

Consideration of Legal Environmental Impact Assessment Requirements in Regional and Local Landscape Planning in Thuringia (Germany)

Dietwald Gruehn

Professor of Landscape Ecology and Landscape Planning, Dortmund University of Technology (Germany)

Adjunct Professor of Urban and Regional Planning, Michigan State University (USA)

dietwald.gruehn@udo.edu

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Abstract

Landscape Planning in Germany is – compared to other European countries – much more subjected to legal requirements, such as Federal Nature Conservation Act or Environmental Impact Assessment Act. In the last couple of years new regulations have been established concerning landscape planning with respect to other environmental planning instruments or needs, for instance environmental impact assessment, impact regulation, habitat networks as well as nature protection areas.

While the scientific community pays much attention to legislation reforms or compilations, less attention is paid to empirical research on the impact of planning instruments on decision making processes or other planning instruments. The paper points out the results of an empirical evaluation of regional and local landscape planning within the Free State of Thuringia (Germany) on behalf of the Thuringian Court of Audit. More than 40 landscape plans on different scale levels have been investigated, selected by a multi-stratified random sample. The paper focuses on the consideration of legal requirements of Environmental Impact Assessment Law within regional and local landscape planning over the last two decades. The findings give an idea about implementation process and temporal development of landscape planning in Thuringia after the reunification of Germany. Finally the paper addresses recommendations for future development of environmental planning in Thuringia.

Introduction

Landscape planning has a long history in Germany. It's roots can be traced back to the landscape improvement and beautification movements of the 18th century as well as the natural and cultural heritage movement at the end of the 19th century in reaction to industrialization and increasing destruction of nature (Kiemstedt et al. 1998). Landscape planning has been established as legal instrument in Germany since the early 1970ies (Riedel & Lange 2001). The major objective of landscape planning instruments is to implement environmental principles, such as precautionary principle as well as polluter pays principle, not only by contributing to an environmentally friendly future development, including the protection of landscape functions or ecosystem services, but also by omitting avoidable impairments of nature or landscape and compensating inevitable damages on the environment (Kiemstedt et al. 1998, Gruehn 2006). German Federal Nature Conservation Act in § 1 defines legal goals of landscape planning as to sustainably ensure landscape balance or natural systems, regenerative capacity and utilization of natural resources, animal and plant kingdom as well as species' habitats, and the variety, uniqueness, beauty, and recreation value of nature or landscape.

Despite of more than four decades experience in applying landscape planning in practice in Germany, only few research has been carried out to discover the effects of planning instruments on decision making (Gruehn 1998, Wende 2001, Gruehn & Kenneweg 2002 a, Gruehn & Kenneweg 2002 b). The main focus of the studies mentioned above was the effect of landscape planning or environmental impact assessment on decision making processes in comprehensive and sectoral planning, such as physical planning on different levels as well as agricultural planning. Due to constitutional peculiarities of the Federal Republic of Germany, the federal states still play an important role for the implementation of planning and administrative procedures in the broad field of landscape and

environmental planning. This paper focuses on the landscape planning system of the Free State of Thuringia, which has been a part of the former German Democratic Republic until 1990 and therefore was subjected to a profound adaptation process after the reunification of Germany, including the introduction of new legal and administrative regulations and structures.

Goals

The paper mirrors parts of an investigation on behalf of the Thuringian Court of Audit, which was embedded in a comprehensive evaluation process of environmental instruments, aiming at the identification of their specific cost-benefit ratio (Gruehn 2012). After the European SEA directive was implemented into national law in Germany in 2005 by supplementing the Environmental Impact Assessment Act, which came into force in 1990 for the first time, landscape planning was committed to consider certain requirements of the SEA directive, such as

- the consideration of environmental issues in accordance to annex I, SEA directive,
- the preparation of an environmental report, “in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated” (SEA directive, article 5), and
- the implementation of consultations of the public into the planning procedure (SEA directive, article 6).

The investigation aims at discovering whether or not and to which extent the above mentioned legal requirements have been taken into account by landscape planning instruments, especially regional plans as derivatives of landscape framework plans on a regional level, and landscape plans on a local level.

