Stan GEERTMAN, John STILLWELL (editors), *Planning Support Systems in Practice*, Berlin etc., Springer, 2003, 560 p. + subject index, lists of figures and authors.

Discourses about planning have changed considerably since the sixties of the last century. The emphasis in the academic world of planners has shifted – roughly speaking - from research focusing on spatial qualities to research focusing on influencing processes of change, such as network management, communicative planning and alike. A 'post-modern' view on planning, whereby communicative rationality has replaced analytical rationality, is not unusual nowadays. This book, written by more than seventy authors, provides intellectual support to planners and spatial scientists who want to disagree with this view.

'Planning Support Systems in Practice' starts with a thoughtful preface of *Michael Batty*, who paints the subject PSS in a way that can only be done by persons who know by own experience the struggle of introducing the first computers in planning. The editors explain in the introduction that the purpose of the book is to present an overview of 'the diversity and innovative state-of-the-art of PSS in practice and the experiences that have been gained within different planning contexts.'(p.9) They have divided the book into five parts, which suggests a clear structure that will not always be obvious for the reader given the similarity in approach of many papers

Part 1 is devoted to systems and technologies for enhancing participation in the planning process. It includes five interesting papers that can be seen as 'answers' of technological experts to the 'post-modern' view mentioned in the first paragraph. *Geertman and Stillwell* start with an overview of interactive support systems for participatory planning. They conclude that current developments are promising, but not yet fully crystallized. In addition, *Kingston, Evans and Carver* discuss public participation by using the Internet. *Al-Kodmany* also explores web-based tools and especially focuses on web-based maps. *Ventura, Miller and Barry* outline methods that have been used for a 'citizens-driven land use planning' in Dane, a town in Wisconsin, USA. Unfortunately they forget to inform the reader about the appreciation of the citizens for the various characteristics of these methods.
Snyder finishes part 1 of the book with a contribution about the experiences of planning practitioners that participated in a series of workshops in the USA on TCDDM (Tools for Community Design and Decision Making). His conclusion is very clear: 'The best tools in the world are not going to be effective if they are not integrated into a process that engages stakeholders in the decision making process at the right time and in the right way.'(p.117).

Part 2 got the title 'Tools for Supporting the Planning Process'. *Mikkonen, Ristimäki, Oinonen and Hansen* promote a GIS for the Baltic Sea region that also include a database on various pieces of qualitative information (e.g. on theories) that might be of interest for regional planners. The contribution of *Carsjens, Van Lammeren and Ligtenberg* is from an academic point of view more interesting because it provides an attempt to evaluate not only the strengths but also the weaknesses of PSS in planning. The authors notice that some important questions remain such as 'how to deal with the increasing time

constraints imposed by the direct-react-direct-response expectations of the new media."(p. 153) They conclude that 'currently' a PSS is mainly useful in the first stages of a planning process, which focus on informing and consulting people, and not in more complex stages that focus on 'co-production and co-deciding'. An illustration of this viewpoint is the contribution of *Geertman, De Jong and Wessels* who present a PSS for 'strategic network analysis' called Flowmap. This program is limited to the analysis and visualisation of spatial interaction data. *Jiang, Huang, Vasek* focuses on the subject of 'geovisualization', which means the making of two-and three-dimensional images. Funny is their classification of perspective photos and sketches as '2,5 dimensional', but they also frankly admit that 'it is sometimes very confusing' (p. 181).
The next chapters focus on approaches that must be familiar to people who like the impressive 'realistic' images of modern computer games. *Van Maren* describes very briefly the use of the program K2vI (Key to virtual Insight), which is essentially a three-dimensional CAD system that also can work with GIS data. According to the author this system is currently implemented for Auckland, New Zealand, but unfortunately also in this contribution no information is given about the experiences or its usefulness in real practice. As in several other contributions in the book, this paper is limited to an uncritical presentation of 'sales information' of the system used. A much more reflective and hence interesting chapter is written by *Torrens* who not only presents his view on the merits of traditional land use and transportation models, but also points at new alternative approaches like cellular automata and multi-agent systems. Traditional models are based on a holistic perspective, assumed group behaviour, 'law of large numbers', etc., whereas the new models create 'a simulated world' from a large number of individual components with individually defined behaviours that may interact in an a priori undefined way. An example, not mentioned by Torrens, of such a new approach is the well-known computer game 'Simcity'.
Expert systems or knowledge-based systems are usually based on rule-based reasoning. *Yeh and Shi,* however, assert that case-based reasoning may be more appropriate for planning. They give an interesting description of such a system that is used in the planning department of Hong Kong for handling planning applications.
Kurtener and Badenko have developed a GIS-application that includes fuzzy-set reasoning as used in several multicriteria methods. Unfortunately, several formulae in this chapter contain errors, probably because of wrong typesetting.

Part 3 of the book has the title 'Support Systems for Strategic Planning'. *Champion, Bramley, Fotheringham, Macgill and Rees* present a prototype of a migration model that is developed for the UK national government. Next, *Birkin, Boden and Williams* describe a system for oil companies to provide a geographical forecast of market developments. *Harts, Maat and Ottens* have used a GIS for monitoring urban developments. Also this contribution has value added because of its frank evaluation of the weaknesses of the approach followed. *Pettit, Shyy and Stimson* describe the use of a web-based GIS in a planning setting with stakeholders. This contribution would have been even more interesting if attention was given to a systematic evaluation of the opinions of users of the system.

