

## Planning and Environmental Assessment

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### Abstract

The improvement of urban quality is one of the primary goals of city planning and design. Due to the rapid growth of urbanised areas, many pollution problems have arisen with negative feedback on the quality of life in cities and their gravitational areas. The term "sustainable development" comprises environmental protection including the preservation of historical, cultural, and natural heritage. Therefore, we have tried to define which characteristics of the urban way of life and which components in the city structure have the strongest impact, either positive or negative, on the development of sustainable and human city. The basic idea was that we could prepare a system of measuring sustainability, which would become a tool for monitoring and assessing the city development and planned operations in it. In the paper we will present such tool as system of indicators for measuring sustainability in urban areas.

The formation of indicators and the system for measuring sustainable development depend upon the level of treatment (national, regional, local, etc.), upon the conditions, processes, and problems occurring in the environment, upon the developmental policy, and the set goals. This is why indicators should be changed and upgraded. The formation of indicators is an unfinished process closely dependent upon actual needs. Each city is unique and has to find its individual paths towards sustainability. Consequently, the chosen system has been devised enough flexible to allow necessary modifications and extensions. To put such system into practice requires interdisciplinary work and co-operation of professionals from various domains.

Indicators demonstrate which city parts have either a positive or negative direction of development, in view of the set goals. The system of sustainable urban indicators (with computer-aided model) consists of four groups of indicators: environmental and socio-economic, indicators of the physical structures, and urban design indicators. The result is a total index of sustainability, and it indicates a complex evaluation. Each single indicator was separately defined, with evaluation, scores, and weighting factors that could be taken into consideration. The computer model EKO was developed for the calculation and demonstration of significant factors that have impact upon sustainable urban development and will enable the 3 dimensional presentation. The city of Ljubljana (our capitol) has been shown as a case study.

The system of indicators could become an appropriate support for the evaluation of sustainable conditions, for the planning operations in the urban environment, and for decision-making at different levels. The challenge of sustainable development requires big changes in our thinking and behaviour, in social life and in the economy. Successful execution of these principles depends mainly on the ability to connect and form partnerships at all government levels, in the private sector, professional institutions non-governmental organisations, in the wider society and also on the active role played by the local community.

Certainly each place and city need to be analysed with regards to their regional and local characteristics and the model should be adapted to the place and time. Continuous monitoring of the activities and the conditions of the environment, sources of its endangerment and trends in urban development, that form the basis for decision making, are becoming one of the main developmental-existential tasks for future decades.

**Keywords:** Environmental assessment, System of indicators, Sustainable development, Urban development, Measuring sustainability