Sustainable Management of the polycentric European Metropolitan Region of Northern Switzerland

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Abstract

The presented paper has been elaborated in the context of the Interreg IIIB Study Project „POLYNET: Sustainable Management of European Polycentric Mega-City Regions“: The overall project, with partners from eight European regions, focuses on how to enhance complementarity between polycentric city regions in North West Europe and promote cross-border sustainable management.

The Focus of the Swiss project partner is the European Metropolitan Region of Northern Switzerland, a polycentric urbanized landscape that comprises the largest part of Switzerland with Zurich as an important economic and cultural centre.

Spatial development in Switzerland is subject to major changes. Driving forces of growing importance are „knowledge intensive business activities“ that comprise high-tech branches, higher education institutions and advanced producer services, which are of increasing relevance in Swiss economy. The effects of location decisions and policies of those businesses have become important agents for spatial organization, their impact many times exceeding „official“ spatial development policies of the federal government system. „Knowledge intensive business activities“ cause the development of areas of functional specification; the workforce is becoming more mobile which results in increasing numbers of commuters and growing commuting distances, growth of built-up areas in the outer belts of the agglomerations as well as problems of a lack of efficient infrastructure for private and public transportation. Despite these problems, political discourse and actions towards developing governance bodies for functional regions and strategies to tackle spatial problems is not keeping up with current development trends.

The paper outlines the current spatial development tendencies in Switzerland, focused on the branches of „knowledge intensive business activities“. Further, recommendations to Swiss policy makers on territorial governance issues and spatial strategies towards the sustainable management of urbanised landscapes are presented. The recommendation will evolve around three hypotheses:

1. Over the last decades, Switzerland has experienced the reorganization of functional-territorial division of labor in the knowledge intensive sectors. The opportunity of flexible spatial organization of firm locations has influenced business strategies and location decision making. The growing relevance of the knowledge intensive sector is a driving force, which is slowly altering spatial development.

2. Existing policy responses to spatial development show a gap between the functional logic of enterprise decision making on the one hand and the political-territorial logic of spatial planning policies on the other. In terms of governance, bridging this gap is a political negotiation process between policy makers from the sectors of economic affairs/ location marketing and spatial development.( Raum- und Standortentwicklung)

3. Existing institutional levels and forms of cooperation do not provide adequate frameworks and perimeters for spatial problems that develop „unnoticed“, outside the scope of existing responsibilities. Sustainable Management of the European Metropolitan Region of Northern Switzerland inevitably involves experimenting towards the creation of adequate levels of action with a flexible geometry and problem solving capacity.
1. Introduction

1.1 Growing urbanity and the key role of knowledge intensive industries: Polynet detects new spatial patterns in Northern Switzerland

This paper has the character of a work-in-process-report. It reflects on a Swiss case study established as a part of the EU Interreg IIIIB North-Western Europe research project „Polynet - Sustainable Management of Polycentric Mega-City Regions“. Polynet aims at comparing polycentric patterns within and among eight mega-city regions: London-Southeast England, Randstad-Delta Metropolis, Paris-Ile-de-France, Rhein-Ruhr-Region, Frankfurt / Rhine-Main-Region, European Metropolitan Region North Switzerland, Dublin – Belfast and Brussels. The key aim of this project is to empirically investigate and compare the infrastructural, regional, economic as well as socio-economic characters of these polycentric, interlinked, functional regions as well as develop political guidelines for handling these complex structures.

Switzerland faces growing urbanisation. About 75% of the Swiss population and about 82% of working places are located in urban areas (Federal Office for Spatial Development 2005). The trend of spatial development in Switzerland is a more and more uneven distribution of population and economic structures. While some rural areas are still able to attract a considerable number of inhabitants, an overwhelming part of jobs in advanced industry and service jobs are concentrated in the urban cores.

Switzerland has two axes of cities that build strong cores of two economically outstanding regions. One axis comprises Geneva-Lausanne in the region of Lake Geneva. The second axis links Zurich-Basel in the region of Northern Switzerland. The latter is the object of investigation in the Swiss contribution to the Polynet project. These two regions build important engines for the economy of Switzerland as a whole. Innovative, creative and trend-setting, knowledge intensive industries and services are settled in the cores of these regions (Duehmmler et al. 2004). It is very attractive for respective firms to be situated in or near these cores. Thus there are rings of sub-centres around the cores that manage to attract advanced firms. These firms maintain strong links to the core cities. As a consequence, the core cities and their rings of sub-centres build advanced functional regions. As these advanced functions appear mostly in "metropoles", they are called "metropolitan regions".

