

Manfred SCHRENK (Hg. / Ed.)

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GEO MULTIMEDIA 03

COMPUTERGESTÜTZTE RAUMPLANUNG

COMPUTER AIDED SPATIAL PLANNING

Beiträge zum 8. Symposium zur Rolle der
INFORMATIONSTECHNOLOGIE
in der und für die
RAUMPLANUNG

Proceedings of 8th symposium on
INFORMATION TECHNOLOGY
in
URBAN- AND SPATIAL PLANNING

February 25 - March 1, 2003
Technische Universität Wien / Vienna University of Technology

BAND 1 / VOLUME 1

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Possibilities of applying the E-government management concept in Serbian cities

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1 INTRODUCTION

Recent urban transformations worldwide consequentially lead to the numerous environmental problems that have to be solved by complex structure of social interest groups which have to be included in that process. This demands initiated requisitioning and modification of concepts and methodologies of planning and managing urban development. At this moment there are different models used in world wide practice, but main bases of new methods and techniques are the same. Leaving the idea of possibility of constituting the universal urban planning model lead to very productive results in developing the disciplinary methodologies. Process of transformation of traditional comprehensive urban planning model to integrated procedural pluralistic model (based on sustainable development principles) is something that can be underlined as a main characteristic of disciplinary development. The questions of decision making mechanisms and plans implementation are put in axes of conceptual and methodological considerations. Urban planning loses the classic form of making the multi level comprehensive urban plans with exact spatial and time horizon. It means, in general that planning and managing of urban development is aiming to be realistic, decentralized, strategic and problem oriented, arbitrary, not instructive, but understood as a efficient and effective process.

Operational support to the this kind of approach are Decision Support IT tools, such as GIS - Geographical Information Systems or ES -Expert Systems. Usability of IT tools is based on their capability to perform fast and complicated processing of spatial data and on their flexibility towards specific real problems which are to be solved. In order to use maximum of capabilities of these tools in practice problem solving it is necessary to adjust their structure and usage to the: - actual conditions of socioeconomic of the context in which urban development planning and management is performed, - practical demands that managing of urban development has to fore fill, - all participants in urban management process, - institutional mechanisms and procedures.

2 URBAN DEVELOPMENT PROCESS IN SERBIA

The social and economic conditions in Serbia ware significantly changed thro three major phases in last 50 years: 1) from "socialistic" society (1945-1990) with development directed and managed by the one party state government as a major and only investor ("social property" on resources, "social equality", urban development as a glorification of social justice an equality...), 2) to initial stage of transition (1991-1999) in context of surrogate democracy with domination of one party in parliament, with partial, inconsistently conducted liberalization of the social and economic environment and development "directed" centrally (process of social diversification, appearance of private property, destructed economical, social and political mechanisms which increased appearance of system entropy and transformation dynamics), and finally 3) to developed stage of transition with more constructively conducted social and economic changes toward liberal democratic model of society (since 1999, last democratic elections, intensive process of privatization, changes of previous system directed by principles of organization of developed countries)

According to the social and economic changes, the approach to the management of urban resources also has changed: 1) from a very determined planning of city development implemented by the state and "social" investments, with exact visions of "developed wealthy socialistic society", 2) to questioning of used planning concept, in the period of applying old urban regulations and lows in context of clear strategy absence, which was followed by spontaneous, unplanned, an legal growth, 3) to recognition of necessity for applying modern planning and management concepts, along with serious legislation and regulation modifications, ...

2.1 Recent urban changes in Serbia and actual trend of development

The most obvious changes in urban areas of all major cities in Serbia, in period since 1991 to 1996, have come as a consequence of intense growth in tertiary central activities – commerce and business. The growth in tertiary activities and the flow of changes in their structure have been induced and caused bay partial, inconsistently conducted liberalization of the social and economic environment in the initial stage of transition. It has not resulted from the overall economic development of the cities. On the contrary, it appeared and took place in the circumstances of: - a drastic decline of the overall economic strength, - a high level of urban unemployment, - a legal and social insecurity, - a big discordance and contradictions in managing the city development.

