







ASOCIJACIJA PROSTORNIH PLANERA SRBIJE UNIVERZITET U BEOGRADU GEOGRAFSKI FAKULTET REPUBLIČKA AGENCIJA ZA PROSTORNO PLANIRANJE

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LOKALNA SAMOUPRAVA U PLANIRANJU I UREĐENJU PROSTORA I NASELJA

Zbornik radova

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Beograd, april 2014.







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PLENUMSKI RADOVI

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O POTREBI UNAPREĐENJA I OSAVREMENJAVANJA PRAVNOG REGULISANJA PLANIRANJA PROSTORA I NASELJA U SRBIJI - PRIMER INICIJATIVE ZA IZRADU PRAVILNIKA O STANDARDIZACIJI KATEGORIJA NAMENA ZEMLJIŠTA I PLANSKIH OZNAKA U PLANSKIM DOKUMENTIMA
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LAND MANAGEMENT FOR EFFICIENT USE OF LAND - SPATIAL PLANNERS AS MANAGERS IN STRATEGIC PLANNING PROCESSES?

Thomas Dillinger¹

States within Europe have elaborated legal framework with procedures and instrument to insure the efficient use of land. According to the governmental system and given competences the framework differs from state to state. Some planning systems are centralised, some decentralised organised. Some states are doing better than others, but still from a spatial planner point of view the situation in regard to efficient landmanagement is unsatisfying.

The paper searches for answers and tries to articulate approaches for a better landmanagement focused on experiences made in a Spatial Planning process in the north of Vienna.

1. THEORETICAL BACKGROUND

Landmanagement is a relative new term in Spatial Planning. According to Vancutsem "land use management is a process of managing use and development of land, in which spatial, sector-oriented and temporary aspects of urban policy are coordinated. Resources of land are used for different purposes, which may produce conflicts and competitions, and land use management has to see those purposes in an integrated way. Therefore, land management covers the debate about norms and visions driving the policy-making, sector-based planning both in the strategic and more operative time spans, spatial integration of sectoral issues, decision-making, budgeting, implementation of plans and decisions and the monitoring of results and evaluation of impacts." (Vancutsem, 2008)

According to this definition landmanagement is very broad and not very specific term. The discipline of Spatial Planning is exactly dealing with issues since decades. In this regard landmanagement is nothing new, but it underlines the Spatial Planning is not only plan drafting it is more. Albrecht stated, that "it became increasingly clear that a number of different planning Concepts such as the coherent, convenient, and compact city long advocated by planners cannot be achieved solely through physical hard planning" (Albrechts, 2004).

It is also decision-making, budgeting, implementation of plans and decisions and the monitoring of results and evaluation of impacts. It is more that strategic approach towards Spatial Planning getting more relevant in the 1990s. This approach "requires accountability within a time and budgetary frame-work and the creation of awareness for the systems of power. Delivering on these new demands implies the development of an adapted strategic planning capacity and a shift in planning style in which the stakeholders are becoming more actively involved in the planning process on the basis of a joint definition of the action situation and of the sharing of interests, aims, and relevant knowledge" (Albrecht L., 2004).

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And indeed, the discipline of Spatial Planning knows about these crucial issues within planning processes and discussed intensively the question of the function of spatial planner in such a process. Till now there is no clear answer for this question and there are sincere doubts that this question can be ever answered. What is for sure that the requirements of a spatial planner have changed in the last decades. If such a process the role of the planner as one actor among the others has to be defined. As Albrecht formulated "all of this requires a clear view of the mandates and responsibilities of all actors. Key actors who take part in the discussions bring the consensus or disagreement before the formal institutions (city council, parliament) and before sectoral departments and private institutions or agents in charge of implementation. This may stimulate a fair communication of the discussions that took place in the plan-making process, and a refined articulation of meaning, visions, and policy ideas constructed during the process." (Albrecht, 2004)

Just drafting spatial planes is not enough, still a very important task of a today's planner but he is also translator between sectoral disciplines, moderator in conflicting interest situations, political advisor in the decision-making and budgeting process. But is he manager of the whole process? Can he manage the different interests of the main stakeholder in such a process and how can such a process to a more strategic approach be designed, where the planner is the manager of efficient land use?