This leads us to the first main question of Polynet: What do the new patterns of regional functions, which are created by spatial location decisions of knowledge intensive industries, look like? The second main question is: Are these new patterns and their consequences adequately addressed by the Swiss planning policy?

These questions are vital for the future of Switzerland as the contemporary spatial development involves several problems (Federal Office for Spatial Development 2005):

- Urban sprawl: Switzerland loses rural areas and landscape quality. Rural regions lose their rural quality without gaining urban quality. Greenfield planning dominates.
- Economic imbalance: Advanced industries and services concentrate in urban centres and very few preferred regions, while old and dependent industries and services concentrate in rural areas and peripheral urban centres.
- Traffic: The number of commuters grows. Distances between residence, place of work and leisure expand. Formerly rural regions are seriously burdened with private traffic. Infrastructures in urban cores and important transport links are at the limits of their capacities.

1.2 Swiss Spatial Development Policies in front of the backdrop of the European Spatial Development Perspective

For many observers from the European Union, the Swiss Federal system is a role model for the solution of their own development dilemma. Nevertheless, the current Swiss situation shows the fragmentation of jurisdictions and deficiencies in governance capacity for solving inter-community, -canton and –national problems (OECD 2002, Thierstein et al. 2003). Comparably late in the European context, did the Federal Government of Switzerland turn towards the problems and governance challenges in agglomeration areas. The establishment of the “Grundzüge der Raumordnung Schweiz“ (Swiss Planning Policy Guidelines) in 1996 helped to identify the significance of agglomerations in the social and economic development of Switzerland. As late as 1997, with the Revision of the Federal Constitution, the Federation started taking more account of the concerns of the agglomerations. In the policies and concepts that followed since (chapter 3), Switzerland has adopted the strategy of polycentricity as it is outlined in European spatial development perspective. A core strategy is the idea of city networks: “To strengthen a balanced settlement structure, ways and procedures must be found to enable cities and regions to complement each other and co-operate” (CEC 1999: 22, sect. 73). “Promoting complementarities between cities and regions means simultaneously building on the advantages and overcoming the disadvantages of economic competition between them. However, complementarity should not be focused solely on economic competition but be expanded to all urban functions, such as culture, education and knowledge, and social infrastructure…” (CEC 1999: 21, sect. 74).
In 1994, the EU ministers responsible for spatial planning agreed on policy guidelines for the spatial development of the, back than, EU10; the central guideline – reiterated in the European Spatial Development Perspective (ESDP) – calls for a “development of a polycentric and balanced urban system and strengthening of the partnership between urban and rural areas. This involves overcoming the outdated dualism between city and countryside (CEC 1999: 19).

European policy-makers acknowledge the developmental potential of peripheral areas as well as the danger of hyper-concentration in the core, as reflected in the ESDP. The key concept here is polycentricity, as it bridges the different interests of the member states and encapsulates the three underlying objectives of the ESDP which are: economic and social cohesion; conservation of natural resources and cultural heritage; and more balanced competitiveness of the European territory. Polycentricity is seen as the strategic answer to the current undesirable division of the European space into core and periphery. However, the strategic quality of the principle of polycentricity has been argued (Davoudi 2003).

The underlying hypothesis of polycentrism is that economic and functional integration can be achieved without creating structural territorial imbalances. Polycentricity has two complementary aspects:

- **Morphological**: the distribution of urban areas in a given territory (hierarchy, distribution of locations, number of cities).
- **Relational**: based on the networks of flows and cooperation between urban areas at different scales. These flows are generally related to proximity, especially at the regional and national levels, but network relations can also be independent of distance.

This makes clear, that the proposed concept contains both an analytical as well as a policy perspective. Although the concept is not new, it has yet to be clearly explained. According to the authors of the ESDP, Polycentricity as a strategy for a balanced development can be applied to different spatial scales. The ESDP foresees a polycentric settlement structure cutting across the whole of the EU territory. At the same time, every center – the ESDP does not give an indication of the size of a ‘center’ – is in itself seen as a polycentric system on a smaller scale.