The expansion of the tertiary activities was mostly due to a initiated changes in the structure of economic activities of city inhabitants and was directly induced by the above circumstances who brought various individual enterprises and business associations outside the "public sector" to the "private hands". Those activities ware most dynamic ones, very aggressive towards urban structure, very adaptable to the various inappropriate momentary conditions, always managing to find the "hole" in the regulations and laws in order to implement they own interest. This process was not accompanied by any extensive investments in new construction activity, it was mostly oriented to the transformation of usage and reconstruction of existing buildings and public space. On the other hand, there were no necessary urban regulations to secure: - proper relationship between these activities and the gravity area, - distribution within the area, - convenient micro-locations, -construction of adequate buildings and structures, - provision of equipment, - urban land leveling.

The spatial manifestations of spontaneous, unplanned growth in previous period can be considered under the main forms:

- Conversion of the use of housing space to business and commercial uses. This involved less desirable changes of the housing space mostly in the buildings with many flats, at the floor levels immediately above the ground floor. The housing space in the mostly in area of cities centers in significant percent has undergone such a change in the same time when necessity for residential area is tripled considering the fact that cities were over flowed with refugees.
- Partial or full change of use of numerous public buildings such as governmental office buildings, cultural, sports, health and education facilities. Some parts of these facilities have been leased to a large or small extent and used for diverse commercial activities that in the majority of cases are not complementary to the main use of the building. This phenomenon is estimated to the share of about 25% in the overall hazard growth of tertiary activities.
- Use of non-quality housing, construction of “temporary” buildings and occupation of portions of public land in the city. This phenomenon is most pronounced in the scope, estimated to be in excess of 40% of total spontaneous growth in the tertiary activities and also in changes of the features and character of the environment. The use of non-quality housing fund, mostly evident in the older sections of the city, was accompanied by substandard rehabilitation and reconstruction improvisations or dilapidated buildings and an abundance of trash in architectural shaping. In the newer part of the city, most frequent temporary buildings were those made of different materials: masonry, prefabricated, mobile etc. In the absence of urban regulations these were raised at inconvenient locations on pedestrian right-of-ways, on pavements, portions of public greens or on common uncovered land in the housing zones.

Shown trends continued during next five years (until 1999), even in a larger scale so the percentages were at least doubled but more possible tripled. Investment in a new construction for commercial activities, if there was any, performed massive attack to all open spaces in the city, usually implementing regulation of possible construction of so called “temporary” buildings on a public space with very “permanent” character. Those buildings, so called “trade centers”, consist of numerous small units, with organization that seriously affects traffic with no sense of people behavior in interaction with these activities, with no possibility to reconstruct in some other organization.

New trends that can be witnessed in last few years are transformation of central activities that already existed into more profitable sorts, and more extensive investment in a new construction mostly for retail and business. Investment in a new construction for business activities are still on a lower level in comparing with commercial. It is interesting that the investments are rather small ones, and usually performed on locations in the central city zone, on small parcels with already existing necessary infrastructure. Larger parcels (even those equipped with infrastructure) are still out of this process, mostly because they request large investments (impossible to be performed by domestic investors), and because of a present condition of unsolved ownership of the city land (owner is City of Belgrade), which unable foreign investments.

2.2 How to manage actual trends of urban changes

The spontaneous growth of the tertiary activities has undoubtedly contributed to better and more diversified services and partly enliven the predominantly residential portions of the cities. However, the lack of a clearly defined city development concept and effective urban regulations for the city and at the local community level, has adversely affected the general urban order and tangibly diminished the quality of environments in the city in every respect.

The scope and dynamics of the city center activities point to significant changes in the categories of city developers to the benefit of the private sector and to a short-term allegedly market-orientation of these activities. This is evident in their unusual concentration in contrast to anticipated dispersion in the cities area. A desire for concentration of these activities stemmed from the predominant concern of their bearers – to maximize profits within the shortest time possible investing as little as possible. This desire being encouraged by the uncertainty that emerged from incomplete social, economic and legal regulations for private entrepreneurship, though dispersion in peripheral areas was probably more instigated by minor investment requirements for a business startup than by any market logic.

The major growth of unplanned tertiary activities in the cities center areas where the concentration of diverse activities was already to high, highlighted the problem of a need for more intense concentration and distribution of the city center activities over the area. That mean that the one of the main strategic issues in the further development of the cities is to urgently find the location solutions to a series of them. Therefore, theoretical and operational redefinition of the urban planning and comprehensive market-based management in a cities is needed.