Furthermore, landscape planning was checked, whether or not the introduction of SEA directive into national and federal state law has contributed to a higher degree of consideration of environmental issues in landscape planning practice. Finally, the paper addresses recommendations for future development of landscape and environmental planning in Thuringia, based on the empirical findings.

Methods and Data

The survey has been carried out on data of

- 4 landscape framework plans,
- 8 regional plans, which partly include contents of the above landscape framework plans, as well as
- 34 landscape plans, selected by a multi-stratified random sample, considering different planning regions within the Free State of Thuringia as well as different time periods from 1993 to 2011 according to legislation changes.

The following research hypotheses were defined on the basis of the above mentioned judicial requirements:

- (1) Landscape plans (or landscape framework plans) established after the implementation of SEA directive into German national law consider all environmental issues, mentioned in annex I, SEA directive. This includes the environmental factors biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.
- (2) Landscape plans (or landscape framework plans) established after the implementation of SEA directive into German national law are supplemented by an environmental report in accordance to SEA directive, article 5.
- (3) The planning process of landscape plans (or landscape framework plans) established after the implementation of SEA directive into German national law necessarily include an implementation of consultations of the public, according to SEA directive, article 6.

- (4) Landscape plans (or landscape framework plans) established after the implementation of SEA directive into German national law contribute to a higher degree of consideration of environmental issues in landscape planning practice. As standard of comparison 13 landscape functions or ecosystem services, covered by the legal mission of the Federal Nature Conservation Act (Gruehn 2006), were selected.

Data analysis was done by statistical methods, e.g. Mann-Whitney U or Kolmogorov-Smirnov-test. Furthermore a survey among experts of the environmental administration was carried out, to validate the results concerning the local planning level by independent expert ratings.

Results

On the regional level 4 of the total of 12 plans were drawn up, after SEA directive has been implemented into national law. On the local level 6 of 34 plans were adopted after the implementation of SEA directive into the German legal system.

Table 1 points out that the regional plans, which currently substitute the missing landscape framework plans on the regional level consider all environmental issues in accordance to annex 1, SEA directive. Furthermore in all investigated cases the regional plan is supplemented by an environmental report in compliance with article 5, SEA directive, and consultations of the public were implemented into the planning procedure, according to article 6, SEA directive. That means for the regional level, the above mentioned hypotheses 1, 2, and 3 can be confirmed by the empirical findings.

Table 1: Consideration of SEA directive requirements by regional plans and landscape plans in Thuringia

	Number of environmental issues in accordance to SEA directive, considered by landscape (framework) plan (mean value)	Relative frequency of landscape (framework) plans supplemented by an environmental report in compliance with SEA directive	Relative frequency of landscape (framework) plans with implementation of consultations of the public into the planning procedure, according to SEA directive
Regional plans as derivatives of landscape framework plans drawn up after implementation of SEA directive into national law (n = 4)	12.00	100.00 %	100.00 %
Landscape plans drawn up after implementation of SEA directive into national law (n = 6)	8.67	33.33 %	33.33 %

On the other hand landscape plans on a local level only consider 8.67 of a total of 12 environmental issues in accordance to the requirements of the SEA directive (annex 1). In only 2 of 6 cases, the full range of (12) environmental issues are considered within the landscape plans. Another finding is that landscape plans drawn up after the implementation of SEA directive, only partially fulfill the requirements of articles 5 and 6, SEA directive: In one third of the investigated cases, landscape plans are supplemented by an environmental report and consultations of the public were implemented into the planning procedure. Environmental issues, which have been considered most infrequently, are “population (including human health)” as well as “material assets”. Both factors are not directly covered by the Federal Nature Conservation Act, which traditionally exclusively defined the contents of landscape plans. That means, regarding local landscape plans, hypotheses 1, 2, and 3 have to be rejected by the empirical findings.

Whether or not the implementation of the SEA directive into national law has contributed to a higher degree of consideration of environmental issues in landscape planning practice (in terms of landscape functions or ecosystem services, respectively) is illustrated in figure 1. In the case of landscape

framework plans, the mean difference between the plans drawn up before or after the implementation of SEA directive into national law is small, whereas the mean difference of landscape plans seems to be of higher relevance. The results of Mann Whitney U reveal for both constellations, regional as well as local level, that the mean differences between both groups are not significant. In both cases $p > 0.05$, what means, the research hypothesis (number 4) has to be rejected. Mann Whitney U was applied instead of Student's t-test, because of missing normal distribution of the variables, which was detected by Kolmogorov-Smirnov-Test.

