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Urbanisation processes in Slovenia and their effects on urban networks

1. Introduction

Contemporary changes towards globalisation and liberal economy, rapid growth of communication and information technology, development of the urban system in the European Union, growing competitiveness between cities, processes of political and economic transformation, social democratisation, evolving environmental consciousness and new scientific paradigms are only some of the reasons conditioning changes in Slovenian urbanisation processes. The complexity of these processes demands continuous monitoring, research and directing of urban development on the national (inter-urban), as well as local (inter-urban) level. The article presents a summary of the most important results from research on the Slovenian urban system and with the examples of the growth of Ljubljana and Domžale advocates the necessity of inter-municipal – network co-operation, as well as the setting of planning priorities for different levels of physical planning.

1.1 Trends and changes in the urbanisation systems of the EU and Slovenia

Stabile political structures and behaviour patterns, as well as growing awareness of environmental, natural and cultural values, have been the backbone of urban development in Europe since 1990. According to urban development experts, the existing urban system, that has passed from the development phase of de-urbanisation to re-urbanisation will not significantly change. Following contemporary continental and national (regional) trends in Europe it will become even more pronounced (also Kunzmann, Wegener, 1991):

1. On the European level we can expect technological and structural – economic changes of the urban system, aligned with the integrated European market and developed network of high speed transport. Changes will occur even because of influences of new geopolitical changes and changes in the social-political context of development in Eastern European countries. The key issues, that will have to be addressed in urban development policies on this level are: rule of large cities, polarisation in view of the »high speed« infrastructure network, pressure on gateway cities, changing economic flows from the North-South to the East-West direction and role/retreat of cities on the European periphery.
2. On the national/regional level changes in the urban system can be expected, especially in border regions and main communication corridors. The key issues will deal with possible urban development on the national periphery for tourism and secondary housing, further dilapidation of industrial cities, ports and military bases, the influence of new technologies and problems of suburban (urban-rural belts) and uncontrolled (unplanned) urbanisation.

3. The effects of the mentioned trends on the local urban level in physical structures and technical and social infrastructure, will depend mainly on successful planning of urban forms, renewal of urban infrastructure and services, solutions to problems of poverty (homelessness), organisation of the real estate market, efficiency of urban and suburban transport and ensuring high quality environments.

Most of the mentioned trends are known in Slovenia and will in the future influence the development of the urban system. The system, and above all the urban pattern will still be influenced by strong factors, typical for the period of political/social-economic transition, such as: privatisation and denationalisation of homes and property, the emergence of market forces and private property of land, social differentiation, transformation of local self-government and reorganised national government.

2. Hypotheses that should be respected as starting points in the development of the Slovenian urban system

2.1 European level

For Slovenia the achieving of goals of the Principles for European Spatial Development Policy (Bonn, 1995) entail:

- Moderate urbanisation concentration:
 - Structured network of urban centres allowing synergetic effects of economic and infrastructural development,
 - Stimulating endogenous development potentials at the local level.
- Spatial integration transport and telecommunication corridors:
- Preserving the high level of biological diversity of the Slovenian countryside (20 % of the national territory)

The balanced poly-centric European urban system, as defined by the spatial policy, is based on a network of urban co-operation on the European, international and regional level, whereby competitiveness between cities is combined with functional complementarity.

In the concept of the Slovenian urban system, primarily it is necessary to establish, how will particular centres be positioned in the network and define:

- The role of Ljubljana in the European network of cities,
- The role of Ljubljana and Maribor in the network of Central European cities,
- The role of the coastal conurbation Piran-Izola-Koper in the network of Mediterranean cities,
- The role of Koper in the network of North Adriatic ports

Above all, it will be necessary to express the comparative advantages of Slovenian cities according to environmental qualities, image, accessibility, security and cultural offer, all conditions for a successful economy and vitality of post-industrial cities (Roger & Fisher, 1992; Tibbalds, 1992). From the aspect of cultural and conference tourism their role within the network of European cities will have to be established.

With the exception of Ljubljana and Maribor there are no regional centres with »European regional character«. A large part of Slovenian territory is in the gravitational sphere of ot-

her regional centres, such as Trieste, Gorizia/Udine, Zagreb, Rijeka. In Slovenia we have nevertheless managed to develop substitute centres, such as Koper, Nova Gorica, Novo mesto. The role of these and the other regional centres in the Slovenian urban system will have to be redefined in the sense of European connections of national and regional systems and settlement networks.