Figure 1: Challenges in the implementation of polycentricity at all spatial scales (ESPON 1.1.1 2004: 240, Abb. 9.1)
The ESDP scenario in Figure 1 illustrates the ideal situation, where increased polycentricity at the intra-urban level (micro) makes city regions stronger and therefore produces a more polycentric national or trans-national urban system (meso). In the next step, stronger functional areas at the meso level can work together to produce strongholds for a more balanced Europe, heralding the eventual emergence of several Global Integration Zones in addition to Pentagon (macro).

However, the European Spatial Planning Observation Network (ESPON) Project 1.1.1 “Potentials for polycentric development in Europe” recognizes that there are inherent difficulties embedded in this model, as contradictions manifestly exist between the policies at different geographical levels:

“At the European scale (macro-level), the calculations of ‘Potential Integration Areas’ (PIA) show that regional polycentric integration will tend to increase the contrast between core and periphery if implemented across the board. It is possible for urban regions beyond the Pentagon to enhance their status compared with other regions through the development of a polycentric structure with better functional integration. But the potentials for such policies are clearly best realized in the already strongest regions (i.e. within the previously identified core area, which is somewhat larger than the current Pentagon). A peripheral region can gain from polycentric policies then only if few other regions succeed in implementing such policies. If polycentricity is successfully implemented across Europe, regions located within, and in proximity to, the Pentagon will inevitably gain most. Consequently, a European level polycentricity must build upon functional specialisation, not population size. At the national and trans-national scales (meso-level), a policy for increased polycentricity and spatial balance at the European level will strengthen the strongest urban regions. Investment will have to be concentrated in these regions, though this is likely to be at the expense of other more peripheral regions. As a result, the urban systems of the countries in question may actually then become more monocentric. The same discussion can also be applied at the sub-national level, where the strengthening of secondary cities with the aim of balancing the capital region may increase the difference between them and smaller cities.

Such contradictions have the potential to create political tensions that can ultimately only be dealt with on a case-by-case basis.

Finally, at the scale of functional urban regions (micro and city scale), there is no observable correlation between the levels of polycentricity or monocentricity of cities, and their capacity to integrate in potential Polycentric Integration Areas or polycentric networks at the meso or macro scales. While polycentricity within urban regions may still be a more favourable option from an urban planning perspective, its relevance for European and national spatial planning remains to be established” (ESPON 1.1.1 2004: 239-240).

Now that the EU territorial cohesion policy has been formally recognized, the spatial vision of the ESDP appears no longer sufficient for EU members to handle territorial cohesion policy. The discussion on the future of the ESDP should move ahead, towards the discussion of common principles of EU territorial governance (Rivolin 2005: 19).

2. Revealing the polycentricity of the Metropolitan Region of Northern Switzerland: The Polynet Project

2.1 Polynet area and methods

In Northern Switzerland Polynet examines eight agglomerations, selected by their number of jobs in knowledge intensive services: Aarau, Baden-Brugg, Basel, Lucerne, St.Gallen, Winterthur, Zug and Zurich (see fig. 2). Moreover, Polynet concentrates on eight Advanced Producer Service (APS) branches: accountancy, finance, insurance, law, management consulting, logistics, advertisement and design. These branches are referred to as APS (advanced producer services).

The first main question of Polynet is: What do the new patterns of regional functions, which are created by spatial decisions of APS firms, look like? To answer this question, Polynet uses four methods:

1. Analysis of long-distance commuting patterns between sub-centers of metropolitan regions
2. Spatial analysis of firm-internal plant networks, with a focus on cross-border APS-firms
3. Spatial analysis of firm-external cooperation networks, with a focus on cross-border APS-firms
4. Spatial analysis of business journeys and communication networks of senior managers in cross-border APS-firms

Polynet is an explicitly explorative project. It touches a field hardly explored in Switzerland. Firstly Polynet looks at spatial development from a functional aspect and reveals the driving forces of large-scale spatial
patterns. Secondly polynet moves beyond usual perimeters of spatial analysis. It is freed from determining institutional borders and approaches the "real" regions of economic functions. Furthermore, polynet offers new opportunities for international comparisons and exchange of experience. It generates an international picture of urban development in Europe and enables better-coordinated strategies for a more sustainable European urbanity.