Part 4 is called 'Support Systems for Land Use and Infrastructure Planning'. It starts with a condensed overview of 22 land use change models by *Gaunt and Jackson.* Very useful are the website references of each model.
Reilly describes how an old-fashioned growth allocation model may still be useful in today's planning, at least in less regulated planning contexts, such as in the USA, where private development companies set the tone. In addition, *Klosterman, Siebert, Hoque, Kim and Parveen* try to sell to the reader the 'fully operational, commercially available PSS *What if?*^{TM}' (p. 391, 392). *Rainis, Shamsudin, Jaafar and Shah* show that also Klank Valley in Malaysia can now encounter the future with trust thanks to KV-RPSS, a combination of a GIS and a land use allocation model too. The contribution of *Heunis, Smith, Gavin* is more interesting since it deals with the use of a web-enabled GIS for planning and management of land reform in South Africa. This system, called LiNC Viewer, is presented by giving its strengths, but also its weaknesses that need to be further researched. *Lautso* presents Spartacus, a system based on a land use transportation model and a GIS with a decision-support interface based on – as far as I can judge from the scarce information – an adaptation of Saaty's multicriteria method.
The contribution of *Biermann* is interesting because it starts from a different point of departure, i.e. threshold analysis originally developed by the Polish planner Kozlowski in the1960s. By using the theoretical foundations of this method he develops a potential cost model for bulk infrastructure. Biermann's conclusion based on the application of his tool in 'real practice' is that the planning context is a very important factor for the success or failure of a PSS: "This absolutely reinforces the importance of planning decision support systems being integrally related to the planning process they are supporting if the outcomes are to have more than just an academic result … PSS in isolation is not useful in influencing decision-making' (p. 482).

Part 5 is devoted to 'Support Systems for Environmental Planning'. *Bonfatti, Monari, Aime and Ascari* describe an environmental information system with a GIS core and a user interface that is called 'the virtual machine'. As in many other chapters, there is no evidence given that this traditional 'single user' system has been designed with a planning process and context in mind.
Eleveld, Carreau, Schrimpf and Siegert describe a web-based decision-support system for coastal zone management called DESIMA. Also this system is principally a GIS for the analysis of oil spills and flood risks. An analysis of the user-friendliness and practical usefulness for 'planning support' lacks. *Engelen, Uljee and Van de Ven* have developed a related approach for coastal zone management, in particular for the Wadden Sea area. Also here the focus is on the 'single user', neglecting the fact that planning is a complex interaction process between different users with different interests, different roles and – not to forget - different intellectual and instrumental qualities.
The book is ended by a contribution of *Sharifi and Rodriguez*. They outline a planning support system that was designed to assist policy-making for the rehabilitation of natural qualities in the Western Mancha region of Spain. This PSS consists of three components: a water balance model, a mixed integer-programming model and a multicriteria method. They conclude that this 'concept is particularly useful to support logical and rational decision-making processes' (p.558). How many planning processes in practice will meet this characteristic?

This somewhat naïve conclusion is to some extent illustrative for many contributions in *'Planning Support Systems in Practice'*. It is clearly a book written by people who are more interested in ICT or spatial analysis than in planning. Almost all contributions on planning support systems focus on the 'systems' part and unfortunately hardly or not on the 'planning support' part. But also the treatment of the 'systems' part leaves to be desired in many papers. For instance, the consequences of error accumulation due to the linkage of various methods, the sensitivity of the outcomes for data uncertainties and arbitrary modelling assumptions, the existence of fundamental system changes (cf. chaos theory) are not analysed and not even recognised and discussed. As long as a PSS is giving answers to questions that are not raised in planning practice, and as long as it is unable to reply to questions that are actually raised in practice, its usefulness is limited. It is limited to trying to 'impress' people by dazzling menus and beautiful maps on computer screens and by using a 'difficult scientific approach' with appropriate jargon that should suggest that its outcomes are 'true'. It cannot be a coincidence that consultancy firms and commercial research institutes are firm advocates of PSS, as several contributions in this book show.

The book shows, as some authors also argue, that there is a strong need for focussing researchers in this field more on the interfaces of systems with planning processes in practice, the 'planning support' part. From an academic point of view there is no need for incomplete 'success stories' by system developers or sellers. What we need are stories about failures or application problems and then draw lessons from it by improving the systems.

Despite these critical comments, this book can be very useful for people who want to have an overview of recent work done in the field of GIS and spatial modelling. However, its overall quality could have been much better if the editors would have had the courage to limit the number of contributions to roughly half by skipping all 'commercials' and by allowing then more space to a number of authors for elaborating and adding methodological and 'experience' details. This book is twice the size of the average book and its price almost three times. No doubt, this will hamper sales to individual persons, but I can recommend it without hesitation to every library that collects books on planning, geography and spatial economics.

Henk Voogd
University of Groningen
Netherlands