So, after more than ten years of stagnation and destruction of existing urban recourses, in Serbia at this moment the main subjects of consideration are the questions of reconstruction and remodeling of existing urban structures in order to reach higher quality of the environment and to prepare bases for further sustainable development that will provide inclusion of Serbia in European integration process. In that sense traditional concept of planning an managing urban development is completely inadequate (we don't have one investor – state government, any more but variety of them, bought in private and public sector, on a free market). Therefore methods and techniques of planning and managing that have been used so far are completely ineffective and inefficient, and simply taking over the foreign models is also impossible because of specific characteristic of our previous social and government model.

It is obvious that concept of E-government management is the right one to follow the processes that already started in our urban context, providing the efficient reaction on actual (so far spontaneous) trends of cities contraction enabling the optimal building location choice as a result of forefeeling all participants interest.

3 PROBLEMS OF APPLYING THE E-GOVERNMENT CONCEPT OF URBAN MANAGEMENT

In sense of awareness of necessary significant changes in concept approach we are nowadays dealing with problem of defining what is the urban management concept that will be the most appropriate one in our context. On one hand there are foreign examples of

very productive E-government concepts that we are aware of and on the other there are series of "pro" and "contra" facts that affect our final decision.

3.1 Urban legislative

First and the largest problem is completely inadequate legislative considering managing of urban development. Issues of regulating the relationships between participants in urban development process and defining of their rights and obligations presently are the subject of numerous laws (over 15 laws of planning, construction, land ownership, cultural-historic preservation, environmental protection, forestry, agriculture, ...). In operational way, that produces very complicated and long term bureaucratic procedure in management process, which is not public friendly. Except the fact that legislative is to disperse over the large number different laws, another problem is that the proposed regulations are sometimes contradictory and unsynchronized.

In fact the most serious problem is the status of city land ownership - present laws define that the city construction parcels are state property with the "permission of unlimited use" by present users. So we now have the surrogate of land market because the subject of trading is actually permission of land use. From the point of view of our citizens it is just administrative definition and they usually behave as a land owners, participating in informal and surrogate land market. But, from the point of view foreign investors it is completely unacceptable legal form, because it means that there is absence of main economic conditions of establishing proper land market and insecurity in construction investments.

3.2 Cadastre

Land cadastre is in very bad condition. Because in last 50 years the land is own by state and actually the trading paths considered use permissions, there were no need for accurate cadastre. Now we have a large areas of cities with cadastre from 1933, and in the same areas actual use is organized on completely different parcels structures (for example in city areas there are agriculture parcels from cadastre which are now construction parcels with completely different spatial definition). Updating the cadastre usually leads to very complicated land ownership problems, because there are several users that are asking for their right on land usage since they have partial documents that they have been titular of the land in some period (for example: there are relatives of previous owners from period before land nationalization, than citizens which got land to use in socialistic period, than people that bought land use permission but never assigned them in the cadastre). Therefore, the cadastre condition is very big obstacle for foreign investments even if investor accept arrangement of buying the "permanent right of land use".

Now there is an official governmental initiative for developing digital state cadastre. There were several international conferences on this subject including the officials of Europe Commission, considering the problems economic and technical problems of performing this task. Estimations for the large cities (Belgrade) are that it would take 15 years and large amount of investment to accomplish it.

3.3 IT technologies in every day life

Previous period of isolation of our country from international organizations and laws, provided good environment for spontaneous development of the IT. This paradox fact is a result of uncontrolled market of hardware and software. In last ten years our market was overflowed with inexpensive computer hardware and what is even more important, with cheap pirate software. So, our citizens were in situation to "by commuter and work with newest software's". That fact led to present situation when we have a large number of people highly educated in field of IT and what is more important large number of companies which are very well technologically equipped for dealing with digital information's. So the IT knowledge is highly diversified among the people especially in larger cities. Nowadays there are significant efforts of present government to organize legal IT market and to improve conditions in communication infrastructure which will provide better users network.