Fig. 2: The Metropolitan Region Northern Switzerland

2.2 The "reality" of the Metropolitan Region Northern Switzerland: Outcomes of the polynet spatial analysis

2.2.1 Long-distance Commuting between sub-centres of Northern Switzerland

Generally, commuting is a growing phenomenon in Switzerland (see figures 3 and 4). The average distance daily covered by a person living in Switzerland was 29.4 kilometres in 1984; in 2000 it was 38.2 kilometres. A major part of this growth is based on the enormous increase in leisure traffic (1984: 11.9 kilometres; 2000: 16.6 kilometres daily). But also daily average travel-to-work or –education-journeys expanded from 8.7 kilometres in 1984 to 10.9 kilometres in 2000 (Federal Office for Spatial Development & Federal Office for Statistics 2001). Polynet shows that there are growing numbers of commuters between all selected centres of Northern Switzerland. But relevant absolute numbers of commuters can only be found between neighbouring centres on the one hand and between most centres and Zurich on the other hand. Long-distance commuting patterns in Northern Switzerland thus turn out to be strongly oriented towards Zurich. So it would be misleading to speak of an area-wide and unordered increase of commuting numbers. But there are several spots and axes of commuting growth, where capacity and environmental problems are severe.

Polynet also examines commuting patterns of senior employees in APS branches.
This analysis is not completed yet, but first pre-results indicate that senior APS employees live more often in rural areas and commute to urban cores than other employees. This would mean that APS economy is a driving force for urban sprawl in rural areas, especially in rural "gaps" between urban centres.

2.2.2 Internal plant networks of cross-border APS-firms

All centres of the Metropolitan Region of Northern Switzerland are interested in being locations for seats or plants of cross-border APS firms, as they offer jobs for highly educated people. Furthermore cross-border APS
firms serve as agents that connect smaller locations to larger economic cores and enable e.g. flows of knowledge between them. It is thus interesting to analyse the portfolio of cross-border APS firms in each of the selected centres in Northern Switzerland, and to rate the centre's consequential connectivity with the most important international and national economic centres.

To carry out this analysis, Polynet works with the method that was developed by The Globalization and World Cities Study Group (GaWC) and that has been used for several studies before (Taylor, Catalano & Walker, 2002). The results of this method are connectivity figures for locations, which indicate to what extent those locations are linked with other locations through firm-internal plant networks.

The analysis produces interesting patterns of connectivity for centres on different scales (see figure 5). It clearly confirms the thesis of Zurich, and to a lesser extent Basel, as global gateways for the whole of Switzerland. Zurich is an indispensable location for many global APS firms, and is thus well connected to the most important economic centres on all continents. On the other hand, Zurich and Basel are also well connected with regional centres in Switzerland. This leads to the conclusion that Zurich, in cooperation with Basel, serves as a vital "hinge" or "hub" between the Swiss regions and the World.

Smaller centre's global connectivity figures are, as expected, smaller than the figures of the two large centres Zurich and Basel. A good assumption is that, the smaller a centre is, the smaller its global connectivity is, but interestingly there are cases that diverge from the expected. One case is Zug, a small agglomeration of about 90,000 inhabitants, that is globally much more connected than expected on the basis of its size. Zug is a very specialized low-tax location, which attracts many global trade firms. And Zug is half an hour by train form Zurich.

Fig. 5: Occurrence of firm-internal plant networks between centres of Northern Switzerland and selected global economic centres

2.2.3 External cooperation networks of cross-border APS-Firms

Generally, different APS firms are competitors, but on the other hand, cooperation and exchange of knowledge are vital for all firms. Cooperation can be locally concentrated in "clusters", but very often, specialized firms can only find qualified partners in distant places. Thus, knowledge and information flows in firm-external networks are a second important element that connects smaller centres with economic cores.

Polynet Surveys confirm once more the role of Zurich as a "hub" of knowledge and information flows. Most APS firms operating on a global scale are located in Zurich. They cooperate with firms abroad and with firms in sub-centres of Northern Switzerland. Thus, they are agents that gather knowledge and information on a global scale and hand it to the rest of the metropolitan region or even the whole of Switzerland, or the other way round. Direct links between smaller locations and the global scale exist, but are rare. For APS firms not located in Zurich it is difficult to establish cooperation with firms abroad. However, smaller centres can be attractive for international APS firms, if there is excellent traffic connection to Zurich.

