

Mária Kozová
Pavína Mišková
Anna Kršáková

LANDSCAPE ECOLOGICAL RESEARCH, PRACTICE AND EDUCATION AS A BASIS FOR THE IMPLEMENTATION PROGRAMME OF THE EUROPEAN LANDSCAPE CONVENTION IN SLOVAKIA

Introduction

In the years 2004-2005, Slovakia started to prepare the framework for implementation of the European Landscape Convention, taking into consideration high Slovak scientific potential and experience with landscape planning, evaluation of ecological carrying capacity of landscape, protection of biological and landscape diversity and landscape character assessment. Slovakia signed the European Landscape Convention (ELC) on May 30th 2005 and ratified on August 9th 2005. V ELC came into force in Slovakia on December 1st 2005.

Landscape ecological research, practice and education supporting implementation of the European Landscape Convention

Development of landscape ecology research in Slovakia started to form in connection solving practical problems of harmonising human activities with landscape-ecological conditions. In the years 1975-1982 Ružička and Miklós from the Institute of Landscape Biology SAS elaborated the Landscape-Ecological Planning - LANDEP as an original Slovak methodology, directed to proposal of the most sustainable spatial distribution of planning social and economic activities (Ružička, Miklós, 1981, 1982, 1990). LANDEP has been applied in more than one hundred projects at a variety of scales from 1:500 through 1:500 000, including the ecological evaluation of prerequisites for development of protected areas, optimisation of agricultural production, recreation, urban areas, environmental regeneration of the territories and regional development. At the same time landscape planning began to develop at the Institute of Geography SAS, and it was connected with the preparation activities of the international IGU programme on "Landscape synthesis - Geoecological Foundations of the Complex Landscape management (e.g. Drdoš, 1983; Drdoš, Urbánek, Mazúr, 1979; Mazúr et al., 1979, Otaheľ J., Poláčik, Š., 1987). Other methodologies oriented to landscape protection, planning and management were developed in former Czechoslovakia (e.g. geosystem approaches to landscape research, methodology of territorial system of ecological stability and integrated approaches to landscape research focused on social practice).

After 1989 the Slovak landscape ecologists, environmentalists and other specialists have actively participated in advocacy of landscape-ecological findings and landscape planning within the Slovak state environmental policy. They also significantly influenced elaboration of fundamental environmental and sustainable development documents, land-use planning policy, environmental education, environmental legislation and level of contemporary practices (see studies and papers of Hrnčiarová et al., 1997; Hrnčiarová, Izakovičová, 2000; Supuka, 2000; Drdoš, 2005; Finka, 2005; Izakovičová, Oszlányi, 2005; Kozová, 2005; Miklós, Hrnčiarová, 2002; Otaheľ, 2004; Ružička, 2000, 2005 and others). Developing landscape ecology, landscape planning, landscape design and landscape architecture has been included to the different study programmes at the Slovak universities: e.g.

- Faculty of Ecology and Environmental Sciences in Banská Štiavnica, Technical University in Zvolen,
- Faculties of Natural Sciences (e.g. at Comenius University in Bratislava, Constantine the Philosopher University in Nitra, Matej Bel University in Banská Bystrica, P. J. Šafárik University in Košice, University of Prešov in Prešov)
- Horticulture and Landscape Engineering Faculty, Slovak University of Agriculture in Nitra,
- Faculty of Architecture, Slovak University of Technology in Bratislava.

Slovak methodology of landscape ecological planning, evaluation of ecological carrying capacity and other specialised methodologies achieved international appreciation. For example by Ndubisi (2002) the questions LANDEP addresses are somewhat similar to those of landscape sustainable assessment evaluation methods, such as METLAND. Indeed Naveh and Lieberman (1994) described LANDEP as one of the "most significant and practically applied integrated landscape ecological planning methods". Methodology of the landscape ecological planning LANDEP was recommended for securing of integrated approaches to planning and resource management in document AGENDA 21 (World Summit in Rio de Janeiro, 1992).

