Similarities and Differences Between Serbian and Dutch Spatial Planning Systems (SPSs): Obstacles and Advantages for GIS Support

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SUMMARY

New socio-economic events within working and living environments are putting pressure on public administration, and especially on multidisciplinary systems for spatial/regional and urban development planning. In order to offer complex responds to turbulent environment and its needs, national Spatial Planning System (SPS) directs institutional-organizational efforts to shape and apply political decisions which would present factors for stable individual and society development. In other words, dynamics of contemporary environment urges national SPS on ever more application of new technology instruments for input collection, its communication within SPS and then translation into information flows needed for coordination of all subsystems within SPS system, and for all SPS end-users.

The next poster gives a more detailed analysis of the current Serbian and Dutch SPSs development, aiming to define similarities and differences which would present basis for exchange of good practice and knowledge in future. Approach to topic objective includes comparative description of those two Systems' main features (legal basis, participants, methods and relations) as well as illustration of national spatial development policy flow and organizational models. Problem solving orientation and new operative challenges impose special attention to SPSs' qualities which are adjusted to ICT solutions implementation, and which would support appropriate innovation diffusion and integration of new working models within organization social component.

KEYWORDS: *Spatial Planning System (SPS), legal basis, subsystems, national spatial development policy, organization models, GIS support*

ABSTRACT

New socio-economic changes in modern environment urge national Spatial Planning Systems (SPSs) to be more efficient and to manage and coordinate ever more activities, preferences and demands for individual and developments of society in general.

Therefore, the national SPSs have become more opened for implementation of new technological methods and solutions, especially GIS, to fulfil their purpose in complex social and governance circumstances. But, instead of expected adjustment of own operations to turbulent environment (Yogesh, 1993), SPSs have found themselves even more incapable to react on emerging external and internal demands because of poor technology employment (Figure 1.). In other words, GIS and other similar applications are used just as electronic registers in the best cases, while at the worst cases GI systems are used as presentation means and status demonstration. (Masser, 1996)
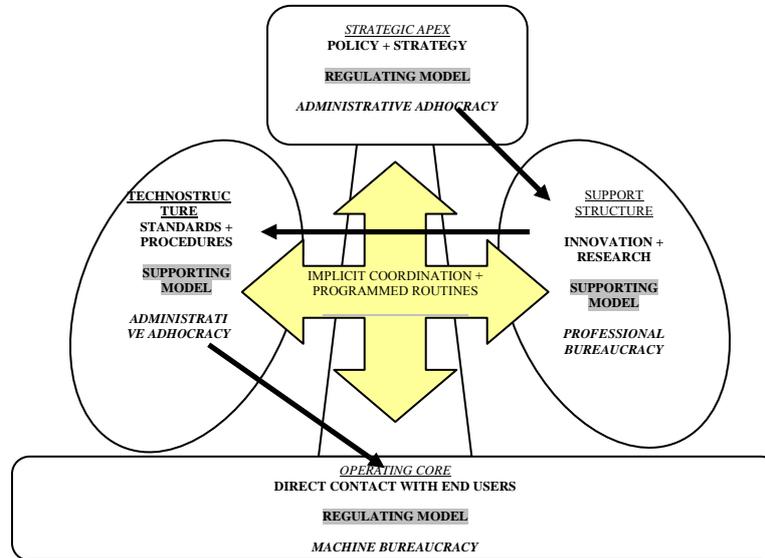
Figure 1: National SPS – today: Organizational configuration with IT/GIS solutions[37] ***(adapted: Mintzberg, 1983; Groth, 1999)***

However, regional and urban planning organizations continue to implement new technologies even more, expecting that technological solutions will resolve enlarged problems sooner or later, relaying heavily on attitude that more information SPS get - the more power SPS will have and will exercise (Wery, 1999).

Late 90s revealed clear and strong signs of social dimension problem caused by one-sided approach to technology implementation, and first conscious acceptance of IT/GIS solutions as 'just tool' appeared.

Enormous amount of money invested in e-Government initiatives all around the world force academic and professional domains to analyze roots of GIS under-diffusion problems (Heeks, 1999; 2002) (CEC, 2004), and first reports about barriers to GIS operational efficiency were published. (FCW, 2002) By those reports, the greatest barriers for e-initiatives were existing organizational culture and human resources capacity.

In other words, organizational information systems structure and, specially, human capacity to employ new technical systems were marked as critical factors for successful internal organizational change action due to IT/ICT implementation. (Salminen, 1999) These observations form a basis for new socio-technical integral approach to IT utilization (Masser, 1996), which now includes original organization theory and human limitations analysis as preconditions for new ICT-oriented modeling of organization work regime (Groth, 1999). On the other side, comprehensive implementation of ICT-adapted organization model calls for action theory (Brunsson, 1985) and different combinations of practical knowledge and skills (Heeks, 1999; 2002), forming thus new holistic approach to modernization of SPS as part of today e-Government mantra. (Wolf, 2000)

Serbian and Dutch Spatial Planning Systems (SPSs) belong to different spatial planning system tradition, characterized by separate legal and administrative conditions of development in the past.