The author was involved in a strategic regional planning process in the north of Vienna, where exactly these key elements of landmanagement defined by Vancutsem, namely norms and visions driving the policy-making, sector-based planning, spatial integration of sectoral issues, decision-making, budgeting, implementation of plans and decisions and the monitoring of results and evaluation of impacts played a crucial role. The project was contracted by the Lower Austria Government as pilot project an implemented by MECCA environmental consulting and the Vienna University of Technology, Department of spatial Planning, Centre for Regional Planning and Development.

More specific this plan should be the spatial framework for the municipalities in terms of building land for housing, economic activities and protection of green zones of regional importance.

Lower Austria has already forty years of experience in drafting regional plans. The first Regional spatial development programme was approved 1982. This kind of programmes are legally binding regulations, are passed from the Lower Austrian Government and are developed in a "top down" oriented approach.

Beside these formal programmes Lower Austria has started in the eighties to promote cooperation in spatial planning. Municipalities can form regional development associations and draft legally not binding development concepts. The local development plan of the municipality should consider these regional concepts. This concepts are developed in a "button up" oriented approach.

Experiences with these two approaches showed often a cap between these two instruments. Thus as part of the pilot project "regional master plan" a new constructive and goal-oriented cooperation of municipalities, regions and countries is tested. Under the motto "Cooperation on Equals" a new approach to regional planning will be developed, which basically should harmonise these two approaches and combine them in one instrument.

A specific challenge within this project was the "process design" for drafting the "regional master plan". How can be insured that the various interests of municipalities, country and state in a growing region can be considered and joined in one common master plan is a key question within this project?

Finally the experience made in this project will point out, if the law on spatial planning of Lower Austria should be modified. Should the legally binding instrument "Regional Development Programme" be changed? Is there a need to adjust the legally binding defined drafting process of these programmes?

2. A SHORT INTRODUCTION OF THE AUSTRIAN SPATIAL PLANNING SYSTEM

Spatial Planning is based on the Austrian Federal Constitution a complex matter. The Federal State, the Bundesländer (Countries) and the Municipalities have competences in Spatial Planning. Land use planning is in the responsibility of the Municipality in accordance of the Spatial Planning Law of the Bundesland (Country).

In general the possibilities of to interfere in Spatial Planning issues on Municipality level are week, especially when it comes to land use plans, which are still the most important instrument to steer urban development. Therefore the government of Lower Austria tried to convince the Municipalities to harmonize spatial development on a voluntary base, in particular by informal regional development concepts.

In recent decades, the importance of these informal instruments of spatial planning rose sharply. Not least because it was learned, that the formal instruments can influence development processes only slightly because "development can bad prescribed". On the other hand, these informal instruments hardly offer options to steer urban development on a regional scale. Especially in "hard" spatial conflicts it was realized that these informal regional development concepts are not efficient. It was observed that, at the end of the day Municipal Assembly are taking spatial development decisions more according municipal and not regional interests.

Under the motto "Cooperation on Equals" a new approach to regional planning was developed. The basic idea of this pilot project "Regional Master Plan" was it, to combine advantages of formal and informal instruments. It's not about an additional instrument to be developed, but to use the elements of the existing instruments. The Master Plan was drafted in a participatory approach. A steering group with representatives (Mayors) of all Municipalities and the Government of Lower Austria was formed. All planning steps have been discussed and decided involving the Municipalities and formally approved in the so called "Regional form" where all Municipalities and the Lower Austrian Government have a vote.

The result is a spatial planning document drafted in common sense with legally binding provisions and recommendations for spatial development within the region.

3. SPECIFIC PLANNING TASK- MAIN OBJECTIVES

The project area is one of the fastest growing areas of Austria. In the last years new motorways (A5, A22 and S1) have been built and an even more dynamic development is expected. How to ensure coordinated spatial development in this region was one of the basic questions?

The population development in the north area of Vienna from 1981 to 2011 was already very dynamic. During this period, a growth of plus 34% was recorded. The population forecast to 2025 is positive; the population will increase by another 14%. A total of 2011, approximately 108,200 people lived in the northern area of Vienna. The population is unevenly distributed on the communities where Pillichsdorf with 1,093 inhabitants and Stockerau with 15,500 inhabitants.