2.2 National/regional level

As in Europe even in Slovenia we can expect changes in the urban system, especially in the border areas (Croatia, Hungary) and areas adjacent to main communication corridors – the transport cross, whereby the completed highway system will encourage greater population mobility.

The main issue in the development of urbanisation will be the problem of suburban and uncontrolled development. Suburban settlements of mainly residential, dispersed structures have devalued the identities of old villages, and to a large extent, also landscape features. The suburban space is also the target of industrial activities and communal services, burdening and polluting the environment, that should be used (at least next to larger cities) mainly for recreation and leisure activities.

Even in Slovenia the decline of traditional industrial and mining cities is a problem. We can expect continuation of the process, that has already engulfed most of Slovenia (e.g. Jesenice, Trbovlje, Ravne, Maribor), with strong effects on the survival and growth of social-cultural infrastructure in particular urban agglomerations/areas.

2.3 Local level

Development of the urban system on the local level will depend mainly on successful responses to changed production patterns and labour organisation, distribution and consumption, communication and mobility. The main activities for improving the urban environment will be focused on:

- The development of urban physical structures (urban planning, urban transport, protection of cultural heritage and nature in cities);
- Diminishing the environmental influence of urban activities (urban industry, urban energy provision, communal infrastructure, refuse management).

They will demand the co-operation of local communities, primarily good information flows, inter-regional co-operation and mutual social programmes (e.g. social integration, employment programmes, social housing).

3. Directing urbanisation processes on the national level

Through the inter-urban analysis, needed to research the structuring of networks of urban centres on the national level and with respect to the recommendations by the EU spatial policy, *scenarios* of settlement development and policies for their implementation were devised. Based on the evaluation of alternate settlement scenarios (rapid technological modernisation, poly-centric development and dispersed settlement), we could establish that the model of balanced regional development should be given the advantage (Dimitrovska Andrews et al., 1996, pp. 75).

The *scenario* of poly-centric development, that enables the achievement of most, many times over adopted goals, in the next five to ten years cannot be achieved, because the strategy of economic development gives advantage to technological modernisation of the economy and certain systems of economic infrastructure – highways and telecommunication (Dimitrovska et al., 1996, pp. 72).

An illustration of the mentioned facts, summarised from official documents, proves the present tension and lack of financial resources for active spatial policy:

- In the field of diminishing regional differences, regional development incentives in Slovenia in 1993 were 4 – 6 times lower, than in Greece, Ireland or Portugal.
- According to an estimate in the strategy of economic development, the share of resources intended for environmental protection purposes is three times lower, than the amount needed for basic necessary activities.
- The resources needed for non-profit housing development in the national housing programme are almost 10 times higher, than the amounts allocated to the Housing Agency of Slovenia in the 1996 national budget.
- Municipalities should provide non-profit housing associations with building sites, but at the same time they had to return the same sites to the National agricultural agency; agricultural land can be obtained by non-profit housing associations according to the Law on agricultural land, but only as the sixth of seven claimants of pre-purchase rights.
- According to our estimates the costs of disposal and treatment of waste water and substances from dispersed settlement represents 2,5 % of the GDP in 1995; all investments in communal infrastructure in 1994 added up to 0,48 % of the GDP!
- The central government is not providing conditions for increasing the quantity of foreign direct investment in Slovenia (FDI/98: USD2,5 bn) and is seriously lagging behind other EU accession countries (e.g. Hungary FDI/98: USD22,5 bn; Poland FDI/98: USD26,6 bn; Czech Republic FDI/98: USD7,6 bn).

We can establish that today elements of passive spatial policies or administrative regulation prevail and that we are almost completely devoid of elements of active spatial policies or market-economic regulation. That is why we propose that the spatial development policy in the short term should focus on the following:

1. **Protection of the largest possible quantity of development potentials under the given conditions**, that are important for redirecting the system towards a poly-centric model and that will enable an active spatial policy, when conditions are beneficial (e.g. after accession to the EU, Slovenia will have different possibilities for diminishing regional differences); above all protection will be necessary and directed development not to endanger:
 - Water resources and water tables,
 - Best agricultural land
 - Areas of national parks and natural heritage
 - Areas of cultural heritage, mainly historical towns and medieval town cores, that are important as part of the national tourism offer.

2. **Adapt the planning system and spatial control to conditions where private initiative prevails** and the role of municipalities depends more on the entrepreneurial spirit of its mayor and leaders, rather than available financial resources. It is of utmost importance to:

- Introduce methods and techniques of negotiated/action planning,
- Develop organisational and financial types of partnerships between the private and public sectors,
- Allow greater flexibility of planning documentation,
- Ensure better quality of urban space by using informal planning documents (e.g. design guides) and qualitative and quantitative methods for directing urban design coupled with more consistent control,
- Educating and consulting the public (e.g. expert assistance to self-builders),
- Develop methods for efficient city management and marketing,
- Develop organisation and financial methods for executing expected/prevaling development in urban areas, such as: re-urbanisation, urban renewal and revitalisation.

