

Maria Pătroescu, Cristian Iojă, Laurențiu Rozyłowich, Gabriel Vânău, Mihai Niță, Iulia Pătroescu-Klötz, Annemarie Iojă (2012), *Evaluarea integrată a calității mediului în spații rezidențiale* (Integrated assessment of environmental quality in residential areas), Editura Academiei Române, București, 246 pages, 25 tables, 91 figs, refers., summary in English.

Elaborated by a team of specialists from the Centre for Environmental Research and Impact Studies, the work provides an interdisciplinary analysis of residential areas, a key component of a particularly dynamic society over the past few decades.

The volume stands out by the importance and topicality of the theme, observations, statistically-processed data, the direct measurements and mapping for case-studies being completed with an important theoretical and methodological approach, the outcome of a vast bibliographic documentation from the national and international specialist literature. Research has focused on the metropolitan area of Bucharest Municipium, where post-communist socio-economic and political-related transformations are most visible.

The seven chapters of this work could become an assessment model of environmental quality, applicable also to other residential areas in Romania.

Chapter One makes an analysis of urban expansion determined by socio-economic, technological and institutional factors, the direct and indirect relationship of residential areas with other urban structures, and forms of manifestation such as: compaction continuity in space, infill development, leap-frog expansion, urban corridor-like expansion, as well as landscape effects.

Chapter Two is devoted to the identification of methods necessary for the integrated assessment of environmental quality in residential areas, the authors considering that complex appraisal means several stagewise transdisciplinary investigations. A detailed presentation is made of environmental indicators and indexes as assessment modality and method, the role of direct observations and measurements, as well as questionnaires and statistical surveys, GIS techniques as a tool of processing and representation, and at the same time of identifying transfer vectors of different fluxes.

Furthermore, the state of sanogenesis and suitability of residential area locations is being discussed, bearing in mind vulnerability to natural and technological hazards, access to green areas, or to the area of manifestation of man-induced phenomena (urban heat island) (Chapter Three).

The population's consumption models in Bucharest Municipium (dwelling, energy, nutrition, hygiene, recreation, etc.) are viewed in connection with external degradation sources, key factors in assessing the quality of the environment in residential areas (Chapter Four).

The adequate functioning of residential areas enhances the pressure put by human settlements on the ecosystems, thereby generating environmental problems. Assessing the extent to which residential areas, through space consumption, exert their impact (Chapter Five) is made by determining the ecological footprint defined as the surface of productive biological terrain needed to meet the consumption demand of a population and take in all the wastes it produces. Calculating the ecological, physical, and energy footprint of Bucharest's metropolitan area is a very useful undertaking for practitioners, being at the same time an assessment model applicable also to other areas.

Chapter 6 expounds on the qualitative and quantitative variables characteristic of inner space quality (air, hygrothermal regime, luminosity, level of noise, etc.) which has a direct influence on the population's health state in residential areas. In the interval November 2008 – November 2011, hourly measurements monitored the quality of air in 24 dwellings of Bucharest Municipium, the results obtained being compared to WHO-recommended maximum values.

The last chapter discusses aspects of residential area adaptability to global environmental change, identifying priority action domains for the sustainable development of residential areas, which are being perceived both as determinant factor and as element affected by current global environmental change.

A fundamental prerequisite for analysing environmental quality is integration of all the results obtained for each component within a unitary and coherent whole, with highlight on the causal connections between ongoing geographical processes and phenomena, on their weight and hierarchization in time and space, definitory features, short-medium-and-long-term evolution trends, vulnerability level to natural hazards and adaptability to global environmental change. The work succeeds in integrating all these aspects, pointing out the synergic effects of the interdependence of environmental components in residential areas. Apart from its methodological value for various categories of specialists, this volume is an important tool for planning out urban development programmes and policies in Bucharest Municipium and its metropolitan area.

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