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[37] black arrows present national spatial development policy implementation flow!

The former SPS belongs to *East European family* which members are trying today to find old-new identity, while the later possesses the *Napoleonic family* practice which is building new channels to modern end users needs. Some authors discuss that it's hard to believe and expect that existing national spatial planning systems in uniting Europe will find universal continental institutional model for spatial planning development theory and practice, but that EU common goals will find their ways through specifics of national arrangements (*Table 1.*). (Newman, 1996)

Functional hierarchy of SPS	Republic Serbia	The Netherlands
Top Strategic Apex	• Ministry for Capital Investments • Republic Agency for Spatial Planning • Inspectorate	• Ministry of Housing, Spatial Planning and the Environment (Advisory Council for Spatial Planning) • Directorate-General Spatial Policy • Inspectorate
Middle (not regional) Technostructure Support Structure	• Serbia Association of Spatial Planners • Serbia Association of Urban Planners • Serbia Chamber of Engineers • Faculty of Geography and other Serbian faculties/universities • Organisations which prepare plans, studies, and other planning documents	• The Netherlands Institute of Housing and Planning (NIROV) • Dutch Professional Organisation of Urban Designers and Planners • Dutch Universities • Planning Departments within Municipalities and Provinces • Private planning companies
Local Operating Core	• Offices for urbanism, i.e. planning and building affaires within municipalities	• Offices for urbanism, i.e. planning and building affaires within municipalities

Table 1: Participants in national spatial development policy implementation within Serbian and Dutch SPSs: Overview of SPSs subsystems by their position within implementation constellation for national spatial development policy (current state)

SPS is comprised from all participants, i.e. all subsystems which are directly involved in creation and implementation of national policy for spatial development. Thus, national spatial development policy creation and implementation present main processes within national SPS which influence on building of relationships within System, and simultaneously define SPS borders to socio-economic environments within it operates. (*Figure 2.*)

Therefore, main national policy support features of Serbian and Dutch SPSs –like their legal basis, subsystems, methods and relations- present appropriate start points in analysis of socio-technical capacities for comprehensive implementation of GIS tools needed for EU spatial development policy execution.

General objective of adopted comparative approach to Serbian and Dutch planning systems analysis was to define main common places as basis for potential development experiences exchange in area of institutional-organizational modeling for turbulent environment conditions. Therefore, poster structure starts with comparative description of main elements of two SPSs, i.e. their legal basis, participants, methods and relations, as well as working models, aiming to define similarities which are then used as basis for analysis of advantages within both Systems for socially conscious GIS implementation. All findings should be used as *lessons learnt* for Serbian SPS.
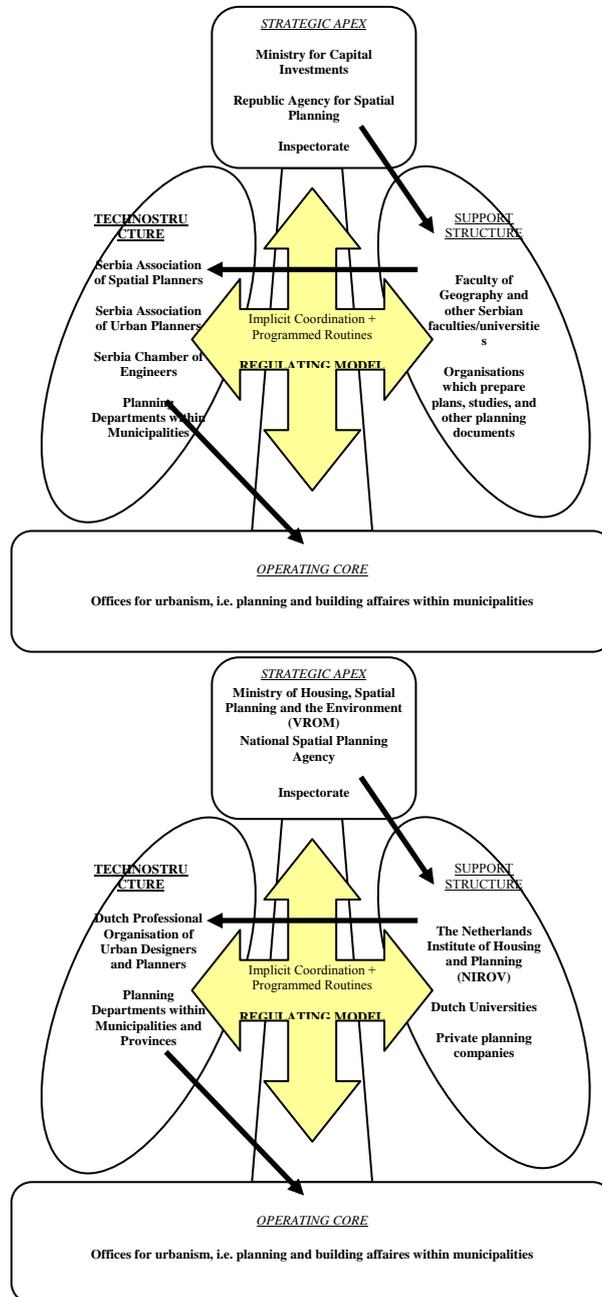
Figure 2: National SPS today: Serbian SPS (up) and Dutch SPS (down) ***(adapted: Mintzberg, 1983; Groth, 1999)***