We have to be aware that the central government will not provide financial resources, that are the basis for comparable policies in developed European countries.

3.1 Structuring the network of urban centres

As we have established earlier, until at least 2010, there will be no major changes in the Slovenian urban system. It will continue to be based on development in the following settlements:

- **development centres** – 8 settlements: Ljubljana, Maribor, Celje, Kranj, Novo mesto, Koper, Nova Gorica and Murska Sobota; all regional centres except Postojna and Slovenj Gradec, that would according to present trends, need additional central government interventions;
- **higher ranking centres** – 12 settlements: Domžale, Jesenice, Ptuj, Ravne, Škofja Loka, Trbovlje, Velenje, Brežice, Postojna, Slovenj Gradec, Izola, Piran;
- **more important centres for tourism** – 22 settlements, besides Ljubljana, Maribor, Izola, Koper, Piran, Postojna and Ptuj, 15 other settlements: Ankarana, Bled, Bohinj, Bovec-Čezsoča, Čatež-Čateške Toplice-Mokrice, Dobrna, Kranjska Gora, Lipica, Moravske Toplice, Podčetrtek-Atomske Toplice, Portorož-Lucija, Radenci, Rogaška Slatina, Strunjan, Zreče-Rogla.

Amongst other more important settlements, former municipal centres will gain in importance, developing according to new needs. We believe that development of the highway system will increase the integration of settlements and stimulate the establishment of functional networks. Increased population mobility can be expected, thus also increased functional gravitational areas of development centres, especially Ljubljana.

3.2 Directions for the development of the urban system

Research of urban structures on the national level (intra-urban analysis) deals with two aspects:

- recommendations of the European spatial policy/regional strategy, proposing a 5-level hierarchy of centres and 5-level hierarchy of development axes, and

- criteria for defining and developing particular levels of centres and development axes, suitable for Slovenian spatial development.

In defining directions for the development of the urban system (settlement development policy), we should:

- take into consideration the growing importance of cities as innovation centres, seats of economic and political power,
- define the network of major settlements in the urbanisation system, necessary for balanced settlement development,
- decline new areas for urbanisation development,
- research the prevailing types of intervention in urban areas from the financial and organisational aspect, i.e. additions, re-urbanisation, urban renewal and revitalisation,
- develop a system of constant monitoring of urbanisation processes for planning and spatial management.

According to the criteria for defining particular levels of centres and development axes in the polycentric development *scenario*, we propose (Dimitrovska Andrews, Rus, 8. phase, 1997, pp. 23–26):

- **5-level hierarchy of settlements:**

- republic/national centre,
- important regional centre,
- regional centre,
- important central place,
- centre of local importance/municipality

- **3-level hierarchy of development axes:**

- development axis of national importance,
- development axis of regional importance,
- development axis of local importance.

We simultaneously established, that for the prognosis of development possibilities of a certain area, region, measurable statistical data was insufficient. We should research comprehensive changes in regions or particular spatial units (e.g. along the corridors of the transport cross, within gravitational functional urban areas/regions of development centres, within areas of network activity/development axes of particular settlements.

Slovenia doesn't have »enough« large cities, that could be the generators of development on the national level or in the framework of particular regions (Dimitrovska Andrews et al., 1995–98). Therefore connections between particular towns on the macro level (i.e. regions) and even micro level (i.e. functional urban regions of larger towns). In view of the present regional structure of cities in Slovenia their connections could be identified by theoretical models of sustainable cities (Frey, 1999, pp. 37–69) such as: star shaped/branched cities (towns in the urban region of Ljubljana), linear cities (coastal towns Koper, Izola and Piran), regional towns in a polycentric network (Slovenj Gradec, Dravograd).

