

CASE STUDY:

The use of checklists to support spatial planning - in co-operation with the spatial planning unit of the municipality of Graz

SECTOR: Assessment

COUNTRY: Austria

BACKGROUND

The municipality of Graz is currently running a number of activities which are oriented towards sustainable development, aiming to integrate and merge as many thematic cross-cutting topics as possible. The *Spatial Planning Unit* is leading a few of these actions, featuring certain programmes and comprehensive strategies. The need for a decision support tool developed, as they have been repeatedly confronted with the requirement for additional data and information to evaluate planned building projects of different scales. Moreover the tool should provide additional argumentation when dealing with different interest groups.

The new tool should come after the following tasks and features:

- Evaluate the potential impact of planned building projects on nature's capacity;
- Provide indications for appropriate measures to progress towards stated aims of certain programmes;
- Develop a set of indicators - climate, soil/geology, surface sealing, fauna, vegetation, landscape and recreational value and test the new tool on three representative test case areas

INDICATORS

Climate

The conditions of the local wind situation, the formation of heat islands and air pollution are relevant themes for the planning authority. Indicators have been adjusted to some stated *policy aims*, aiming towards an improvement of general living conditions:

- Avoidance and reduction of anthropogenic impacts

- Activities to preserve and promote fresh air supply and exchange
- Preservation of climatic compensation and regeneration areas
- Preservation and provision of diverse urban micro-climates



Figure 1: "Test case area close to the city centre, with a mixed use of housing areas and SMEs"

Geology, Soil and Surface Sealing

Certain aims of the *Urban Development Programme* address the need to respect a sound use of soil, reduce surface-sealing to a minimum amount and enable groundwater recharge by infiltrating rain water. For this purpose pedological and geological data have been gathered and transformed into thematic maps providing a basis to evaluate "the possibility to infiltrate water through the soil/subsoil system and the geological units".

Vegetation

Changes in the environment lead to varying conditions for plants, for instance because of changes of the natural conditions - anthropogenic soils, changes in air quality, water balance etc. Different plant species will not appear in the urban-industrialized areas, whereas others might be found just there, other species might occur with same frequency both in the city area as well as in the surroundings. Based on this assumption

a differentiation and evaluation was made.



Figure 2: A test area at the city border close to the green belt of the city.

Fauna

Numerous rather small habitats occur in the urban area with a clear zoning from the centre to the city limits. Habitats with comparable characteristics can be found repeatedly throughout the urban area. Strong impacts on animal living space can be observed at the fringes of the city where the city develops and spreads at most. A rather high negative impact takes place if the loss of certain areas (eg green areas, derelict land) means also loss of quality (loss of food, deterioration of air quality).

Landscape

The evaluation of the landscape relates to its definition, where the landscape is the result of a dynamic interaction between various elements, which may be abiotic or biotic, including the influence of man. Landscape is defined as the sum of all noticeable elements, that are in a broader sense of natural origin, or they might be considered as historically grown or to refer to old traditional uses.

Recreational value

In this respect both the available space for recreation in the surrounding neighbourhood as well as directly in the residential premises are considered. Some well known human behaviour patterns, such as *“distance between individuals, man prefer niches, desire to*

have contact to nature” are relevant in this respect.



Figure 3: Test case area at the city limits, in a high developed business area.

AIMS

For both stated aims and measures an assessment classification with given priorities has been set up, using the following distinctions

- the aim of has top priority
- this aim is recommended
- the aim is desirable which equals the lowest priority

EVALUATION

The evaluation builds around available data, e.g. GIS information, nevertheless recommendations might come up from the evaluation, implying the need for further investigations. Finally, compensation measures in line with the planned project might be foreseen as necessary requirements or optional activities.

Scope of utilization

The evaluation scheme was made to give an estimation on the potential problems related to building projects as well as to determine (additional) aims for planned projects. The following types of building projects have been selected to test the methodology:

- building projects in green areas
- building projects in areas of middle density
- building projects in district centres, representing economic urban centres

The evaluation includes the area where the building project will be realised as well as its neighbourhood.

Evaluation details:

A scale of 5 categories, ranging from [+ +] to [- -], where a [+ +] ranking indicates favourable and a [- -] ranking non-favourable conditions for a proposed project.

The category [+ +] implies positive prerequisites for a building project – according to the current information the area of reference gives rise to the assumption that the planned building project will cause no negative impacts on suitable areas, however deficits may increase. The category [- -] implies unfavourable conditions for a planned building project. Planned projects would lead to negative impacts on sensible areas and would probably increase deficits. Further investigations would be recommended.

TRANSFERABILITY AND DRIVERS

Certain parts of the processed data as well as the methodological frame could be used in similar projects. The evaluation scheme is designed in a flexible form and it would be rather easy though to include additional indicators, depending on the specific situation. The driving force is the Spatial Planning Unit of the Municipality of Graz, which defined in co-operation with JOANNEUM RESEARCH the idea and contents of this project.

REFERENCES

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