There are similar patterns for cooperation networks at the national and regional level. Cooperation networks between APS firms in different sub-centres, leaving Zurich out, are rare. Zurich is the central location in national APS cooperation networks. A reason lies in the fact that Zurich is generally chosen as a location by those companies, which occupy a central role in the economic networks. An important example here is the financial sector. Through their central position in a functional network, these companies have corresponding radial relationships with APS firms in the other centres of the metropolitan region. The geographical location of
companies, and the spatial pattern of their relationships, therefore depends on the centrality of their position in a functional economic network. That means that there is a better understanding of spatial patterns of APS networks, when we know more about relations and value chains within and between APS branches.

Fig. 6: Cooperation between APS firms in different Regions

Figure 6 offers an overview of cooperation links between APS firms in different sub-regions of Switzerland. The most important link is between Zurich and Basel, which form a central “backbone” in the national and regional cooperation Network. A second important link is between Zurich and Bern, although Bern shows only little economic dynamic. But Bern is the capital of Switzerland and still an important location for formerly federal companies (e.g. telecommunication) that are integrated in cooperation networks of APS firms.
3. Policy Responses for Spatial Development in Switzerland

3.1 The functional and territorial logics of Spatial Development Policies

In chapter 2 we displayed empirical findings on spatial development tendencies in the European Metropolitan Region of Northern Switzerland. In our hypotheses, we argued that existing policy responses to spatial development show a gap between the functional logic of enterprise decision making on the one hand and the political-territorial logic of spatial planning policies on the other. This makes it necessary to look at current policy responses for spatial development in Switzerland.

The time frame of the Polynet project parallels two strands of debate on spatial development relevant policies. The first strand concerns explicit spatial planning policies, based on a “territorial logic”. The second strand deals with sectoral policies such as the new regional policy and the new financial equations, which have a major effect on spatial issues and the management of spatial development, based on a “functional logic”.

Figure 7: Hierarchy of Federal agencies responsible for spatial development Policies in Switzerland (own figure ESPON 2.3.2 National Report Switzerland 2005)

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<tr>
<th>FUNCTIONAL LOGIC:</th>
<th>TERRITORIAL LOGIC:</th>
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<tr>
<td>Federal Department of Economic Affairs</td>
<td>Federal Department of the Environment, Transport, Energy, and Communication</td>
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<tr>
<td>State Secretariat for Economic Affairs</td>
<td>Federal Office for Spatial Development</td>
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<tr>
<td>Regional Policies</td>
<td>Spatial Planning Policies</td>
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<tr>
<td>Spatial Development Policies (in the narrow sense)</td>
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Beyond the Agencies displayed in Figure 7 that directly form the Swiss Spatial Development Policies, no fewer than 20 federal agencies have remits which touch upon spatial planning in the widest possible variety of areas: these also include agriculture, transportation, communication, energy, security policy and public buildings and installations. The Federal Office for Spatial Development’s (ARE) publication «Overview of Confederation activities affecting spatial planning» (Übersicht über die raumwirksamen Tätigkeiten des Bundes), which has been updated in 2004, describes the tasks affecting spatial planning that the confederation performs independently or in conjunction with the cantons (Federal Office for Spatial Development 2004).

The budget for Spatial Development Policies (the Regional and Spatial Planning Policies) is comparably limited. The Federal office of spatial development and State Secretariat for Economic Affairs do not administrate laws related to spatial development, which have substantial budgets attached. E.g., over the last seven years (1997 – 2003), the Federal expenditures for regional policy averaged around CHF 69 Million (Federal Department of Economic Affairs 2004: 57). The means for other sectoral policies such as education, agriculture, transportation, energy are much higher in comparison.

3.1.1 The “Territorial Logic” of Spatial Development

Concerning the first strand of discussion, which is rooted in the territorial logic, the Federal Office for Spatial Development has presented the “Report on spatial development” in March 2005 (Federal Office for Spatial Development 2005). The Report is the follow-up of the 1996 Swiss planning policy guidelines (Federal Office for Spatial Planning 1996). The Guidelines had been a first important step in 1996 to help to identify the significance of the agglomerations for the social and economic development of Switzerland.

The federal council’s 2001 agglomeration policy reinforced these steps in order to emphasize the need to support cantons and agglomerations in solving their problems. Its aim is to support the cantons and communities in their activities and to improve horizontal cooperation within agglomerations (Federal Council 2001).

