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Implementation of landscape ecological knowledge – achievements and challenges¹

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Abstract: This paper gives a synthetic presentation of problems related to the practical application of results in landscape ecological studies. The diagnoses presented are based on the findings of ILECO2010 symposium, which was devoted to this. The assessment considered several aspects, which determine the possibility to apply the landscape ecological knowledge. These include spatial planning, spatial management, issues related to the efficiency assessment of actions taken and collection of data essential for the decision-making process. Individual problems were complemented with conclusions of a general nature.

Key words: IALE-Europe, landscape ecology, ILECO2010

Introduction

The foundation of IALE 40 years ago was linked with recognising an interdisciplinary research field encompassing the landscape-related dimension of ecological knowledge (SCHREIBER 2010). This opened

¹ Comments based on the results of The 1st IALE-Europe Thematic Symposium on Implementation of Landscape Ecological Knowledge in Practice, Poznan 16–19.06.2010.

wide prospects for practical applications in spatial planning, in which environmental conditions were of key importance. A dynamic development of landscape ecological research spurred the formation of a new discipline combining geography, biology and spatial planning. One can advance a thesis that the quality and application usefulness of landscape ecology studies are determined by the degree to which the three disciplines are integrated.

The goal of IALE-Europe, founded on the 13th of July 2009 in Salzburg at the 2009 European IALE Conference, has been formulated as the coordination of the common interests of landscape ecologists on a European level. All in all, the common aim has a very practical dimension, namely achieving a harmonious (sustainable) landscape structure in Europe. A manifestation of the significance of the application-related dimension was the 1st IALE-Europe Thematic Symposium, entitled *Implementation of Landscape Ecological Knowledge in Practice*, which took place in Poznań between 17–19.06.2010. For over 60 participants from 12 European countries representing the areas of science and practice, it was a good opportunity to share the experiences of cooperation by putting their scientific knowledge into practice. The main topics were:

- Sharing experiences with decision makers, in particular regarding the preparation and implementation of projects.
- Involving landscape ecologists in the decision-making processes in the scope of urban and rural planning.
- Experiences with good and bad practices.

A thorough discussion on 40 papers and posters was possible because of prior publishing of the material, which was already available to the participants during the conference (MACIAS, MIZGAJSKI eds. 2010). The problems discussed at the Symposium included the place of landscape ecological knowledge in spatial planning, its status in spatial management, issues related to the efficiency assessment of actions, taken and collection of data essential for the decision-making process. Detailed questions were set against the background of general conceptual perspectives.

Main implementation aspects

The “Planning”² session explored the question of how planning could serve as an approach for enhancing the implementation of landscape ecological knowledge in practice. The panel included a presentation of six case studies from Germany, Sweden, Poland, Portugal and Latvia. The studies covered a range of scales (from the site level to the landscape or regional level), employed various planning methods and tools, and illustrated different ways of integrating stakeholders.

The studies highlighted two different approaches towards planning: on the one hand, integrating and synthesising the existing scientific and tacit ecological knowledge, and on the other hand, proposing and exploring the implications of one or more policy options. The discussed benefits of the planning approach included providing information, enabling communication, supporting decision making, and facilitating learning among the participants in the planning process. In all of these dimensions, potentials for improving the effectiveness of planning were identified.

The session’s case studies also presented a range of challenges. First of all, planning processes should always be specifically adapted to the local conditions and existing legal structures. It was emphasised that European countries and regions represent different planning systems that need to be considered. Sec-

² Reported by Christian Albert and Ulla Mörtberg.

only, planning should aim at developing the knowledge most useful for implementation. A case in point is the scale issue, reflected in the comment that planning at the landscape level was not necessarily sufficient for implementation at the local or site level. Another issue was the recognition that implementation through planning essentially requires mainstreaming. “Soft” planning tools, such as communication and persuasion, are often too weak to change the planning practice. In such cases, implementation is only realised if the actions are enforced by law. Fourthly, it was proposed that the difficulty of implementing landscape ecological knowledge in practice would make it necessary to conduct research on implementation. Many insights might come from the social sciences and public policy research but those need to be adapted to and tested in the field of landscape ecology.

Despite the identified challenges, the participants in the session saw a great potential in planning as an enhancer of knowledge-to-action transfer provided that it can adopt the role of a facilitator of knowledge exchange and knowledge co-generation among different communities of experts, decision makers and stakeholders.

The main purpose of the “Management”³ session was to seek solutions for effective implementation of landscape ecological knowledge in practice. In this session, the participants had an opportunity to listen to presentations from Slovakia, Germany, Poland and the Czech Republic.

