

## CYCLIC OVERSUPPLY OF RESIDENTIAL DEVELOPMENT – INSTANT FRAGMENTATION OF TRADITIONAL MONO-CENTRIC CITY

### ABSTRACT

*This study examines the residential expansion of Tartu urban region in Estonia. This paper assesses the evolution of planning practices to get a comprehensive understanding of the driving forces behind the dynamics of residential development in the conditions of suburbanisation at the emerging market. The study focuses explicitly on speed and scope of planning cycles by matching the operational scale of physical planning with master plans, parcels as survey elements and real estate transactions. The results show that housing bubble for residential markets, following recession in the 2000s and recovery in 2010s, their manifestation*

*in the local planning practices and housing development scene call for a more strategic thinking of how we understand and evaluate spatial changes. A profit-driven supply-side entrepreneurial intervention to planning during the growth years put too much emphasis on delivery of quantity, namely land supply, rather than the benefits of quality, allocation choices and social dimension, often overriding regulative frameworks. Discretionary ad hoc solutions and fragmented site-by-site development have been the main approaches in issuing land use change with little implication of housing demand. Extensive master planning for*

*residential development has resulted in massive 'overbooking' of urban land parcels as only quarter of planned urban core and half of the planned periurban development has been carried out.*

**KEYWORDS: LAND USE, SUBURBANIZATION,  
HOUSING, ESTONIA**

## INTRODUCTION

Positioning residential land development and land use planning in changing cities, especially considering the conditions set by a massive economic growth and sudden recession in the last decade is a growing challenge for both developers and urban planners. Rapid urbanization, along with socioeconomic changes and environmental concerns, compels us to rethink the impacts of how we adapt, grow, plan, and build. Uncertainty in financial markets, shifting economic growth drivers, changing demographics, household size, social equity are just few factors to consider. In the midst of the debate over flexibility in urban planning and joint-up territorial governance, a neo-liberal planning framework has now proven itself to be too ill-equipped to deal with many contemporary urban complexities like suburban growth, fill-in at heritage areas, brownfield redevelopment and infrastructure provision (ALLMENDIGER & HAUGHTON, 2013:8). Built environment and urban problems shift to rural surroundings both in physical, environmental and socio-economic aspects, and on account of this, the complexities and impacts should be explored as urban region. Urban functions, densities and lifestyles are constantly changing and therefore sustainable development has a lot to do how a city is able to adapt according to these changes. More importantly, it has to try to foresee and predict these changes in a long term and produce different development scenarios with clear indications of the impacts of different development paths for broad range of actors. In order to address the issues of sustainability, the management of residential development should deliver a supply of dwellings that comfortably satisfies current and expected future demand while minimizing excess (FORD & MARCH, 2012:3).

The latter, however has proven to be a difficult task, as real estate developments are cyclic in nature and usually lagging a little behind the real economic cycle. Depending on legislative context, planning policies and practices, a rather slow public process relates to democratic accountability, civil society and institutional efficiency. As economic growth starts, property developers usually react by initiating new developments in great volumes, often speculative in nature. So when a sudden decline or credit crunch hits the economy, these planned developments are often not fulfilled or can lead to high number of empty unsold dwellings. The housing market could be just as volatile as the stock market. Speculative land use planning can create huge problems at many levels starting from undeveloped infrastructure with a decline in quality of life to just plain wasteful use of otherwise valuable land. Therefore, it is essential to better understand these processes and develop policies to intervene to these failing market forces accordingly. A key issue for city regions is the ability to adjust to the new socio-demographic, though even strongly economic situation. Tackling with strategic issues and wider, often global trends in local and urban context with flexibility and tolerance is expressed by mutual tension between statutory and non-statutory (EVERS, 2008).