Similarities	Differences
➢ problem of incompatible legal basis	⊰ hierarchical structure (regional planning level)
➢ problem of undefined roles within SPS	⊰ presence of EU supra-national government level
➢ problem of law execution	⊰ stage of spatial planning sector institutional development
➢ problem of communication	
➢ need for decentralisation	⊰ organisational culture and culture in general
➢ influence of globalisation process	
➢ tendency to EU integrations processes	⊰ stage of spatial planning practice development
➢ problem of complex and unclear procedures	

Table 2: Similarities and differences between Dutch and Serbian SPSs

Today literature points out that member of so-called Napoleonic and East European spatial planning families are clearly distant, and that institutional factor makes them incomparable relating to manner they operate and perform even common tasks. However, the last analysis about efficiency of organization which employed new technological solutions within its work process model brings the institutional arrangement as common point for exchange of experience and knowledge on European area.
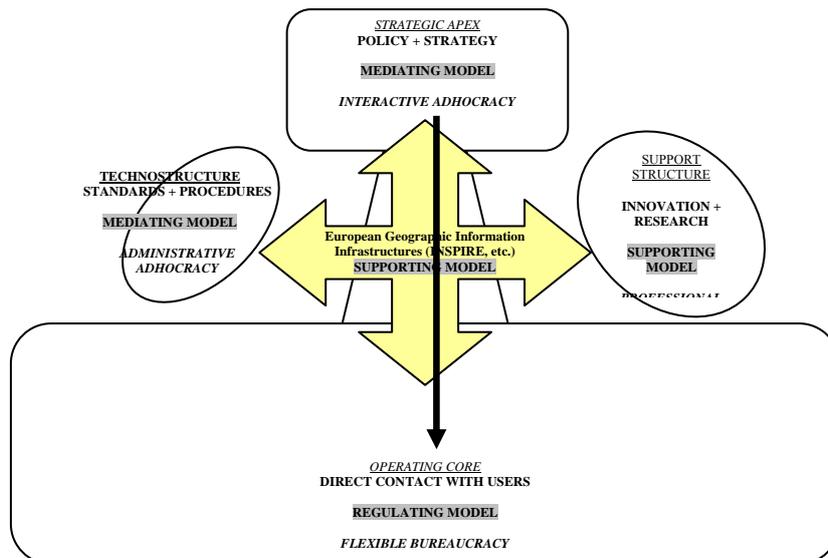

Figure 3: National SPS – tomorrow: Organizational configuration with IT/GIS solutions *(adapted: Mintzberg, 1983; Groth, 1999) (CEC, 2004)*

The comparative analysis of Dutch and Serbian SPSs stresses clear transitional state of both national planning systems towards new responsibility solutions and roles assignment as response to turbulent environment and emerging EU supra-national planning level. (VROM, 2005; ASPS, 2005) In other words, identified hierarchical differences along with similar problems and same goals of two SPSs open a room for wider knowledge and experiences exchange towards development of human capacity for dynamic spatial development management. (*Table 3.*) Culturally intertwined cohesion of social

and technical dimensions within organization operative systems will preclude determination of universal approach to ICT implementation within national SPSs. Due to the fact that future spatial resource management on EU level will demand ICT-based operative support (CEC, 2004), it's important to be kept in mind that different cultural environments of state-members will challenge – and limit- any mono cultural approach to SPS efficiency improvement within diverse supra-national development.

Direct IT/GIS advantages	Indirect IT/GIS advantages
✓ need for decentralization	▪ increase share of population with PC
✓ need for system roles re-definition, i.e. system re-organisation	▪ increase share of population with high/university education
✓ EU integrations	▪ development of IT/GIS and other innovations (broadbands, smart cards, etc.)
✓ new role of government (Public-Private Partnership)	
✓ increase number of applications for developments/investments by end-users	▪ emergence of de-specialisation and life-long-learning concepts
✓ further increase of environment content complexity	▪ more intensive population migrations
	▪ globalisation process and change of culture
✓ growth of end-users standard and preferences	▪ increase of e-business and emergence of new e-services
✓ increase number of IT/GIS applications (complement digital databases and ISs)	▪ increase share of urban population

Table 3: Advantages for building of ICT-oriented organisational models and user services within Dutch and Serbian SPSs

Stated conclusion clear out necessary exchange of best practice and case studies between Dutch and Serbian SPSs in area of IT/GIS solutions implementation within planning organizations. But, concerning to Dutch SPS development phase, future analysis should go in direction of *lessons learnt* transfer for Serbian SPS environment.

In other words, GIS tool should be used as key driver for spatial management improvement in Serbia. In accordance to recent literature, introduction of GIS applications within Serbian SPS could change today operative model(s) to bureaucratic style which will enable efficient use of new methods for sustainable spatial development; that is, I come to conclusion that GIS as instrument could achieve maximum potentials only with simultaneous and comprehensive change of socio-technical dimension of Serbian SPS.

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