4. Directing urbanisation processes on the local level: the case of the functional urban region of Ljubljana¹

Development of urban structures on the local level (intra-urban analysis) was presented following research of more important theoretical sources and detailed analysis in the case study of the urban region of Ljubljana (Dimitrovska Andrews et al., 1997, phase 7). The formulated methodological framework suitable for analysing the growth of urban structures was tested on Ljubljana. We researched the traditional five-

level division of the Ljubljana agglomeration, according to particular units and intermediate belts: historical centre – *core*, Municipality of Ljubljana – *hard ring*, wider urban area – *soft ring*, gravitational functional urban area – *functional urban region*, metropolitan area. Social and economic development indicators were analysed according to particular periods and their physical manifestations, mainly changing patterns of urban use and the structure of built-up areas. For the analysis of urban structures in the urban area of Ljubljana the concept of geographic information systems was used (GIS). The basic approach to including urban areas was done by display vectorisation from scans of topographic maps from 1952, 1975 and 1995 in the scale 1 : 25.000.

4.1 Methodological framework for selecting sites for directing urbanisation

Based on the research we complemented the theoretical methodological framework for selecting sites for urban development and directing urbanisation on the local level, suitable for the Slovenian planning practice (Dimitrovska Andrews et al., 1997, pp. 15–26). It defines particular steps or analyses:

1. analysis of natural features and estimate/definition of natural/environmental determinants,
2. analyses of the development of urban structures:
 - analysis and definition of typologies of centres,
 - analysis and estimate of provision with public transport,
 - analysis and estimate of intensity of development including suitable housing typology.

The result of using this methodological framework on the case study of the functional urban region of Ljubljana is the proposal of a dense, decentralised settlement model, that emphasises the need for a larger number of fully equipped smaller centres along public transport routes.

In the design of new and complemented centres, besides the natural spatial features (environmental acceptability) we were concerned with existing built-up areas and connections to existing central spaces of smaller suburban settlements. New and supplemented centres are in the core of densening dispersed settlement, settlements around them are designed as autonomous units in the pedestrian scale, where functions meet and mix. This is also the context of new employment programmes and new housing areas. The backbone of the model (concentrated decentralisation), affecting diminishment in use of private cars, is public transport. For its efficient operation comprehensive solutions of regional transport networks is necessary. The research gives a proposal of a settlement concept in the functional urban region of Ljubljana, that is based on the design of an hierarchical typology of densening centres. An example of such a centre is Škofljica, where a building proposal with a programme scheme was tested.

4.2 Growth and changes of the urban tissue

One of the findings of the research was that it is still of utmost importance to cover most of the needs of Ljubljana through additions, re-urbanisation, renewal or revitalisation within the city limits and within the circumferential ring road. In the post-war development of Ljubljana we can discern all typical forms of growth and changes in urban tissue:

- urban growth on green sites, typical for the period 1960 do 1985,

- urban growth with additions to the existing urban structure, mainly in areas with smaller settlement density, typical for all periods, but most intense between 1960–1985,
- urban growth with substitutions, supplementary development or demolitions and re-urbanisation of particular urban parts (i.e. industrial zones, army barracks) after 1985 and most typical after 1991,
- urban growth with »satellite« character, mainly development of new suburban housing estates in neighbouring municipalities (mainly Vrhnika, Domžale and Grosuplje), most typical between 1970–1995, with production activities after 1985.

Built-up areas in the functional region of Ljubljana increased from 1.654 hectares in 1952 grew to 5.756 hectares in 1995, i.e. more than triple. The biggest growth was between 1952–1975. 53 % of all built-up surfaces are from this period. After 1975 urban growth in the municipality of Ljubljana was relatively smaller (only 15 % of all urbanised surfaces are from the period 1975–1995), in comparison to the urbanised branches of Domžale, Vrhnika or Grosuplje, where 24 – 28 % of all urbanised surfaces are from the same period.

Data on the presence of particular categories of urban use are comparable to those from abroad (Kivell, 1993, pp. 67). Thus:

- residential surfaces occupy 55 % (67 – 84 % in suburban municipalities such as Domžale, Vrhnika, Grosuplje),
- industrial surfaces reach 15 % (6 – 12 % in suburban municipalities),
- central activities occupy somewhat more – 10 %, that can be understood because Ljubljana is the capital city (3 – 4 % in suburban municipalities).

During the period of urban expansion between 1967–1977 the use of urban land in Europe increased by 50 %. However, expansion or growth of built-up surfaces in Ljubljana within the limits of the general urban development plan between 1964–89 was 80 %(!), while areas for housing in the same period increased by 140 %.

Changes in urban use trends in Western European towns (Kivell, 1993) are typical even in Ljubljana:

- growth of the urban edge or sub-urbanisation,
- renewal of central urban places,
- growth of infrastructure, especially traffic,
- growth and decline of particular nuclei (urban cores), such as relocation/removal of industry from urban centres or growth of institutional, mainly retail or recreation centres in the suburbs.