3.4 Institutional problems

In a field of spatial data collecting we have interesting situation. Officially, by the law, there are only few governmental institutions which are entitled for collecting and providing spatial data information's. The usage of this data on one hand, is highly conditioned and not public opened, and on the other, they are usually collected and stored in a way not compatible with GIS concept. Unofficially a large number of governmental institutions developed internal commuter nets and collect and store digital data. So actually, there are a large number of different digitalized spatial data but they are not integrated in GIS. A few main facts are reason of such situation: - there are numerous urgent organization problems in cities functioning so the City governments are focused upon them not on strategic development questions, - because we have a large break in democratic tradition the political structures in government are not educated enough in a matters of managing development in context of liberal and market oriented society, - on institutional governmental levels of cities there are no adequate knowledge about E-government concepts, GIS, ES and other IT, so there is no strategy of spatial IT development, what is leading to, - absence of regulations which define procedure relationships between network information users and providers. Although, in some cities institutions there is awareness that information exchange will provide them productivity, there is no knowledge what are actual benefits, how to do that and who are companies or experts in that field. Nevertheless, in some small cities (especially in Vojvodina and in some cities in central Serbia, where cadastre is highly accurate) a significant moves forward have been made. City governments started to developing of GIS which is basic condition for applying e-government managing concept, but these work has been done without clear and specific strategy.

4 WHAT IS SUPPOSED TO BE DONE?

On highest state governmental level the idea of applying the E-government management concept exists, although there is no clear strategy with action programs. Serbian Ministry of Urbanism recently proclaimed that there are two main operational goals to be performed: - redefinition of all legislative that consider urban development and - applying of IT managing concepts on local

government levels (since in the mean time new information law was proclaimed). This means, considering the conditions described above, performing a multilevel actions – institutional, professional, public, ... in a wide range of fields – informing, education, organization, monitoring, ... In that sense, there are many operational problems to be solved. The main question is how to make a transition of global IT knowledge on existing local social-economic environment. Certain spontaneous processes and initiatives exist, but clear operational strategy plan is needed.

4.1 Strategy of government remodelling

In order to achieve goal of integral planning and management concepts of urban planning, which are supported on highest governmental levels, there is a need to provide integral operational strategy. In order to do that adequate legislative environment is necessary (let suppose that difficult question of defining land ownership will be solved). How this simple task on first site, is difficult illustrates the fact that making the new legislative considering urban planning and management has been subject of Ministry and all professional public for over two years. The main question is how to make a transition from directive, non market and bureaucratic planning towards integral pluralistic management. On one hand this law has to provide good environment for conceptual redefinition in practice, but on the other it has to be understandable and acceptable for professional structures who are in charged for it's implementation. Since the government incline toward new global concepts, therefore the problem of restructuring of existing institutional and professional structures remains. Its seams that only and right solution is multi action and wide range *education*. "If Serbia wants to integrate in EU it is necessary to increase, significantly, it's internal capacities, and that process should begin with education ..."- Marcus Delacor (Reformator, Publication of employees in Government of Serbia, 12, 2001, Belgrade), German Institute for European Politics.

4.2 Multi level education

Strategy of European regional integration, which Serbia wants to follow, demands ability of people, on one hand to understand and follow European regulations and procedures, and on the other hand according to domestic conditions develop its own working models. Hopefully on academic level education of young professionals conclude all basic necessary knowledge about E-government managing concepts and all basic knowledge in training skills of usage of standard ICT software. Larger problem are professional experts in practice who didn't have chance to get these knowledge in basis education.

Education programs of professional experts are main strategic issues of Government of Serbia, but steel they are not applied in practice seriously enough. Nevertheless there are several institutions inside City Governments in large cities that stated to fund this kind of activities in order to achieve better productiveness under the existing circumstances in the same time preparing them selves for remodeling process in new legislative conditions. "Capability of getting and usage of knowledge is key of success. Society and business sector are based on knowledge as a main investment." (Ministry of Future, Goevernment of Repalic of Serbia, Agency for Goevernement development, Belgrade, 2002.)

In that sense, in Town Planning Institute of Belgrade (as one of the main and most developed planning agencies in Serbia), in the beginning of 2001., started Permanent Education Program. This Program is organized on base of necessity of improving the theoretic – organizational, expert-practical, organization-technical level of Institute employees. The strategic aims of this Program are the increasing of working productivity, improving the quality of provided solutions in context of actual domestic development directions and aspiration to participate in the global processes, and increasing the accuracy and reliability of plans from practical and technical point of view, close to the European standards.