Urban areas in Central and Eastern Europe alike in Estonia are still sprawling and rapidly transforming. In a European context of administrative families, Estonian planning system is characterized by comprehensive planning with very strong detail planning at municipality level, legally and strategically very weak regional levels and strong private sector, real estate interest (ROOSE & KULL 2012:). During structural reforms and global economic recession the planning system in Estonia has not been changed though political

reorientation towards more neo-liberal planning policies is notable with an increased tension between efficiency and legitimacy alike in the Nordic countries (MÄNTYSALO, SAGLIE, & CARS, 2011). Against this backdrop, this study takes upon a task to assesses the complex inter-relations between economic growth, planning practice and housing development in the Tartu urban region (TUR), a second tier city and regional growth pole in southern Estonia. The aim is to explore complexities of land use and urban growth, how suburbanisation as a process has evolved through uncertain economic conditions and transforming planning practices by examining the spatiotemporal disparities of supply and demand for housing.

## PLANNING CONTEXT

Many of the countries in Central and Eastern Europe have undertaken fundamental reforms to the body of planning law to enable changes in the elaboration and operation of their planning systems. In some countries, however, planning system and code have not kept pace with the reality of spatial development and housing market (ECONOMIC COMMISSION FOR EUROPE, 2008). Phasing out centralised planning systems and steadily introducing new decentralised systems with high degrees of complexity has been a challenge for all Baltic states (Adams et al 2013). Besides stable legal framework and credibility of public administration the cultural approach has gained the prominence as different 'values', 'truths', and 'interpretations' of discretionary planning decisions appear (KNIELING & OTHENGRAFEN, 2009). The shift was more influential in terms of values and learning, less in spatial plans itself. Approving new planning regulation in late 1990s and harmonising Estonian environmental legislation before entering

European Union in 2004 did not automatically mean that these rules are immediately implemented across the society. It has meant gradual institutionalisation and empowering all major stakeholders in planning chain of strategic spatial planning from central government down to municipalities, agents, sectors and spatially aware consultancies. In some European countries, land-use planning has changed significantly to make the planning system more strategic, faster and to provide more effective ways of engaging with governance agents and all sections of the society (ALLMENDINGER & HAUGHTON, 2009).

Land use planning in Estonia is organized hierarchically in the national Planning Act (2003). There are four types of plans in the Estonian planning system: national spatial plan, county plan, comprehensive plan and detailed plans. The latter three are essentially land use plans, while the national plan is a more general strategic development guidelines for the country. The new national plan, Estonia 2030+, was issued in 2013 and its main principles are safeguarding spatial accessibility of basic human needs by means of improved mobility, preserving the qualities of settlement pattern and landscape, spatial balancing of settlement structure, good spatial connection to the rest of Europe and preserving the good condition of the natural environment (ESTONIA 2030+, 2012). These give general development directions for the counties and local authorities for urban and rural development. The national plan declaring spatial diversity and poly-centricity promotes low-density urbanised territorial structures for integrating compact cities, suburbs and traditional villages, providing the human scale, keeping environmental values and urban networks. It and. County plans deliver regional level planning by directing the territorial development and aiming to keep

the specific character of regions. The county plans set the conditions for the development of settlement systems and the location of the major infrastructure for local authorities in a generalised manner. Nevertheless, county level planning has steadily contracted since the early 2000s and retreated to inspecting and supervising detailed plans of land use.

Instead, planning monopoly is given to local authorities, who primarily process detailed plans. Local councils are the focal decision makers for spatial development. Local comprehensive plans which determine functional zoning, general directions and conditions for the development of the territory were issued massively in the second half of the 2000s though due to residential development, facilitation of social and technical infrastructure have been out-dated in many cases. The instant framework for land use development is set by detailed plans or master plans which formally and physically operationalize urban development. Ad hoc planning practices which are based on masterplanning and focus on siting and speed tackling a specific growth issues are expressed in particular on the city region level and within suburbanisation processes (ROOSE & KULL, 2012). On the other hand, going beyond traditional land use planning to bring together and integrate policies for the development territorial policies and programmes linked strongly or even loosely to Europe influence the nature of places and how they function. The major public infrastructure projects co-funded by European Union frame other minor developments, including residential. The Europeanisation of spatial planning has contributed progressively to the emergence of new discourse, concepts and insights of territorial cohesion in Estonia (RAAGMAA & STEAD, 2013).