Changes in urban patterns, as was described by many authors, are more the result of restructuring of urban activities and social changes, than demographic growth, typical even in the recent development of Ljubljana, especially after 1991.

5. Development of urban structures in the urban region of Ljubljana: the case of Domžale²

The role of the area of Domžale has for ages been the agrarian hinterland of Ljubljana, thus the focus of its territory was at first in its Northern part. Among the agrarian settlements Mengeš was the most influential in the past (market). After the construction of the railway and influenced by industrialisation

trends after WW2, Domžale took over as the functional centre. Today Trzin is gaining in power and influence. The other villages have through history remained more or less agrarian and developed in the shadow of the three mentioned places.

5.1 Physical and economic development

Alongside agrarian production at first carrier transport services were developed, later Tyrolese brought and successfully developed the manufacture of straw products. Greater changes were brought by industrialisation. In the first post-war period the area was subject to intense industrialisation and de-agrarianisation processes. The first were expressed by the establishment of many industrial production plants and their dispersal in the agrarian space. The mass of employment in industry and poor profit in agriculture caused a restructuring of the population, de-agrarianisation and thus the creation and rise of Domžale. Despite the priority of industry in the first period, the natural features and fertile river plain managed to maintain the agrarian character of the area. Because of beneficial natural features, all the activities were concentrated on the Northern part of the area. During this period the Southern part, because of many limiting factors and peripheral position was uninteresting, almost untouched, thus it maintained its image.

Settlements maintained their orientation towards communications, while new building typology was introduced for workers in the industrial plants. For this reason the social-demographic structure in the settlements is also divided.

The later growth of manufacturing was, compared to other parts of Slovenia, early and powerful and caused the further restructuring of existing farms. The consequences are above all: illegal building in orchards and gardens, densening of villages and their further transformation. A typical outcome of the period is Domžale, a quickly and uncontrollably developed urban form, that has because of ineffective urban regulation and lack of national interest for protecting agricultural land, spread out into all the surrounding fields. The South part of the area, until recently left out of development initiatives, is becoming increasingly interesting for settlement, mainly because of the vicinity of the capital city, the near completion of the highway and the pleasant, almost natural or agrarian setting. Besides desired living in a rural settlement, closeness to nature, above standard sized plots, reasons for settling there are also inherited land and/or cheaper construction costs.

Today in times of prevailing private initiative with spatial consequences aligned to global trends, such as sub-urbanisation forces, we are again witness to the formation of separate units; largely separated from the rural space, showing a new orientation towards the influential attraction of Ljubljana. New sub-urban housing estates are being built, combined with small production units with residential spaces (Trzin). Social changes in this area have caused restructuring and strong changes in spatial image: abandoning of agriculture and more than 50 % of immigrants.

5.2 Settlement growth: patterns of change in land use and built-up structure

Until 1952 settlement was notably linear and stretching along the road, on the edge between the natural boundary and agrarian lands. In those days, Domžale were a bunch of farms. The villages in the South were scattered.

By 1975 the »housing boom« was clearly pronounced and typical for the period (the municipality gained the largest amount of housing areas). A new type of spatial use emerged, that was formerly missing. Collective housing – housing blocks – were being built, settlements are mainly extended linear villages or market towns from former times (Mengeš, Ihan, Domžale). The direction of growth didn't follow the roads anymore, but also spread into agrarian areas. Completely separate settlement units with higher density also occurred (Mačkovci, Študa ...). The most obvious change was the growth of Domžale, aligned to industrialisation trends factories conditioning urban growth moved their production units into the town. They completely changed the image of the place, since it changed into a centre with all pertaining functions. Urban contents were brought to the place: stadium, town park, tree-lined alleys, new types of settlement. The towns in the South remained unchanged.

After 1995 two novelties were added: the planned highway and the emergence of Trzin, that according to Slovenian and European trends predicted sub-urbanisation of the area and intensive growth of Ljubljana into the area. The typology and method of occupying land are new, but settlement growth is not as pronounced as before. The built-up area is densening on inherited properties (orchards, gardens) or by expansion of settlements with good infrastructure at the expense of agrarian land and natural edges (mainly the river courses and swamps, as well as forests), a completely new development. In the given time frame, Domžale are an impressive town form, stretching along all transverse spatial connections (road, railway). Mengeš and Trzin experienced massive growth. The latter is composed of two different spatial and typological units, the first from the early 80s has the image of a residential estate, while the other has a residential-manufacturing character and besides the highway is the most influential new urban form.

