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The Katowice UDP and a proposed system of protected areas

The Polish legal framework

In the Polish legal system sustainability is recognised as a foundation for spatial planning.

Under Polish regulations the preparation of a special document showing the main aspects and traits for development and the management of a particular administrative unit is obligatory. Such a document is called: "Study of conditions and trends for the spatial management of the commune/administrative unit" ("Studium uwarunkowań i kierunków zagospodarowania przestrzennego gminy").

An ecological study, documentation and evaluation is a one of the main parts of this document.

The main purposes for preparing an ecological evaluation for a commune, town or city are:

- to create a basis for the management of open spaces and natural resources
- to identify significant ecosystems and linking corridors
- to create a basis for spatial planning (showing areas for nature conservation, areas for development: housing, industrial, business, etc.)
- to create a basis for formulating a nature conservation strategy at the local level (community, town, city) with connection to the regional and national levels

There are three main stages in preparing an ecological evaluation:

- production of an inventory (descriptive studies) — this part should cover:
 - characteristics of the local environmental background
 - analysis of previous spatial land use

- nature evaluation
- identification and characteristics of the main hazards to nature
- diagnosis (analytical studies)
- the formulation of an ecological model for the commune, town or city
- special, detailed studies for particular areas
- results and guiding principles for the development and management of the commune — the construction of an ecological model for the commune.

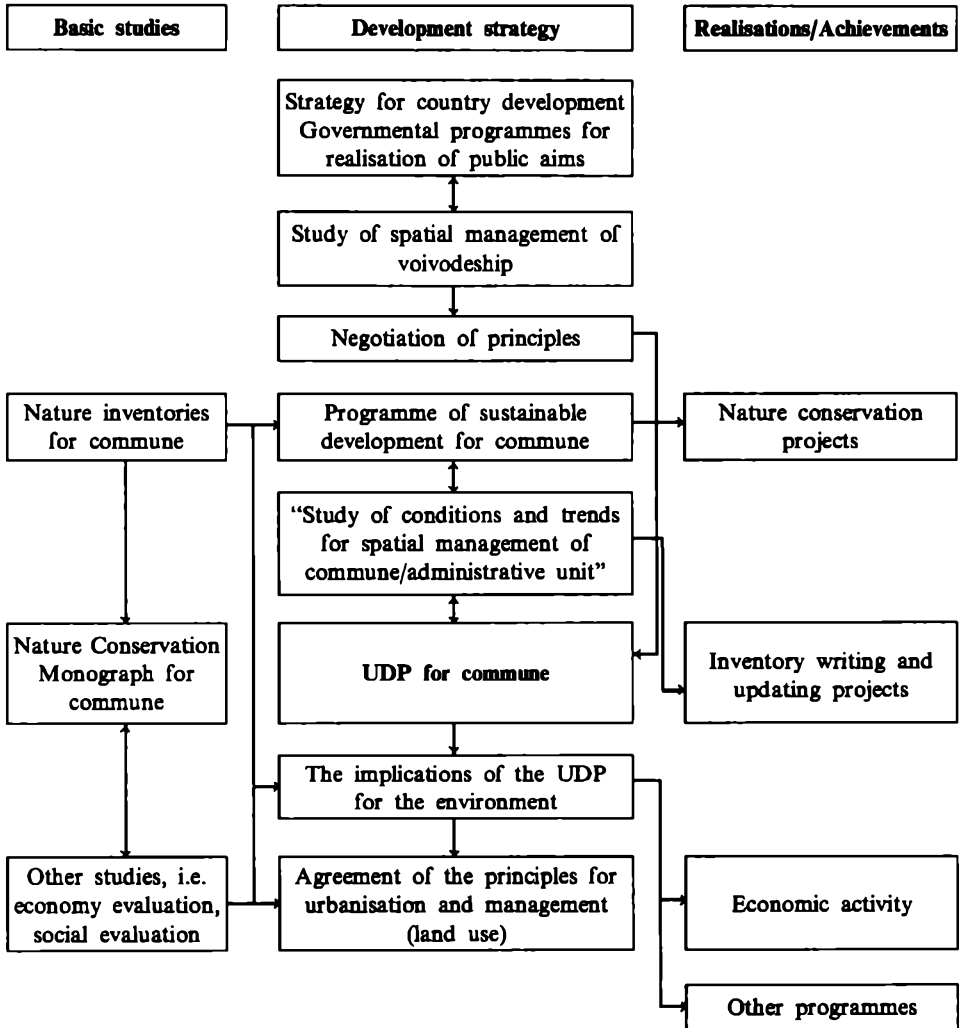


Fig. 1. System of commune management and role of environmental/ecological studies (KAS-PRZAK, 1995 after KOZŁOWSKI, 1993)

One final result is the presentation of the ecological, spatial model for the commune, which should consist of the following parts:

- diagnosis of the condition of the environment
- identification of the admissible types of land use
- identification of the main ecological activities for conserving and maintaining the local environment
- prediction of future changes in the environment
- cartographic illustrations (maps)

The production of nature inventories has a long history in Poland (TOKARSKA-GUZIŁ, 1996). Nature Conservancy monographs have been prepared for many administrative units in Northern and Central Poland since before World War II. After the war Polish law recognised the need for nature conservation but in practice nature conservation was omitted. In 1980 we came back to the idea that there is a need for nature evaluation. Many environmental studies for communes and documentations for landscape parks were submitted at that time.