Till the year 2025 a growth of 15,000 people in the northern area of Vienna is expected - the region has a total of 123,300 inhabitants. According to the master plan, the residents should be directed to the well supplied and accessible places. The northern area of Vienna should become a well-structured urban region, where main municipalities are clearly visible, small villages maintain their identity and natural potentials are protected.

3.1 Building land and financial savings

Urban sprawl and land consumption is steadily increasing; this aspect will be a major challenge for the region in the future. It should be avoided that low-density development spread over large areas.

The indexing and maintenance costs vary significantly depending on location within the community and on the basis of density of development. Development costs per housing unit in a central location amounts to around a quarter of the construction costs of a housing unit to be developed at a new settlement edge. Development cost for settlements of multi-family dwellings are less than one-third compared with the same number of housing units in single-family homes. The differences in the maintenance costs are even more serious.

The area consumption and the cost of housing development can be reduced by using denser forms of housing in already dedicated areas according to existing land use plans. Following the objectives of the Regional Master Plan in terms of density and land mobilization, only 50 ha additional building land would be needed. The indexing and maintenance costs could be significantly reduced.

Following the prevailing trend of development another 270 ha of additional building land would be necessary. This means: The Master plan "saves" 220 ha land and give room for development for future generations. The cost of urban development and infrastructure maintenance are greatly reduced.

3.2. Dense growth in central locations

Central locations are characterized by good facilities with kindergartens, schools, local suppliers, etc., and a good accessibility in public and in private traffic. Thus the growth in central places should be stronger than in locations that are less well-equipped or not reachable. In addition, the social infrastructure facilities and public transport stops should be within walking distance of new living areas. Dense forms of living in the catchment area of local facilities are desirable.

Table 1. Target values for settlement development

	Objectives Master Plan Growth according location categories:		
Population			
Development	60% in Regional Development Centre		
	30% in Supplementing Centres		
	10% in Villages with local driven Development		
Mobilization rate building land	1/3 of already designated building land according existing land use plan		
Density	Density according location category		
	(average new constructions/building land):		
	80 Inhabitants / ha		
	60 Inhabitants / ha		
	40 Inhabitants / ha		

Source: Regionale Leitplanung Nordraum Wien, 2013

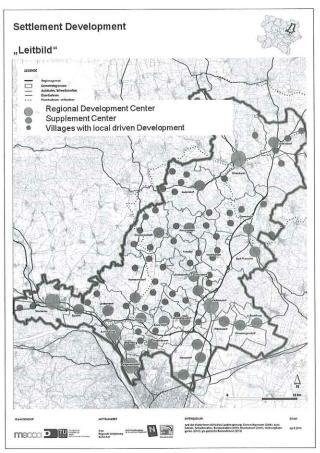
The denser and stronger growth in central locations not only ensures that many residents take advantage of the facilities, but also ensures a critical mass of buyers. Local shops, train stations, high schools, etc., are only utilized if enough residents live in its catchment area. The locations north of Vienna were divided on the basis of the existing facilities and their accessibility in three location categories (see figure 1):

- REGIONAL DEVELOPMENT CENTRE
- SUPPLEMENTING CENTRES
- VILLAGES WITH LOCAL DRIVEN DEVELOPMENT

3.3. Mobilization of building land

Just under a quarter (22% or 936 ha) of land dedicated to residential construction in North Vienna area is undeveloped. Communities dedicate land in particularly favourable sites as residential land. If these are not built and the demand for residential land still rises, additional areas are dedicated, this time in not so good situated areas.

Figure 1. Regional Master Plan, Settlement Development



Source: Regionale Leitplanung Nordraum Wien, 2013

Residential development is shifting to areas that are less suitable where a development was not originally planned. Also built, but uninhabited land pose potential for residential development in good locations. Land remains uncultivated or unused when they are seen as long-term investment or "stored" for close relatives (e.g. children).

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This approach will benefit individuals; the settlement structure - which influences the coexistence of the entire city - is negatively affected. It created vacant lots, extinct town centres and sprawling settlement patterns.