5.3 Criteria for directing further spatial development

Measures for directing spatial development represent the superstructure of the analysis and recognised trends and are presented as proposals for protection and clearing. Recommendations for preserving the spatial conditions, character and spatial recognised as qualities throughout the three historical periods include:

- maintaining the linear character of the place, its bearing landscape elements and corresponding built-up system (structure: forested hills – river and protective belt – settlement belt – agrarian belt – settlement belt – river with protective belt – forested hills);
- preservation of two autonomous areas:
 - sub-areas with distinct characters, between which communication has to be ensured (Northern part with intensive agrarian uses and linear settlement and Southern part with dispersed villages, rich network of streams and high landscape diversity),
 - the areas have to remain separated from the suburban area of Ljubljana thus divisions and distinctions have to be emphasised and re-established (e.g. visual and physical spatial division and marked entrances into the areas);
- preserving richness of bearing natural systems:
 - leaving existing openings or their formation between three basic natural systems: natural edge – agrarian edge – natural edge, thus enabling communication between them,

- integrating the highway into the spatial context, its shrouding and visual elimination if needed,
- maintaining the building elements of the cultural landscape and their context (e.g. hedges, orchards, groups of trees, separate trees, gardens, fields, pastures);
- maintaining the relations between the cultural landscape and urban units, mainly the specific/biological passage from the built-up to the natural environment

Recommendations for clearing include warnings against possible strong negative effects of further development and their prevention:

- preventing the loss of linear spatial character, main landscape elements and their spatial role, endangered by the penetration and expansion of urban forms; especially in the Domžale, as well as in the Mengeš and most recently in the Trzin formation
- prevention of the space breaking up into three separate autonomous areas and the loss of spatial character and image, meaning the inevitable transformation into a suburb of Ljubljana;
- prevention of transverse – horizontal connections, above all the connections of Domžale and Mengeš in the central agrarian space;
- prevention of main bearing landscape structures being isolated by breaking their horizontal and vertical connections. The latter can prevent the built-up structures from claiming the edges, adding them to their system and devaluating their spatial formation functions.

6. Measures and instruments for the implementation of urban development policies

Spatial planning and management, especially urbanisation and urban development are parts of a field where numerous extensive structural changes are necessary. They should correspond to new development conditions, dictated by transition circumstances, such as: development of market economy, increasing dominance of private initiatives in spatial development and increasing importance of urban competitiveness. These are the processes that have in all Western European and highly urbanised countries been tightly knit in the planning system and are the starting point of any national development policy. On the other hand, changes and processes of adaptation are also needed because of the expected accession to EU and wider integration into Europe, based on economic, political, cultural, scientific, infrastructural and information etc. co-operation between particular countries and international institutions.

The general conclusion is that after nine years of independence, when Slovenia also managed to gain complete independence in planning as well, it is seriously lagging behind European solutions and trends and we can say, that the spatial planning and management system and pertaining Laws are still very different from European systems, a source of reproach from the EU (report, November 1998). Modern processes and trends grow extremely fast and bring good and bad development conditions. Countries that haven't prepared themselves properly, meaning that they haven't developed necessary tools and ensured conditions for realising contemporary development concepts and measures, will probably experience bad effects and will not be able to en-

sure independence and their own initiatives concerning spatial management and property.

Thus, Slovenia still hasn't prepared an adequate national policy on urban development and still hasn't »officially« defined the role and functions of the urban system and particular towns in the national development strategy. The latter also means, that we haven't developed necessary tools for stimulating urban development and for adapting and connecting our national urban system to the European urban systems. We pointed out the poor inter-sector co-operation and non-existence of sectorial measures, that could help the Government in affecting the implementation of policies on urban development and settlement processes. The lack of inter-sector harmonisation has a multiplicative effect on the existing problems and limitations.

We evaluated the present planning system as inadequate, outdated and inefficient in the context of contemporary urban and economic processes and the new role of cities for development.

In view of the mentioned estimates we proposed the preparation of a national policy of spatial development and certain changes and amendments to the existing planning system, as well as certain new measures and instruments, evolving from positive examples in other European cities. The more important ones are: the need for decentralisation and de-regulation of the planning system and introduction of special funds and programmes for achieving development and renewal projects. We pointed out, that in view of the limited resources and fact, that urban problems are present in numerous towns, funds should be allocated in direct competition between towns. Funds should be given to the town with the best projects and towns that are organised in a modern fashion and capable of efficiently managing development. We also pointed out the need for a more active national role in the real estate field, especially the market, and in providing the basic conditions for its activity as the central regulator for redirecting resources.