Another attempt was the Federal Council’s approval for the “Strategy Sustainable Development” in 2002, an action package elaborated by the interdepartmental commission for sustainability, as a result of the 1996 UN Rio Conference. The Strategy includes 22 measures for the sectors of Economy and competitiveness, financial policies, research, spatial development, mobility, to name just a few. A specific goal for regional policies and spatial planning is the stabilization of the overall use of land use area (footprint) at 400 square meters per person (Federal Council 2002).
Back to the most recent document, the 2005 Report on spatial development (Federal Office for Spatial Development 2005): It will be the basis for discussion of new Swiss planning policy guidelines to be issued in 2007 and the planned modification of Federal law on Spatial Development (Raumplanungsgesetz).

The Report provides an analysis of the status quo of major trends of sustainable development. The authors of the report come to the conclusion that spatial development has not been sustainable in terms of urban sprawl, social and functional segregation in agglomerations, disparities between rural and urban regions, rising number of buildings outside the building zone, and still growing mobility.

Further, the authors of the report come up with four scenarios for future spatial development:

1. the rise of few Metropolitan regions that polarize economic development and bypass all other regions,
2. continuing fragmentation of administrative bodies which results in even more urban sprawl,
3. polycentric development with city networks that is multipolar, but results in abandoned areas, and last, the preferred scenario.
4. which describes a polycentric network of urban centers which are connected to their hinterlands and profit from each other in territorial solidarity.

(Federal Office for Spatial Development 2005: 67-86)

Based on its analysis of development trends and on the scenarios, the 2005 Report on Spatial Development outlines a spatial development concept with the following major integrative strategies:

- Maintaining and improving the physical and virtual international connections (by air traffic, roads, highspeed trains).
- Creating two connected networks: The first network comprises polycentric Metropolitan Regions (Zurich, Genf-Lausanne, Basel, Bern, Tessin). The second network is made of the remaining cities and agglomerations.
- Creating Strategic urban networks in areas outside the Metropolitan Regions.

3.1.2 The “Functional Logic” of Spatial Development

The second strand of the discussion on spatial development policies is rooted in the functional logic and is best represented by the current debate on the new regional policy.

For the past decades, regional policy has been designed to support infrastructure investment in mountain areas and enterprises in economically disfavored areas through targeted individual support (OECD 2002: 12). Currently, the approval of the new regional policy is on the political agenda. At the beginning of the debate, the authors of the new regional policy set out to take the complementarities between rural areas and agglomerations into account. The goal was to direct emphasis of the new regional policy towards the inclusion of agglomerations, accepting the circumstance that the national economy highly depends on the functioning of larger cities, agglomerations and metropolitan regions. However, this focus on the whole country rather than rural areas requires a difficult balancing act. From the overall regional policy budget of CHF 70 Million, 30 Million would be allocated to wide area projects that support cooperation between rural areas and agglomerations. 40 Million would be allocated to support local and regional projects in rural areas. (Federal Department of Economic Affairs 2004:).

The most striking example for the political direction of the discussion is the integration of the Agglomeration Policies “best practice models” in the new regional policies. Policy makers have declined to officially link the two policy fields (NZZ, 1.7.05: 13), even though the best practice models would make an excellent start to involve local and regional economies. The difficulty to connect agglomeration policy and traditional regional policy shows that political will is not sufficient for inter-sectoral cooperation between spatial planning and economically oriented policies as well as rural and urban policies. For the time being, this makes it difficult to concert efforts for more efficient, sustainable management of spatial planning.

It becomes obvious, that, in comparison to the discussion on the new regional policy, the isolated efforts of the spatial planning sector have a comparably small impact on economic development and, moreover, on managing the spatial impacts of economic decisions. However, even more influential than regional policies are the sectoral policies concerning agriculture, transportation (they are not part of spatial development policies in the narrow sense) and the new financial equalization scheme.