## DATA AND METHODS

Analysis of planning process and quality of plans is a necessity for local, regional and national authorities in order to have a comprehensive understanding of how future developments influence demographic changes, job creation, demand for public services and infrastructure, economic prosperity, quality of life and the environment. This was accompanied with a digital mapping explosion, fast application of ICT and increased public access to spatial information. The impact of ICT on planning practices has been ground-breaking. Planning maps are usually analytical, although policy maps require a different cartographic language to deal with fuzziness and presenting the intended developments (FALUDI & WATERHOUT, 2006). It remains difficult to see how cartographic interpretations of planning can be made adequately transparent to untrained policy-makers, the public during participatory planning era as well growing community of planning and anti-growth grassroots (KITCHIN et. al., 2009). Yet GIS based planning registers that have the functionalities to overlay a range of land use plans, land cadastre and real estate market data with up-to-date and adequate attribute information and query options are still quite rare. There are around 270 binding local comprehensive land use plans at municipal level and thousands of master plans in Estonia. However, the local and regional governments are having setbacks of the cumulative outcomes, confronting impacts and unwanted synergies of separate residential plans. This study have mapped all the issued master plans and develop a spatial database in order to analyze the residential land supply delivery in the TUR from 2000 to 2013. In order to assess the implications of mismatches between development outcomes and planning objectives, data on the new residential buildings were also added to the

database. All the planning records were gained from municipalities' planning authorities and the data for population and housing through national statistics databases. The database provides a comprehensive overview and enables to compare master-planned housing supply and actual demand along with the timeframe meet these demands from the initiation of the plan to a completed development both in the core city and in the fringe. The analysis covers the stages of rapid economic growth, following recession and recovery. Complementing the typically qualitative nature of spatial planning objectives, the approach quantifies the supply of master-planned residential land and the demand for actual construction characterized by the implementation of these plans, then uses common metrics to measure the duration and scope of these developments to enable an assessment of the sustainability of the current approach in residential land use planning. The university city of Tartu with its five fringe municipalities in Southern Estonia with an extent of 740 km<sup>2</sup> was chosen as a case study area. Tartu is the second largest city in Estonia which belongs to the group of medium-sized cities on the European scale with its population of 98,000, in addition 22,000 inhabitants in the fringe municipalities. As the regional pole of Southern Estonia it fulfils a central role as Estonia's leading research, educational, health-care, and administrative centre. Currently, the regional importance of the Tartu city has been growing supplemented by functional and demographic expansion of urban region. The extensive cyclical waves of urban development have been ongoing since the late 1990s which makes this mid-size regional case representative and appropriate for other Central and Eastern European countries.

## RESULTS

Uneven geographies characterize urbanisation process in Estonia in 21st century. Housing development means also unbalanced demographic composition of urban communities: growing elderly population in 1960–80 built core city neighbourhoods versus growing young family population in 2000s built periurban neighbourhoods, high residential mobility in the centrally located neighbourhoods as well low fertility rates in particular in core city. New geographies delineate mismatching of structures, increasing fragmentation of settlement patterns and labour markets which affects directly mobility of labour market and service areas within urban region.

## MASSIVE RESIDENTIAL DEVELOPMENT

A new wave of urbanisation in Estonia began in the early 2000s driven by economic growth, characterized by extensive master planning and rapid construction of new housing. Between 2000 and 2012, 4052 new homes (8651 residents) were built in the core city out of 7308 planned homes compared to 2982 homes (8499 residents) in the fringe out of 5978 planned homes. That is a 10% increase in the total number of housing stock in the core city and 41% in the suburban housing stock in a mere 12 years. In morphological terms, built-up areas enlarged by 93 ha in the city and 450 ha in the fringe, a 10 km transition zone between urban and rural areas establishing 110 km<sup>2</sup> urbanised mono-centric settlement pattern. The fringe development is characterised by parcel-wise low density housing without a clear strategic planning at urban region level. As a result, the land use pattern in the suburban zone has become fragmented and patchy, chaotically built-up with detached houses delivering an average residential density in the fringe 40–70 in/km<sup>2</sup>. The latter is irrational and inefficient in terms of utilities, urban infrastructure and public services.



