



BOOK REVIEW

INFORMATION MODELS FOR ASSESSMENT AND MANAGEMENT
OF DEVELOPMENT TRENDS

Reviewed book: Vitalija RUDZKIENĖ, Marija BURINSKIENĖ. *Plėtos kryptių vertinimo ir valdymo informaciniai modeliai*: monografija. Vilnius: Technika, 2007 [Information Models for Assessment and Management of Development trends] *in Lithuanian*.

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The study of Vitalija Rudzkienė and Marija Burinskienė covers a topic that nowadays is – against the background of global climate change – estimated as the indispensable basis for any future development: sustainable development of towns and regions. With particular focus on the Lithuanian case, they investigate a country that has undergone fundamental transformation processes in the last decade.

On the way to develop their model the authors take several steps:

- discussion of ‘criteria systems’ to assess sustainable development (chapter 2);
- discussion of methodological aspects, in particular, of development paradigms (chapter 3);
- definition of the appropriate type of model and overview of statistical methods applied for assessing development directions (chapter 4);
- outline of an in-depth analysis of the Lithuanian situation (chapter 5);
- outline of the methodological approach for scenario building and exemplifying this approach by scenarios for the Molėtai region development (chapter 6);
- elaboration of measures for implementing a sustainable development concept (chapter 7);
- discussion of results and deduction of recommendations (chapter 8).

The authors’ starting point is the deduction of indicators to create a ‘criteria system’ for the assessing a sustainable development. In doing so, they refer – as the first step – to factors in the context of economic development, education, health and environment, while taking up the international discussion. To create a valuable criteria system, Rudzkienė and Burinskienė define a set of indicators that fit to the special situation of Lithuania; at the same time, they take into account the problem of carrying capacity, which means measuring the maximum use of a resource without affecting the sustainable development, and of defining threshold values. The indicator development finally highlights the ‘standard of living’, as an indicator that has received much attention in the recent past both by international and national Lithuanian scientists.

In chapter 3, Rudzkienė and Burinskienė go through a long list of theories and concepts that exist for explaining ‘development’. They start by more conventional concepts as there are the ‘drift paradigm’, the ‘material paradigm’, the ‘neoclassical economics paradigm’, also the ‘ecological paradigm’ and the ‘entropic perspective’. Continuing the chapter, the authors elaborate approaches of much higher complexity like ‘complex non-linear models of sustainable development’ and models of ‘evolutionary economics’ and ‘evolutionary processes’. They point out that “environment changes are substantially dynamic and non-linear, and insignificant changes in parameters may cause unexpected, dramatic and far-reaching results”. Therefore they come to the conclusion that an increasing significance should be attached to “components that give an integrated view of non-linearity, irreversibility and parameter diffusion of the system parts”.

Rudzkienė and Burinskienė start chapter 4 by describing types of models and by defining the appropriate model type that they intend to develop. They deliver an extensive and detailed discussion on statistical methods that can be applied for the assessment of development directions focussing on their methodology for the discrimination of economic data storage patterns of multi-dimensional structures.

Thus having built the ground, Rudzkienė and Burinskienė address the development of their own model. The first step is elaborated in chapter 5 by an in-depth analysis of the Lithuanian situation concerning urban development, foreign investment, standard of living and housing with a particular attention given to the gap in the standard of living between towns and regions, and social capital development. The authors describe and explain extensively the results of the statistical analysis that they have performed. By the use of regression and discriminant analysis methods they get the necessary parameters to build a valid model for the case of Lithuania.

The aim of the model developed by Rudzkienė and Burinskienė is to support political decision making and planning in Lithuania based on the idea of sustainable development consisting of a combination of economic growth, social progress and sparing use of natural resources to maintain the ecological balance and to ensure favourable living conditions for current and future generations. The analysis and the recommendations that the model can provide are not directly given but are generated by scenarios. In chapter 6, Rudzkienė and Burinskienė outline the methodological approach for scenario building and the role that the model plays within the scenario building process. Using the example of scenarios for the Molėtai region development, the authors show – in a first step – the analysis of current trends in the respective region, and discuss – in the second step – alternatives to the current development in the Molėtai region. The ‘alternative development’ is highlighted by concrete measures that need to be taken if the alternative is to be achieved.

Chapter 7 is dedicated to the elaboration of measures for implementing a sustainable development concept. It clarifies how sustainable development of regions can be achieved actively. The authors name as particular assets

- the participation of citizens in the adoption and implementation of decisions;
- the strategic environmental outcome assessment, and
- the environmental impact assessment.

In the description of these assets, there is a clear distinction between the strategic level and the operative level of these political and/or planning activities.

In their ‘Conclusions and Recommendations’ of chapter 8 Rudzkienė and Burinskienė stress – as one of the main conclusions – the obvious need for modelling and scenario building in planning processes, but at the same time the fact that there are models that can provide this necessary support. They recommend acting most carefully when using models, but also underline their well-founded and science-based belief that scenario analysis will become the main method for assessing the future changes and rational decision-making.

The study of Vitalija Rudzkienė and Marija Burinskienė about ‘Information Models for assessment and management of development trends’ is a brilliant and very useful scientific work in two aspects: on the one hand, it provides a perfect source of scientific discussion and work concerning both indicator systems for sustainable development and modelling of complex processes. On the other, it develops a coherent and consistent model for analysing and supporting the planning of sustainable development in both the theoretical and practical field by applying the model to the case of the Molėtai region in Lithuania. By this approach the study may act for the reader – particularly if he or she is a planner – as a ‘handbook’, but also as a motivation and stimulus for a deeper reflection of general political objectives for

developing a region or a nation and the necessary strategies to follow these objectives. In this respect, the study may be of outstanding importance in particular for politicians.

I expect that given its scientific solidity and its practical usability the study by Vitalija Rudzkienė and Marija Burinskienė will receive a lot of attention in the field of both research and politics, not only nationally but also internationally.

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