The political debate on the reorganization of the new intergovernmental financial equalization scheme parallels the new regional policy debate. At the core of the federal council’s new financial equalization, which has been approved by the votes in November 2004, is the idea of shifting decision making capacity from the federal to the canton levels for tasks of the core cities that extend over canton borders. For specific intercantonal issues, the cantons are required to cooperate in order to earn and distribute federal funding. This is the case for Universities, specified medical clinics, large-scale cultural infrastructure and transportation projects in agglomerations. The Federation maintains the competences to allocate funding if cooperation among the cantons does not take place.
The second instrument of the new financial equation, which is of consequence for urban regions, addresses the equation of sociodemographic burdens. It shifts financial means to the core cities due to the fact that the core cities of agglomerations have a greater share of socially weaker members of society, causing higher expenses and less tax revenues. The financial equalization is a preparation for a reform of federalism. Vertical cooperation is to be made possible on a partnership level, and a horizontal equalization of burdens is to help ensure the chance of decentralized development. The scrutinizing of respective functions of the Federation and the cantons provides an opportunity to test the fundamental understanding of governance within a federal system.

3.2 Open questions on governance and the spheres of operation

From the synopsis of actual spatial development tendencies displayed in chapter 2 and the spatial development policy responses outlined in this chapter, questions on institutional organizations and scales of operation arise.

It is important to bear in mind that the existing Swiss administrative system consists of three tiers, the confederation, 26 cantons and about 3000 municipalities, each having their own spatial planning responsibilities. The emphasis is at the cantons, whose task is to integrate spatial claims by means of structure plans. The communes are generally responsible for land use planning. Lastly, under the constitution, the confederation is responsible for the legislative framework, for formulating planning principles, for co-ordinating formal spatial policies both internally and with the cantons.

Beyond the system in place the discourse on territorial organization ranges from fusion of cantons and municipalities on the one hand to voluntary cooperation for specific operational tasks on the other. In the field of spatial planning, large cantons often delegate supramunicipal spatial planning tasks to public-law regional planning associations. Over the last decades, an increasing number of single or multi purpose district bodies (special districts) have been founded on a regional level. For instance each Zurich municipality belongs to an average of six dedicated organisations (Neue Zürcher Zeitung 11. /12.05.02). The consequence is the jeopardising of controllability, manageability and integral regional performance as well as the ability to find solutions to problems.

In 2001 the „Tripartite Agglomeration Conference“ (TAK) conference consisting of the three levels – federal, cantonal and municipal – was founded to promote vertical co-operation in policy fields relevant for the metropolitan areas. A study of the TAK has proposed agglomeration conferences as institutional bodies for the, up to now, merely statistical perimeters of the agglomerations (Tripartite Agglomerationskonferenz 2004).

The outlined debate represents the “down to earth” approaches, where the institutional framework of the three tier federal system of Switzerland remains mostly unchallenged. On a more visionary basis, authors from different professional backgrounds have recently proposed approaches to metropolitan governance, the definition of new spheres of operation or visualizations of possible urban futures in Switzerland (Blöchliger 2005, Eisinger und Schneider 2003, Rellstab 2005, Studio Basel (expected an fall 2005)).

Future effort has to be on the transformation of territorial governance, based on the ongoing debate, approaches and experience. In order to introduce change in spatial development and territorial governance, policy makers need to take into account three parallel levels of action. Continuing governance debate needs to be based on three interrelated levels: strategy, structure, culture (Thierstein et al. 2003).

Figure 6: The Action Model for Territorial Governance (Thierstein et al. 2003, Thierstein and Gabi 2004: 35)
The strategy helps orienting and focusing a region’s activities. The strategy describes the tasks, which arise from a region's conception of itself, including the functions, which the region intends to fulfill. One of the concerns that come out of the themes is the lack of cooperation within the multi-level governance situation, despite the acknowledged need to do so. The governance bodies from municipal to federal levels show deficiencies in governance capacity for inter community or intercantonal problems of spatial development. First, spatial problems cannot be treated without looking at their intersectoral connection, and second, there are deficiencies in vertically and horizontally coordinating cooperation of institutions towards a sustainable spatial development. The problem fields are, in fact, part of diverse institutional spheres of operation. The institutions cover operational areas of varying perimeters with different partly overlapping responsibilities and functions. Experts refer to the overlap of operational levels and functions as "multilevel governance".

The structures denote relatively stable arrangements in time and space. This means both information and management systems in the sense of sets of rules, which support the fulfilling of functions, and also developmental and procedural organization. The structures help co-coordinating and fine-tuning all the region’s relevant activities. The clearest examples for "structures" are the institutions on all three tiers of the government, along with the legal framework.