Efficient use of the existing urban space and relieving the pressure on agricultural land can be achieved by the government even with instruments directing future development into existing urban areas, as well as by supporting technological development and new production processes, that will need less space thus changing the structure of demand for building sites.

We simultaneously stressed the necessary expansion of authority in local self-government, especially towns and the capital. It should be based on existing tasks put before local communities, stemming from the Law on local self-government and European experience. Municipal authorities are expected to improve their organisation, to have entrepreneurial and development oriented mayors and administration, and to prepare development visions and strategies. The two documents should represent political and expert concordance concerning long-term development of their town.

The measures and instruments, adopted on the national level (here we imply harmonised measures concerning spatial planning and management, on the fiscal and financial field and field of economic development), are the basis for local authorities to provide added financial resources for achieving development and renewal projects. One of these combined spatial-financial measures is, e.g. defining development zones (in

practice they go under different names, such as technological, entrepreneurial, tax-free zones etc.), where alongside planning conditions, financial exemptions are provided, for the area covered by the project and the time needed for its completion.

Because of limited investment resources, local communities should in the qualitative and quantitative sense be given greater flexibility in using certain financial instruments, con-

trolled by the central government. On the other hand, local communities should be capable of obtaining added resources on the capital market, based on various partner arrangements, negotiation with investors and developers, exemption from taxes in local jurisdiction etc. The successful development of particular towns and the urban system will entirely depend on the capability of towns in using and developing modern development concepts and instruments of control and directing development.

Table: Overview of basic measures for implementing policies of urban development

Measures on the national level	Measures on the local level
<ul style="list-style-type: none"> • National strategy of urban development • Co-ordinated sectorial strategies, inter-sector co-operation • European inclination of urban development strategies • Greater level of decentralisation • Greater level of deregulation, introducing discretion rights and effective types of directing urban developments • Instruments of control and evaluation of quality and feasibility of development • Equal (non-privileged) negotiation and co-ordination between sectors and actors in urban development • Respecting and introducing market economy principles • Directing development into existing urban areas • Directing technological development in view of basic strategic goals of spatial and urban development • Establishing programmes and funds for promoting economic, ecological and spatial regeneration of cities, urban renewal and development of competitive advantages of Slovenian cities. • Managing the real estate market, updating the data, opening the market for foreign investment, harmonisation between the market and plan • Stimulating the growth of small and medium sized enterprises 	<ul style="list-style-type: none"> • The two basic principles for implementing the measures are: <ul style="list-style-type: none"> - Local leaders, leading development oriented person - Development vision and strategy and • Different types of partnerships • Professional, organisational and spatial transformation of local authorities and local communities • Establishing development institutions • Efficient land policies; real estate management policy • Negotiation with potential investors, providing added financial resources • Financial and fiscal instruments; greater autonomy • Financing the provision of building sites, added sources • Financing housing provision • Defining zones for free entrepreneurship and special development zones or renewal zones • Financing development projects from increased taxation income

Amongst the more modern development concepts we pointed out the method of city marketing, nowadays used by an increasing number of cities. Because of the attractiveness and position of some of our towns, above all Ljubljana, the coastal towns, Bled and Kranjska Gora, we believe, that this method should be used even in our theory and practice.

In the research we proposed numerous measures and instruments, that should be introduced into our system of spatial planning and management and used in the formulation of particular sectorial policies on the national, as well as local level. We have to emphasise that in spatial planning, management and urban development, it is necessary to ensure suitable co-operation and methods of solving conflicts in inter-sectorial co-operation, also meaning, that the proposed instruments and measures have to be devised as a uniform system, functioning in the spatial management sector, as well as in other particular sectors.

7. Conclusion

Ljubljana is trying to establish its function of capital city of an independent country during the transition into a market oriented democratic country. Simultaneously it is trying to restore its position of an important central European city. In these endeavours the city is faced with numerous obstacles, needs and possibilities for urban development, the main goals being modernisation of its infrastructure, restructuring of economic capabilities and satisfying market forces, as well as enabling investment into the quality of the natural and built-up environment, while at the same time fighting against growing social and economic polarisation.

The necessity of reform in local self-government, institutional reforms and lack of strategic planning have been recognised as the main obstacles in urban development. Poor co-ordination between local and national government and urban services provide added consequences on economic competitiveness and the international image of the city. With confidence and concern we can state, that these problems could be solved only by integrated actions of various actors on the national and local level. Recognition of the fact, that a completely integrated economy can be achieved only with high quality infrastructure, is also increasing. In the given case it means improvements in internal and external transport systems, the built environment, availability of qualified labour and touristic capacities. The municipal authority should become proactive and stimulate economic investment, especially in public-private partnerships, by co-operating with local (and national) political structures and the business community of the functional region of Ljubljana. It is important even for promotion of the city in the international scale.