Slovakia after 1990 accessed to most global environmental conventions, became a member of the European Environmental Agency and other important environmental organisations. Slovak experts have

participated in the programme CORINA Land Cover and CORINA Biotopes. Slovak landscape ecologists have been involved in the landscape-oriented projects of the 5th Framework Programme EÚ (e.g. BIOFORM, BIOPLATFOM, BIOHAB, BIOPRESS, BIOSCENE, EVALEWET and the 6th Framework Programme EU (e.g. SENSOR, SoBio, RURAL-ETINET and others). The Institute of Landscape Ecology SAS was included into the networks of centres of excellence of the European research space ALTER-NET (Network for research of biodiversity, ecosystems and ecological awareness). The Faculty of Architecture STU in Bratislava was included into the centres of excellence SPECTRA (Network for research and education in the area of spatial planning).

Preparatory stage and framework for the implementation of the European Landscape Convention in Slovakia

In 2003 - 2004 a preparatory stage of the Slovakia to join the European Landscape Convention (ELC) was realised. The Ministry of the Environment SR co-operated with the Ministry of Construction and Regional Development SR, the Ministry of Land Management SR, the Ministry of Culture SR and experts from the Slovak Environmental Agency, academic sphere (Slovak Academy of Sciences, universities) and NGO's (e.g. Slovak Association for Landscape Ecology, Slovak Ecological Society, National Trust of Slovakia, and Society for Sustainable development in Slovakia). The Department of Landscape Planning at the Ministry of the Environment SR (MoE SR) has been the responsible body for co-ordination and management of fulfilment of the obligations of ELC.

The principles and commitments followed from the ELC were analysed and comparison with the Slovak law order was elaborated. The main topics in the preparatory stage were oriented to general and specific measures (Ambróš, Chovancová, 2004):

- Recognising landscapes in the Slovak acts (Article 5a ELC)
- Establishing and implementing landscape policies (Article 5b ELC)
- Analysis and assessment of existing procedures for participation of general public in planning processes relating to landscape and access to relevant information (Article 5c ELC)
- Analysis and assessment of a level of integrating landscape into territorial planning, regional development and sectoral planning systems (Article 5d ELC)
- Awareness-raising of public, public administration bodies and private companies about landscape values (Article 6a ELC)

- Analysis of current situation in training and educational programmes relating to landscape policies, landscape protection, planning and management (Article 6b ELC)
- Identification and assessment of the landscape quality objective (Article 6c and 6d ELC).

According to the Scope of the international environmental policy of the MoE SR (MoE SR, 2004), ELC plays an important role within ensuring of protection, planning and creation of landscape. The aim of the convention is to reinforce the meaning of the landscape overall and to reach sustainable development on the basis of balanced relationship between man's activities and environment. The programme of implementation of ELC in Slovakia is oriented into four main lines (MoE, 2004, 2005; Mišíková, 2005):

Line 1: Institutional support

- the goal is to prepare advisable legislation within the frame of landscape planning. The activities linked to this priority could be defining competencies within the convention, looking for financial sources, elaborating the Act on landscape planning, integrating convention's principles into strategic documents, designing the relevant information system, and creating an archive of work done.

Line 2: Campaigns

- the goal is to arrange information campaigns, public relations, co-operation with media and education of professionals. The activities proposed in this field could be e.g.: leaflets publishing, TV session, a new logo, a new web-page, increasing public awareness about landscape value, educational seminars for landscape professionals, the annual conference Landscape - Man - Culture.

Line 3: Experience exchange

- the goal is co-operation on the national and international level. The activities might be making database of contacts, creating network of experts / institutions, closer co-operation especially within the Višegrad countries (Slovakia, Poland, Czech Republic and Hungary), finding means for more effective co-operation in trans-boundary landscape issues, interdisciplinary co-operation etc.