To summarise the results: the presentations confirmed the great importance of landscape ecological knowledge in the environmental practice. It is particularly important to include the knowledge in the implementation of the European Union Directives and also the European Landscape Convention.

Current trends in the management and planning processes show a growing importance of landscape planning and necessity to reflect on pressing global ecological and environmental challenges. From this point of view it is very important to create close collaboration between scientists, local governments and landowners. At the local level, land consolidation projects play a very important role as a very good tool for active rural landscape shaping.

New challenges and issues to deal with the expected climate change consequences were discussed. The climate change issue is a demonstration of new possibilities for scientific research in a specific area. This requires close cooperation between landscape ecology, geoecology and climatology, which is why integrative research is so important.

The “Assessment”⁴ session dealt with methodological aspects, especially with regard to the planning practice. Within the lectures, which focused on cutting-edge research, very complex impact assessment tools were illustrated and critically discussed. The discussion concluded that many planning instruments, which have been implemented by European Union in the last couple of years, still have some gaps in practice. In most cases those gaps are related to the ecological content, which has to be considered in the planning process due to legal requirements.

EU aims at integrating a broad range of environmental aspects, such as vegetation, fauna, water, climate, soil, landscape functions and ecosystem services into the environmental impact assessment procedure. However, it can be noticed that the planning practice in many countries is limited to only few of those aspects, which are mostly considered in decision making in an isolated, instead of an integrated manner.

Two lectures focused on new approaches, including the economic and social dimensions, to sustainability assessment tools, which will be a topic of the future planning practice. These are much broader approaches than that implemented in the present environmental impact assessment instruments.

³ Reported by Mária Kozová and Manfred Frühauf.

⁴ Reported by Dietwald Gruehn and Dagmar Haase.

It was noted that there is a huge gap between science and the planning practice, which needs to be closed step by step. Additionally, the participants in the session had a very intensive discussion on the effectiveness of planning instruments, and on how they fulfil the legal goals defined by the EU law and are transferred to national levels. Empirical research from Germany shows that there is huge variation in the planning practice, regardless of the regulations in force.

A special focus on the „Data” session aimed to show that the effectiveness of putting landscape ecological knowledge into practice is determined by the quality of relevant information. The appropriate information is data on the diversity of features providing important premises for forming the landscape structure in various spatial scales, managing landscape and assessing the efficiency of applicable actions taken so far. The presentations made showed the possibilities to collect empirical data using field methods and revealed the potential of remote sensing in collecting important diagnostic data. Furthermore, the presentations provided examples of procedures for data processing and use in the decision-making process.

Conclusions

The decision to start the activity of the newly established organisation in the area of international knowledge exchange with a symposium on the use of landscape ecology in practice proved to be successful. Reflecting on the presentations and discussions, the organisation has taken major steps forward on European level by exchanging knowledge, identifying the still unsolved problems and finding ways to overcome them by mutual support of people from different national and cultural backgrounds. The participants could share the experiences of many good examples. The presentations showed successful and unsuccessful examples of practical landscape ecology implementations. The city of Poznań can present several good and instructive examples. It was identified that proper implementation of landscape ecology and practice-based determination of what is required of science are crucial for the newly founded organisation.

Landscape ecological aspects are already extensively introduced in various studies and projects. The main problem, however, consists in the fact that landscape ecologists have insufficient knowledge on the law and administrative procedures. It seems that the sphere of the environment and landscape has been overregulated, and it is also extremely difficult to express the set goals in terms of executive regulations. Example: considering landscape management plans as part of spatial management plans does not necessarily mean that landscape-related issues will be taken into account in crucial decisions on space organisation. A holistic approach to landscape studies alone is insufficient for broader introduction of those issues to law, and what follows to the planning practice. The condition necessary for this is thorough identification of individual landscape elements in a manner enabling an objective assessment of their value.

The European Union has not implemented a common and uniform spatial planning system. Landscape ecologists should influence the EU structures and point to the practical significance of their knowledge so that landscape ecological aspects are taken into account in EU regulations.

A large number of participants in the symposium in Poznań and their willingness to join the Landscape Ecology In Practice working group network show that there is a need to organise similar symposia from time to time and smaller work group meetings in between them.

The next workshop of the IALE-Europe Working Group Landscape Ecology and Practice will take place on 20th–22nd of September 2011 in Laufen, Germany. The planned agenda features selected subjects with regard to the implementation of nature into urban landscapes, i.e. questions which we have identified in Poznań for further investigation.

Literature

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