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Notes

- ¹ According to the research: Dimitrovska Andrews, Kaliopa et al.: Concept of urbanisation, phases 1–9, Urban planning institute, Ljubljana 1995–98, that was carried out by the research team: dr. Branka Berce Bratko, Jože Dekleva, Majda Dekleva, doc. dr. Kaliopa Dimitrovska Andrews, prof. dr. Lojza Gosar, Aleksander Jakoš, prof. mag. Vladimir Braco Mušič, mag. Nataša Pichler Milanović, Angelca Rus, dr. Richard Senti, mag. Vladimir Stefanović, Marijana Velepec Vahtar.
- ² According to the contribution by Marijana Velepec Vahtar. In: Concept of urbanisation, Phase 7.

For literature and sources turn to page 15

Illustrations:

Figure 1: The concept of centres and development axes according to recommendations of the European spatial policy

Figure 2: Ljubljana – the new infrastructure condition

Figure 3: Functional urban region Ljubljana, the Domžale branch

Peter GULIČ

Analyses and problems of spatial development for planning networks of social and economic infrastructure on the national level

1. Introduction

The question of networks is a core issue in the European Union (in the article the term 'network' is used in the sense of infrastructure). The issue is real, since it is aligned with the foundation of EU spatial policies – integration. Whether we want it or not, the issue is vital even for Slovenia, because ignoring the problem could place Slovenia in a peripheral position. We would be simple minded if we thought that that ties to the main economic direction of the EU, towards the East grants us possibilities. Relying on such a hypothesis could condition national development into a nation on a corridor.

The concern of most important EU programmes are transport networks, even more precisely, the European network of high speed trains and fast railway lines, as well as the reorganisation of airborne transport. In the case of the European high speed railway network and fast railway lines the network density in central Europe cannot be compared to the proposed network in the French and German regions. Added circumstantial impediments in connecting Slovenia to Europe are the connections themselves to the European high speed railway network and fast railway lines, while airports are not even present in the structural policy.

In the northern part of the EU we are witness to intensive planning, designing and creating foundations for connecting mobility routes of expansive territorial basins with international destinations, all of which are also directing the transport within a global economy. In these issues Slovenia is surely lagging behind and is trying to diminish the delay by building limited bits of mono-modal networks without a clear comprehensive strategy. Such actions could become counterproductive, since Europe is offering Slovenia important perspectives: high speeds and a network of corridors.

The necessary action for Slovenia is to first create a national spatial plan, where policies for stimulating synergetic network effects would be realised, along the East-West axis, as well as the North-South axis, that would by mutual effects compose a uniform system for the transport of freight and passengers and also an adequate basis for connecting central stations, airports, harbours, intermediate stations and commercial centres. However, we mustn't forget the important potential of combined rail and maritime transport, which has vital importance for Slovenia.

This quick and superficial global (existential) overview on Slovenia, positioned in the framework of European integration, dictates an interpretation of development of transport networks, namely, it is the logistic condition for any development. How or infrastructure network is and will be connected into Europe, also depends on other systems and their networks. Particular high quality potentials will also condition the strategy for defining multi-modal connections between different networks. This article is intended for enlightening such analyses and issues.

2. Analyses

2.1 Settlement system

Demographic stagnation

The population of Slovenia grew rapidly after WWII mainly because of immigration from former Yugoslav republics (after 1957 Slovenia had a positive migration saldo). This was one of the reasons for the large number of newborn children and until do late 70s was higher than 30.000 annually. Major demographic changes in Slovenia can be estimated into two periods. In 1980 the number of births started decreasing and has diminished to 18.000 per year. Because of political changes in 1990, after a long time Slovenia had a negative migration saldo (Jakoš, 1999).

Dispersed settlement

From the viewpoint of territorial organisation of the country, the ration between demographic stagnation and widespread phenomenon of dispersion is surprising. The population and activities are steadily decentralising and utilising the network of basic, almost uniformly distributed services. These statements, taken from research studies commissioned by the Office for physical planning unfortunately cannot be fully argued for because of the poor tool box for researching the phenomenon. Primarily the issue is the distinction between settlements and their corresponding influential areas, in which migration figures between cities and their regions could be registered, as well as other settlements and the region. In this way we could measure the centripetal migration trends of a whole region. The main indicators would be: population growth, migration saldo, migration within a region,