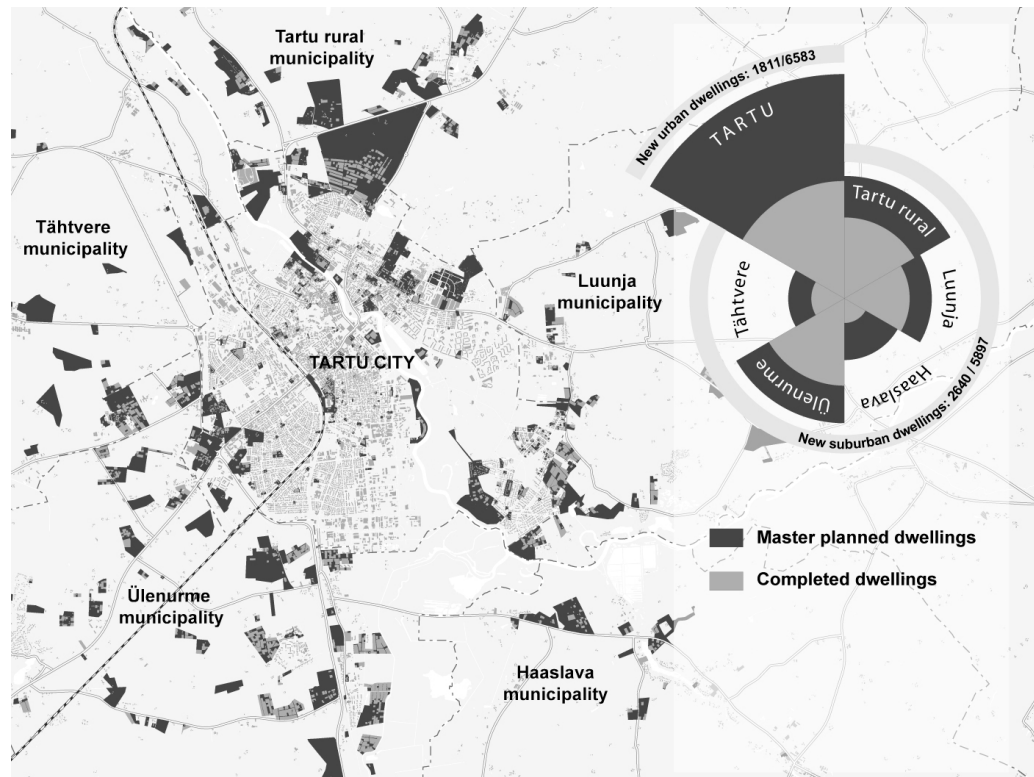
In the core city and surrounding fringe areas there is constant oversupply of development projects in the form of issued master plans. During 2000–2013, the every fourth planned and permitted residential plot was developed. In comparison, the development/construction rate of master planned plots in urban fringe is about 50%. The pace of adopting master plans for residential development at local councils has remained constant in recent years, but the pressure of initiating the plan is once again after recession on the rise. 5,700 dwellings in the core city and 2100 dwellings in fringe are to be developed. As a maximum limit of residential growth, the comprehensive plan of the Tartu city can theoretically in present densities accommodate more than 18,000 dwellings which could increase the core city population from 98,000 to 135,000 inhabitants. Given the economic and demographic trends, it is highly unrealistic. As development rate as well processing speed of plans is higher in the fringe, the core city continues to fade away instead increasing compactness which dominates the political rhetoric. The renovation of inner city neighbourhoods steers gentrification and increasing densities.

Figure 1 - New residential plots in Tartu urban region, 2000–2013 (in black).