One of the most important program section is education in information and communication technologies. In that sense all employees are being educated in usage of standard computer software and ACAD applications. Large number of professionals are being educated in basic of GIS and in field of usage GIS software (ACADMap, MapInfo, ArcWiew). Also there are plans for further wide range ICT education in field of usage already developed software tools and especially in field of further software application developing (such as expert systems for optimizing the specific urban problem solutions in our context, ...). Permanent Education Program of Town Planning Institute of Belgrade, above the others tasks, with special attention develops intensive international collaboration, in proportion to its strategic interest. Establishing the interactive international collaboration of experts is based partially on works that already started and partially on opening the new working positions. They are being realized throw various in disperse working program which includes participation in international projects (Program City to City – Belgrade - Florence; MOLAND, UTN, LEONARDO, MURSUS, Bridge - Lifeline Danube project; ... which are supported by main European and international institutions – EC, UN, ..., and domestic republic or cities institutions) organization of working shops, lectures, knowledge development courses, visiting of foreign expert institutions, exhibitions, publishing, collaboration with foreign institutions and organizations, faculties and international students organizations in domain of urbanism ... This activities include numerous experts and institutions domestic and from abroad (Italy, Austria, Germany, France, USA, Swicerland, Israel, Bosnia and Herzegovina, ...)

Except education on a institutional professional level a big and very important task is public education and it will be the main task when we reach satisfying level of knowledge on a professional level. In that moment the main issues will be strategy of public informing and marketing in field of urban development management. In present time this subjects are neglected for simple reason : there is no awareness of how is important public participation in process of urban development. But estimation is that this subject very soon will be one of the highest importance. In that sence, developing Internet on-line information sourses on urban development planning and managing has very high importance.

4.3 Developing GIS and other decision support systems

Wary important issue which has to be performed parallely with education is building the state GIS. It means that very important work of formalizing and digitalizing spatial data has to be done. To fore fill this task first we have to accept strategy of developing GIS and

than we have to have educated experts to perform that. Since the knowledge and awareness of capabilities and advantages of applying E-government concept is on a low level within the Cities Governments, performing of this task depends on time necessary for their basic education described above. Then new working programs has to be made: defining of cities information networks, procedures of exchange, collection and usage of digital spatial data, choosing the proper software... That means that we have to establish deeper contacts with institutions from abroad who deal with this tasks in order to examine and use their experiences. Nevertheless there are cities where this work started (Subotica, Kragujevac, Pancevo, Belgrade, ...) which are hopefully will be examples (when new law is accepted) for other cities.

Developing GIS will provide a base further development of ICT tools to support decision making in process of optimizing interests of all participants. In this moment there is no clear idea who will be carrier of this works and what are its benefits. But since there are significant number of urban location applications for very important urban areas (mostly central city areas) from a wide range of investors (domestic and abroad) the necessity of developing these kind of tools will arise very soon.

5 CONCLUSION

Considering the wide range of problems which we have to deal with, a lot of them would be easily overcome with usage of ICT and E-government methods even in a context of inconsistently performed necessary legislative changes. The main problem is that there is no adequate knowledge about it on all levels of governance. What is especially optimistic and satisfying in sense of remodeling of urban development planning and managing discipline in our context, which was in last ten years completely discredited, is the fact that our society is not completely divided from global development processes.

In spite of the institutional conditions (except on the top of governance they are mostly remained from previous social establishment and not friendly toward active applying of E-management concepts and ICT technologies in practice), informal conditions are much more positive: on bottom of governance hierarchy there are numerous young experts very well educated in ICT who are trying to initiate more intensive application of E-government concept in urban development management. Estimation is that with governmental support from highest levels and proper education programs on cities and local government institutional levels a significant move forward can be made.

Actually we can observe that global ICT processes had strong impact on our society even under the isolation circumstances. The main question that remains is how long it will take for all institutional levels to change in same way, because applying of E-government concept and usage of ICT supposes modern society organization, which, we hope, we will reach soon.

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