Stür, 2007](#)). Also for regional planning exist a number of practice examples and studies (see e.g. [Hanusch et al. 2007](#); [IÖR et al. 2007](#); [Schmidt, 2006](#); [Spannowsky and Krämer, 2005](#)). Intensive work is going on and much is published about the relationship of land-use planning–SEA–landscape planning (see e.g. [Bielefeld et al. 2007](#); [Haaren and Ott, 2006](#); [Jessel, 2006](#); [Louis, 2007](#); [Scholles, 2006](#); [Senatsverwaltung für Stadtentwicklung, 2007](#)).

The status already achieved of the discussion in professional circles will not be referred to again here. Instead open questions will be gone into, which were addressed in the interviews. One interesting result of the inquiry is that it is not exactly known, which *quantitative* relevance the SEA has in land-use planning, that is which proportion of land area is planned with or without SEA. Many cities make use of Sections 13 and 13a of the Federal Building Code ([BauGB](#)), which allow the inner-city development without environmental assessment in a simplified procedure, mainly due to a lack of resources, but also

due to low environmental consciousness. The positive appraisal that the SEA enables an optimisation of procedures and a comprehensive consideration of environmental matters in planning thus contrasts with the effort required taking into consideration the lack of resources in the administrations.

The consideration of the results of the SEA is also judged differently; environmental considerations lead partly to changes already in the development process of the planning drafts; on the other hand it has been mentioned that the results of a SEA show little effect in the political arena when the political will for it is lacking. The public interest in environmental assessment is assessed as small; only when an activating public participation is carried out within spatial or land-use planning does the SEA awake the interest of the public.

Uncertainties exist especially with respect to the methods of prognoses and evaluation, and different quality scales are drawn up. In particular it is often unclear how, or rather whether, *causal relationships* between the implementation of plans and 'the environment' can be determined, prognoses made and monitoring carried out. Also the differentiation between 'likely significant effects' and – as a consequence – dispensable environmental effects throws up questions. There is a lack of knowledge here, which cannot be solved by the practice alone.

Many interviewees support the further development of assistance; these working aids should include especially good examples and recommendations for indicators, evaluation methods, cumulative effects and interactions, about co-ordination between various SEA-levels, about methods of an active public participation in the SEA as well as about monitoring.

3.1. Cumulative environmental effects and interactions

Because the handling of cumulative environmental effects was addressed as challenge in a large number of interview answers, this issue will be discussed more in detail. Up to now there is neither sufficient scientific knowledge nor appropriate methods for dealing appropriately with cumulative environmental effects and interactions in the SEA, which portrays an important precondition for the effectiveness of environmental assessment.

Cumulative environmental effects and interrelationships between environmental factors provide people working on environmental reports with particular challenges. The terms 'cumulative', 'synergistic' effects and 'interrelationships' are used partly synonymously in practice, and there are also uncertainties with respect to the methods to be used for the analysis, description and evaluation of cumulative effects and interrelationships.

In Appendix I of the SEA Directive (2001/42/EC) the environmental effects to be considered are characterized in more detail as "secondary, cumulative, synergistic, short-, middle- and long-term, continuous and temporary as well as positive and negative effects". According to Appendix 1 of the SEA Directive not only the environmental goods themselves, such as water, flora, fauna or biodiversity, but also the 'interrelationships' between these shall be considered. According to Appendix II of the SEA Directive the cumulative character of effects also has an effect on their significance or seriousness.

Up to now, however, there is neither a legal definition of cumulative and synergistic effects nor a uniform understanding in the specialist world about what is really to be understood by these terms ([Aschemann, 2005](#); [Heiland et al. 2006](#); [Siedentop, 2005](#)); this statement is confirmed by [Trinks \(2008\)](#). In the Act on Environmental Impact Assessment (UVPG) "cumulative effects" are only named as criteria for the pre-examination of individual cases; "synergistic" effects are not mentioned. The consideration of "interactions" is only cited in the guidelines for the environmental impact assessment. Considering this lack of implementation in the legal basis of SEA, one

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