Municipality: urban/ suburban	Adopted master plans	Master plan area (ha)	Planned residential plots	Completed dwellings	Not developed 2014
<b>Urban: Tartu city</b>	<b>233</b>	<b>441</b>	<b>6583</b>	<b>1811</b>	<b>4722</b>
Haaslava	36	117	495	78	392
Luunja	50	132	580	328	205
Tartu	87	268	1105	491	553
Tähtvere	36	80	262	92	153
Ülenurme	103	312	1735	856	766
<b>Total suburban</b>	<b>312</b>	<b>908</b>	<b>4177</b>	<b>1845</b>	<b>2069</b>

**Tabla 1-** Implementation of adopted master plans of residential development in Tartu urban region.

Forms of suburban development differ significantly from place to place and vary from greater and rather autonomous new settlements to individual projects of separate single-family dwellings. Inevitably, there has been some dilution of sharply distinguished uses, to create a unique landscape, interfacing town and country, labelled the rural-urban fringe. These areas have been created more by accident than comprehensive planning and design: less favoured urban uses such as sewage works, processing units, wholesale centres have been pushed away from residential areas. Like in most other European suburban developments, there is a clearly distinctive feature affecting suburban development in its early stage – due to an ongoing land restitution process there is a spatially continuous suburbanization along roads. A highly urbanized landscape is actually more homogenous and better-connected than a rapidly urbanizing landscape in the case of Tartu. In-fill development, which can help reduce patchiness, has been rare, though the degree of fragmentation is expected to be reduced through bigger residential developments.



**Figura 2:** Planned and developed dwellings (2000–2013).

## CYCLIC SEARCH FOR SUPPLY-DEMAND EQUILIBRIUM

At the operational scale, speed and scope of planning cycles have been lagging behind real estate business cycles, having different delays and strengths of path-dependence across councils. A profit-driven supply-side entrepreneurial intervention to planning of residential estates during the growth period put too much emphasis on delivery of quantity, rather than the benefits of residential quality and allocation choices, often overriding spatial logic and regulative frameworks. Extensive master planning has resulted in massive 'overbooking' of residential land parcels as only half of the planned development has been carried out in the suburbs and one quarter in the city. The discrepancy between master plans and the reality of urban development indicates that master plans in an uncontrolled environment are often too rigid respond to change, plus legal fixes, hence inappropriate in the context of rapid urbanisation and growth, as unexpected changes in economy, housing market and population are undermined.

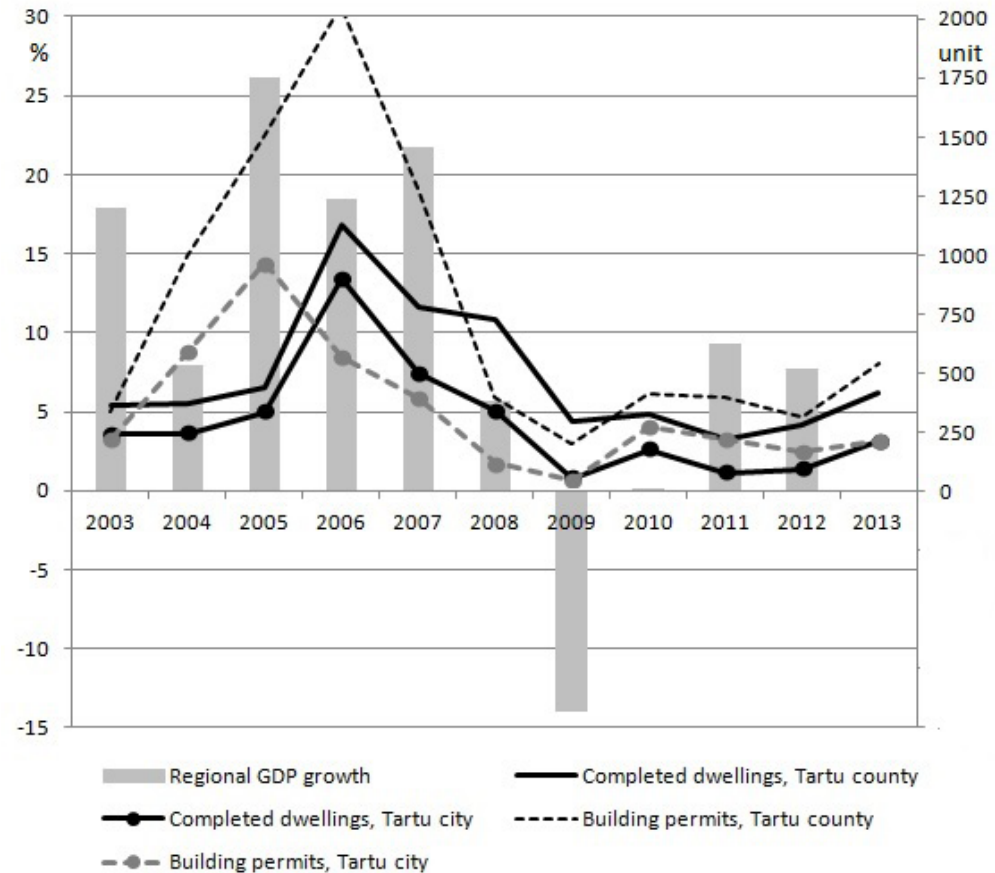
**Figure 3: Building permits and completed dwellings in relation to regional GDP change in Tartu city and county (Data: Statistics Estonia 2014).**