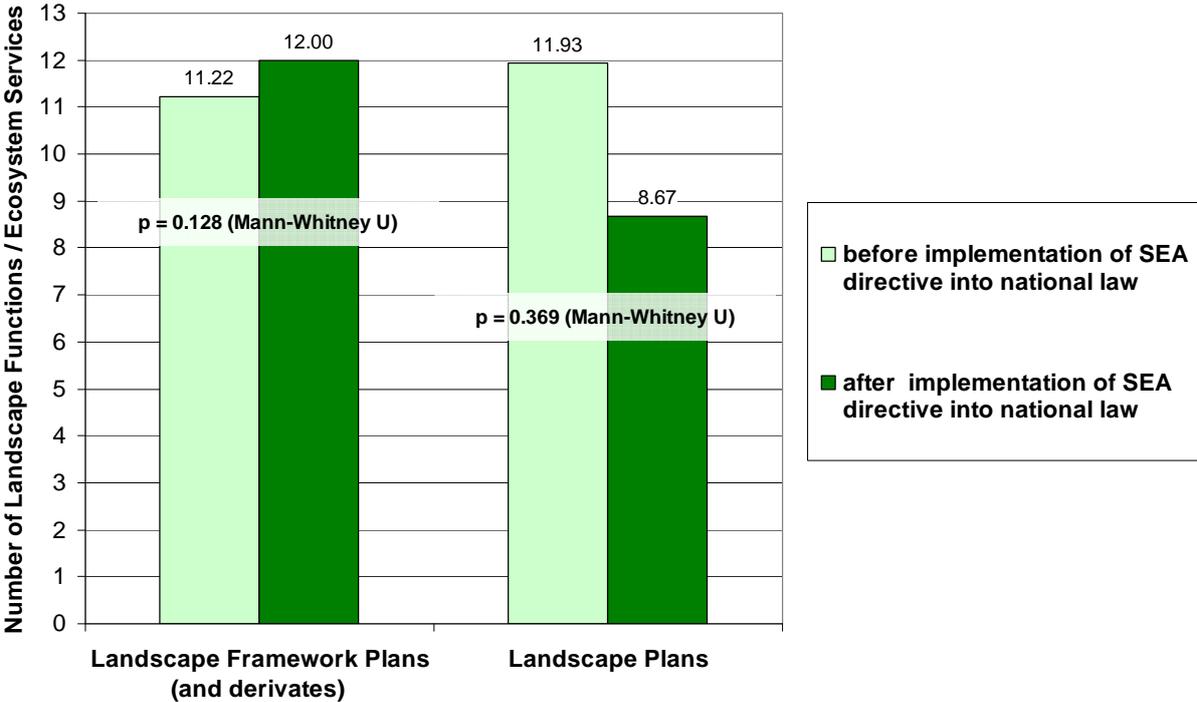


Figure 1: Consideration of environmental issues (landscape functions/ecosystem services) by landscape framework plans (including derivatives such as regional plans) and landscape plans in Thuringia before and after implementation of SEA directive into national law

The empirical findings give evidence of the fact, that the implementation of SEA directive into national law in 2005 did not lead to a higher degree of consideration of environmental issues in landscape plans as well as landscape framework plans in the Free State of Thuringia. Finally, the results could be confirmed by a survey, carried out among experts of the environmental administration of Thuringia. The expert ratings reveal a broad range of opinions about the current practice, considering SEA requirements in local landscape plans.

Discussion

The findings give an idea about the implementation process and temporal development of landscape planning on different levels in Thuringia after the reunification of Germany. Surprisingly, the implementation of the SEA directive into national and federal state law in 2005 did not promote the consideration of environmental issues, especially landscape functions or ecosystem services, respectively, in local or regional landscape planning. A critical argument against the findings could be that implementation time in planning practice is quite too long, and therefore changes in landscape planning practice are not yet measurable. This indicates the needfulness of future empirical

evaluations of planning instruments. In any case, the demand for a professional advisory service for planning practice, to cope with the increasing judicial requirements created by the European Union, is obvious, especially on the local level.

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