In order to counteract this development communities endeavour to use vacant or unused plots. This overhang of building land is a result of inconsiderately land use planning of the 70-ties and 80-ties. Today it is very difficult to mobilize this land. There the government of Lower Austria considers new instruments for effective mobilization and a special fund, helping the communities to buy and develop this unused land. The establishment of a land management for the whole region is considered.

Figure 2. Regional Master Plan, Building land

Source: Regionale Leitplanung Nordraum Wien, 2013

3.4 Cooperative development of regional operating areas

The competition among communities to get enterprises is leading to inappropriate locations for operating areas. Competing communities undercut each other until the operating area is hardly profitable.

In the north area of Vienna mainly the municipalities to the motorway have set in the master plan the goal of coordinating their action in this field. These three principles apply to the cooperation in the north area of Vienna. First, the settlement operation should focus on the dedicated reserves. In the north area of Vienna 36% of dedicated as a trade or industrial zone areas are empty, which corresponds to approximately 400 ha.

Second, cooperation in the resettlement operation must lead to a value for all participating municipalities. The value may be that neighbouring communities benefit financially from new operating areas or that the region benefits from a joint marketing or specialize in specific industries. Furthermore the competition with among municipalities is prevented and provides stable prices.

Third, cooperative approaches have to be developed by the participating communities themselves. Only if the cooperation is based on a common model negotiated with which the partners agree that cooperation can bear fruit. In the small region "10 before Vienna" intensive coordination is sought.

For the location of operating areas rules were agreed for the entire region. Business relocations will focus primarily on regional "locations for business activities". Compatible business activities should be housed in existing settlement areas to create mixed structures. Operating areas of local importance are also possible at other locations.

3.5 Protection of the environment

The existing green space in north Vienna area, especially in view of the proximity to the city of Vienna, is of great importance. The landscape has a huge potential and guarantee for the quality of life in the region. It is not only recreational area for the local population but also popular destination for visitors and an important argument for many immigrants. To avoid the damage of landscape by rampant development structures, to minimize land consumption and to ensure the networking of habitats is another important aim.

The preservation of landscape elements has not only an ecological or aesthetic function; landscape elements are also important for orientation in a region and give identity. Ground edges or forest edges often represent the boundaries of municipalities.

The increasing population due to the easy accessibility, the good services within the region increases the pressure on the landscape. If the region develops as in the past decades, about 270 ha of building till to the year 2025 would be necessary to accommodate the growth.

Therefore the master plan updated landscape elements worthy of preservation and regional green zones already prescribed in the regional spatial development programme around Vienna. All elements and zones have been adjusted in the course of the current situation. The Municipalities have reflected the draft and incorporated corrections.

4. EMBEDMENT AND IMPLEMENTATION

The contents of the Regional use planning are embedded in the planning documents of the municipalities and the country of Lower Austria:

- On the basis of declarations, the municipal councils take appropriate decisions on the acceptance of the content of the master plan and their implementation in local planning.
- The government of Lower Austria will take elements out of the master plan and concretize them by passing a legally binding Regional Spatial development programme according Lower Austrian Spatial Planning Law.

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In addition to the mandatory requirements and objectives that are embedded in the planning documents of the country of Lower Austria and Municipalities, additional measures have been developed to support implementation. The implementation measures (see table 2) can be divided in:

- Regional Coordination Process (RCP)
- Regional Support Mechanism (RSM)
- Legal and Administrative Adaptations (LAA)

The Regional Coordination Process (RCP) includes measures that address the further coordination within the region, the country and the region and beyond (e.g. the City of Vienna). To test the effectiveness of the Master Plan, regular monitoring is proposed.

The Regional Support Mechanism (RSM) contributes to achieve the objectives set out in the Master Plan. It is based on the principle of reciprocity: In the effort to achieve the objectives of the Master Plan, they are increasingly supported by the country.

Legal and Administrative Adaptations (LAA) includes adjustment that are related primarily to changes in the law. In particular, the lack of instruments to secure necessary building land and the lack of effective tools for land mobilization, limit the municipalities to control effectively the use of land.