Line 4: Professional support

- the goal is identify the principles of landscape typology, typical landscape character, significant landscape elements, landscape quality objective etc. These activities would be concentrated to elaboration of typology of selected areas, methods for identification of landscape character, typology of urban areas, identification of historical landscape structures, definition of threatened landscape types, landscape quality objective in selected segments etc.

The interdepartmental co-ordinating team has been already established and started to work within the smaller

sub-groups in different areas. They are: landscape typology; landscape-historical potential; landscape quality objective; landscape planning; international co-operation; education and training managers; integrated landscape research; institutional support and legislation; landscape protection; cultural and everyday landscapes; urban landscape; public relations and media, and information campaign.

The MoE SR is the competent authority for co-ordination and management of fulfilment of ELC obligation and co-operation with affected sectors. Performing body is Slovak Environmental Agency. The Section for Protection of Nature and Landscape of the MoE SR is responsible for regularly monitoring and annual evaluation of progress in ELC implementation.

Landscape planning as an important tool for implementation of the European Landscape Convention

Landscape planning plays an important role in the framework of implementation of ELC. According to the amendment of the Act on territorial planning and construction order No. 237/2000, the landscape-ecological plan is an organic part of obligatory analytical and investigation basis for territorial (spatial) plan. In 2000 - 2001 new guidelines for landscape-ecological plan were elaborated for MoE SR (Hrnčiarová, Izakovičová et al., 2000). In the years 2000 - 2001 new guidelines were verified by expert teams on two model territories (by GIS technologies): Historical town Banská Štiavnica and municipality Štiavnické Bane (firm Ekojet Bratislava) and the High Tatras region (Slovak Environmental Agency, Bratislava, Banská Bystrica and Prešov). Since 2003 a new Act on Landscape Planning is under preparation. According to the proposal (May, 2005) this act will ensure:

- **a)** Contents, procedure and conditions of landscape planning as a tool of ecologically utilisation and protection of property and investments in landscape on the principles of sustainable development and with the respect to international agreements in the area of creation and protection of landscape
- **b)** System of tools in landscape planning
- **c)** Competence of state institutions and regional and local self-government (councils), rights and duties of owners and other legal and physical persons in the area of utilisation, protection and care on landscape.

More information about the Slovak Act on Landscape Planning is in the paper of the authors Mišíková and Ambróš (2005).

Conclusion

In the proposal for arranging conditions for implementation of ELC in Slovakia (Moe SR, 2005) these principal tasks have been recommended for realisation:

- to approve the Act on Landscape Planning and secure its effective management of the territorial development,
- to initiate projects oriented to protection, management and planning of landscape in different landscape types,
- to establish intersectoral working commission for fulfilment general and specific national cross-cutting measures regarding ELC,
- to identify subjects concerned to ELC implementation,
- to specify general and specific tasks for the purpose of ELC and to create relevant working groups,
- to ensure the mutual exchange of information among working groups for better co-ordination of activities and effective monitoring of fulfilment of the tasks regarding ELC implementation,
- to elaborate overview of policies relating to landscape issues, to analyse their conclusions and develop a basis for these parts of ELC, which are missing,
- to initiate and realise projects for active involvement of public and other subjects to elaboration of landscape policies and to realisation of the projects,
- to co-operate with Parties of ELC on the European level and to identify potentially common projects in trans-boundary regions.

Besides the tasks mentioned above, awareness of public, public authorities and other subjects must increase about landscape values. In the frame of the implementation programme of ELC a special multidisciplinary training courses in landscape policy, protection, management and planning and other educational activities, which will be elaborated and realised in co-operation with the Ministry of Education SR. All these tasks require active interdisciplinary co-operation between professionals in the public and private sectors, experts from academic spheres and non-governmental associations concerned. Principal role has played the international co-operation, mutual assistance and exchange specialists and information.

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