Culture means behavior patterns, in particular the cultural attitudes, the values, principles and norms, the recurring routines and trusted forms. Common culture and behavior help creating identity and sense of belonging. Creating awareness for the necessities and interdependencies of spatial development needs to look at different levels of action and scopes. It requires the ongoing demonstration of interdependencies and results of political decisionmaking on the awareness level of policy makers. Raising awareness is most successful when the advantages and added value become obvious along specific successful projects.

The Action Model for Territorial Governance has two “urgency modes”: there are day-to-day situation where change management is looking more for an optimization focus. But in certain situations where ‘thinking out of the box’ is necessary to cope with immediate aggravation of the basic developments, then one should focus on a ‘regeneration’ approach.

4. Preliminary Conclusions: Findings on the European Metropolitan Region of Northern Switzerland and Strategies for Governance

Knowledge intensive service firms turn out to be important driving forces for spatial development on a high scale in Switzerland. They are agents that build spatially concentrated knowledge and Information "gateways" between the regional and the global economy. Zurich is the largest of these "gateways" by far, Basel is the much smaller number two. Some of the Medium-sized and smaller centres are indeed able to attract knowledge intensive industries, but they are more or less directly dependent on Zurich's gateway-function for international business. Smaller centres only obtain rather independent functions in knowledge intensive industries on the national scale.

According to this result, a polycentric Metropolitan Region of Northern Switzerland does exist from a morphological point of view, although there is a monocentric character to it, since Zurich is the culturally and economically dominating center. In the case of Northern Switzerland, Polycentricity has proven adequate as a descriptive model, however, the following conclusions show, that claiming it as a strategy for a sustainable spatial development is far more complex.

The “polycentric morphology” of the European Metropolitan Region of Northern Switzerland paralleled by the functional interrelations of knowledge intensive businesses, does not automatically lead to the desired effect of a sustainable development. On the contrary, the tendency of dispersion of inhabitants (periurbanization) and at the same time tendencies of concentration of knowledge intensive business firms in the core cities and in specified locations within the agglomeration leads to the undesired sprawl of infrastructure and settlement development along with growing commuting distances.

The real impacts in the spatial development of Switzerland are difficult to grasp, as they are contradictory. On the one hand, there is accelerated concentration of highly advanced functions in very few centres, on the other hand there is a diffusion of consequent functions, like supply, residence or leisure. This is a great challenge for
the concept of polycentricity, as both, polycentric and monocentric tendencies are results of the same process towards a more knowledge intensive economy.

The objective behind the ESDP’s concept of polycentricity is to reach territorial cohesion between economically strong areas and the weaker, less dynamic rural areas or smaller cities. Territorial Cooperation between medium and smaller size Cities or agglomerations that are within certain proximity is supposed to make them stronger, more economically potent in the competition with other larger cities or regions within the EU. However, in reality cooperation does not occur on the normative basis. The prerequisite for functional networks is problem pressure and/ or economic drive, they lead the autonomous institutional units to consider advantages of cooperation. Without economic drive, it is difficult to detect real functional networks. The representatives of small cities do not offer complementary centres to dense and crowded centres without stimulation and economic incentives. Thus, claiming networks between centers and subcenters as a strategy for economic drive and sustainable spatial development means taking the outcome for the incentive.

Functional interrelations on the European Metropolitan Region of Northern Switzerland, are not yet sufficiently anchored in the awareness of most policy makers or the constituency. Despite the actual development tendencies on Metropolitan levels, the action fields and spheres of institutional bodies responsible for spatial development are largely determined by the awareness of problems on a local, smaller regional or, at most, canton level.

The missing link between the principle and strategy of a sustainable polycentric development as it is outlined in the ESDP and adopted by swiss planning policies on the one hand and the actual spatial development tendencies on the other is of high relevance. The action fields and strategies of the departments responsible for spatial planning and the departments responsible for economic development are not coordinated towards a mutual goal. Thus, in most cases, development towards an undesired direction (in the eyes of spatial planners and the respective policy makers) in Switzerland is not due to a lack of data and tools. It is the result of decisions in politics and enterprises that are not negotiated with the politics for a sustainable spatial development. Metropolitan Governance needs to be a platform for this negotiation process. Metropolitan Governance includes reflecting and learning from previous experience. A shift is needed away from merely focusing on normative goals towards the management of the various driving forces that influence spatial development.

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