The administrative adjustment needs concentrates on measures to enhance the cooperation within the different thematic units in the administration of Lower Austria. Politics, administration and funding should be in line with the objectives of the Master Plan.

5. FLEXIBILITY AND IMPLEMENTATION

Conditions change and mathematical models differ from the situation on the ground and cannot consider all local characteristics. For these two reasons, great care has been taken that Master Plan insures a flexible implementation.

To insure that the main objectives are implemented legally binding documents are necessary. Nevertheless, some of the provisions of and guidelines can be adapted to reflect changing conditions, lack of implementation options or inaccuracies in the theoretical target values for settlement development.

The criteria's for the three location categories Regional Development Centre, Supplementing Centre, Villages with local driven Development, are legally binding through Regional Spatial development programme. The classification may change, if the circumstances change crucially (e.g. new infrastructure).

The calculated land requirements for each village as well as the density and growth objectives are enshrined as benchmarks in the Regional Spatial development programme. These are goals that have to be reached by the municipalities. Correspond the calculated model assumptions not to reality or cannot be reached (e.g. lack of instruments for the implementation), a written explanation has to be send to the planning authority of Lower Austria to deviate from the target values.

Source:

Table

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Object

Lokalna samouprava u planiranju i uređenju prostora i naselja, Zlatibor, 2014.

Table 2. Implementation measures Master Plan

Master Plan Objectives	RCP Regional Coordination Process	RSM Regional Support Mechanism	LAA Legal and Administrative Adaptations
Location Categories Values for growth and density Settlement Borders Operating Areas Regionale Green Zones Landscape elements	Ongoing Coordination Evaluation Spatial Programme Evaluation Regional Concept Region Wolkersdorf Evaluation Operating areas Region "10 for Vienna" PR and Awareness Raising	Infrastructure Cost Calculator Land Management System Guideline for Development of Settlement Profiles for Operating Areas Cooperation Guidelines for Operating Areas Advisory Board for Building Culture and Urban Development Workshops und Excursions Architecture Competition Urban Development Award	Provisions for Drafting Spatial Programmes Density categories and building types New utilisation categories Differentiation of Residential Building Support Coordination of funding instruments Instruments for Building land mobilization Building fund

Source: Regionale Leitplanung Nordraum Wien, 2013

6 CONCLUSIONS

Time will show if this new approach is finally successful. The Regional Master Plan was formal approved by the Regional Form and the implementation started. The Municipalities have to revise their local spatial planning documents and the government of Lower Austria is finalizing the draft or a new regional spatial development programme. A new spatial planning law is also under preparation. About the differentiation of residential building support an intensive political debate started.

What can be said till now is that the commitment for this new Regional Master Plan is very high. Through the intensive involvement of the Municipalities the awareness for the importance of regional plan to steer the expected development grow extremely. On the other hand it became that clear that new instruments and strategies on the level of the country are necessary to enable municipality to overcome the spatial challenges of the future.

For us a planning team – as manager – for the whole process the elaboration process was very intensive. Al lot of time and good will from all other actors was needed to contribute to the planning process. Finally it is to say that that the process is not finished. The proposed implementation measures, Regional Coordination Process, Regional Support Mechanism, and Legal and Administrative Adaptations have to be started and implemented to secure an efficient landmanagement. This landmanagement process needs political support and ongoing good will from all actors. If so, spatial planner can fulfil their task as Manager for land use.

REFERENCES

Albrechts, L. (2004). Environment and Planning B: Planning and Design, volume 31, pages 743-758

Austrian Conference on Spatial Planning, 2010. Regional Forecasts 2010-2030

http://www.regionalmanagement-noe.at/uploads/media/Folder_regionaleLeitplanung.pdf, [Accessed 14 January 2013].

Regional Development Programme Area Vienna North, 1999. LGBI. Of Lower Austria 8000/85-0 (155/1999)

Regionale Leitplanung Nordraum Wien, 2013

SIR: Infrastrukturkostenstudie Salzburg (2007)

Vancutsem D. (2008) Land Use Management for Sustainable European Cities

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More information of the project "Regionale Leitplanung" at https://sites.google.com/site/nordraumwien/ (only in German)