There were some attempts to create uniform methodological rules for preparing ecological/environmental evaluation (DUBIEL, 1990; JANKOWSKI, 1995). None of the proposed rules are sufficient to identify all environmental and nature conservation sites important for biodiversity and landscape (JERMACZEK *et al.*, 1995).

Usually such documentation consists of the following parts:

- natural environment
- landscape
- historic and cultural values

Depending on the expertise of the team (botanist, zoologist, architect, urbanist, sociologist, etc.) one of the three components tends to be emphasised.

In terms of our region, problems of nature evaluation have been described by an urbanist, dr Janina Szczepańska from Faculty of Architecture, Silesian Polytechnic (see references).

Application of the framework in Katowice city

The example shows the contents of the Nature Conservation Study for Katowice. For other examples see articles in *Materials for Postdiploma Studies of Urban and Spatial Planning*, No 9, 10, 11 (1996).

Nature evaluation of Katowice city

(TOKARSKA-GUZIŁ B., ROSTAŃSKI A., GORCZYCA J., ROSTAŃSKI K. M., ROSTAŃSKA K., 1994)

CONTENTS:

1. THE ENVIRONMENTAL BACKGROUND OF THE CITY

- 1.1. Location, area, boundaries
- 1.2. Geology and geomorphology
- 1.3. Soils
- 1.4. Hydrology
- 1.5. Climate
- 1.6. Geobotanical characteristics of the city area
- 1.7. Outline of the main changes in the environment against the background of the city's spatial development

2. METHODOLOGY/METHODS OF INVESTIGATIONS

3. RESULTS OF THE INVESTIGATIONS OF THE FLORA AND FAUNA

- 3.1. Composition and analysis of the flora
- 3.2. Important plant species, particularly those which are protected, rare, vulnerable and endangered
- 3.3. Composition and differentiation/diversity of trees and shrubs (dendroflora)
- 3.4. Composition and diversity of fauna

4. SITES OF SIGNIFICANT VALUES

Each site/area has its own description and evaluation:

- location of the site
- short description of the surrounding area
- possibility of connections with other sites
- main vegetation types
- main nature value (rare plant and animal species)
- main uses of the site
- mitigation for protection/conservation or/and management
- for well-recognised sites, suggestions for types of legal protection
- evaluation of sites using such criteria as:
 - size
 - topography
 - habitat diversity
 - rarity of particular elements
 - landscape values
 - naturalness
 - potential ability to maintain its ecological value
 - connections with other ecological sites
 - ecological importance (local, regional, above regional)
 - fragility

Evaluation of each criterion has been carried out using the Description and the following scale:

- 0 — without value
- 1 — low value
- 2 — average value
- 3 — high value
- 4 — highest value

The main reason for such an evaluation was the need to identify the most significant sites in the city, and to construct a classification of the sites for the purpose of further spatial planning. The classification and evaluation of sites was considered in relation to local urban conditions.

As a result, the authors have recognised 42 sites of ecological value: 2 existing nature reserves, 1 projected nature reserve, 2 projected natural and landscape complex areas, 12 sites proposed for protection as ecologically valuable barren lands areas, 1 as a monument of nature. For many sites authors have suggested a new form of protection: "local protection". For the southern part of Katowice is suggested the creation of an "Area of protected landscape" (this is part of a city with large area of forests, open areas, fields and an absence of heavily built-up areas).

5. RECAPITULATION

- 5.1. Spatial structure of nature conservation sites
- 5.2. Spatial connections (ecological corridors, ecological "stepping stones")
- 5.3. Draft nature conservation strategy for the city

6. BIBLIOGRAPHY

7. PHOTOGRAPHS (about 200)

8. ATTACHMENTS (list of plant species, list of trees and shrubs, remarkable trees, list of fauna)

9. MAPS 1 : 10 000; 1 : 25 000

On the basis of this documentation and other particular studies carried out within the Katowice area, the UDP for the city was completed. The whole document is available at City Council.

A proposed system of protected areas in Katowice

(Ekologiczny System Obszarów Chronionych — ESOCh)

Preserving the natural and landscape qualities of the rapidly developing province of Katowice requires the application of consistent policies by local

authorities. The policies on nature and landscape protection should be incorporated into the planning and development policies for the whole region. One of the priorities is that the policy concerning nature preservation both in the territory of the province and the communes should be a scheme for the effective realisation of a nature conservation strategy.

Apart from the identification of natural resources and establishing the most appropriate ways for their conservation, management and use, modern nature conservation should also take into consideration their connections in space and time. A widely held assumption in policies for nature preservation is that it should be a basic aim to create a coherent, integrated system of protected areas. After several years of planning in the province, Katowice has attempted to create a "System of Protected Areas" (TOKARSKA-GUZYK et al., 1995; TOKARSKA-GUZYK, 1997; KUPKA, 1997).

See also section: *Sustainable development of urban and post-industrial areas in photographs* — Plates 18—19.

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- of protection areas and areas with specific natural values in Katowice town. General information, in: *Kształtowanie środowiska geograficznego i ochrona przyrody na obszarach uprzemysłowionych i zurbanizowanych (Shaping of the geographical environment and nature protection in industrialised and urbanised areas)*. WBiOŚ, WNoZ UŚ, Katowice—Sosnowiec, 24: 5—11.
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