The impending economic recession since 2007 has opened up a phase of increased concern with environmental and social justice and equity in suburban planning. The shocking explosion of price bubble and the moves of financial sector to tighten mortgage lending have cooled the property market. Until 2013, many families were stuck in houses that are worth less than the mortgages on them. Slowing down of residential planning during the recession gave local

councils time to reassess the housing trends and streamline planning practices with tightening national level supervision, the adoption of comprehensive plans, land consolidation and cross-municipality thematic planning. The present land management regime, allowing separate agreement of municipalities with developers, promotes further losses of productive farm land, and causes further deterioration of the green network and environment. The old pattern of

rural settlement confronts the sprawl but, at the same time, municipalities would like to attract capital in housing investment.

The housing market in Tartu has been relatively stable due to the growing student population and the dominating public sector. As the market is rather small, it could be volatile by segments, the issue of affordable housing becomes acute. Short-term fluctuations are induced by investors' sentiment, the limited purchasing / borrowing



**Figure 3.** Building permits and completed dwellings in relation to regional GDP change in Tartu city and county (Data: Statistics Estonia 2014).

power and the completion of new dwellings. In latter case, the demand for new dwellings is saturated for 4–6 months. Up to one fifth of the new dwellings bought are buy-to-rent. The housing share of real estate market rose to a record 80% in 2013 which is explained by a weak entrepreneurship.

## DISCUSSION AND CONCLUSION

The Estonian case study of cyclic oversupply of residential development exemplifies hectic and volatile real estate market with few policy and planning instruments. It can happen in the conditions of liberal-conservative market ideology with modest planning. Land management remains biased between aggressive development pressure or unsystematic use. The results show that having uncertain urban growth trajectory with conurbanisation pathologies of fragmented decision-making with no specific planning instruments for urban containment and choice preferences, its manifestation in the housing market and local planning practices, call for a more strategic, integrated and participatory planning between core city and fringe municipalities. The planning 'problem is amplified by the economic recession in addition to inability and inexperience of central and local governments to buffer market fluctuations. The main reasons for excessive oversupply of residential developments are as follows:

- Legal framework is liberal in issuing planning and building permits.
- Moderate or non-existent intervention of central government and regional authorities.
- Long-term strategies and general plans are replaced by tactical and discretionary decisions of local politicians, pressurized by developers. Developers, investors and decision-makers in both public and private institutions are

increasingly under pressure to operate in short-term frameworks. The realization of planning projects becomes imperative. Masterplanning remains complex, bureaucratic, time consuming, and static. Aiming to increase the efficiency of planning, planning system attempts to streamline project-by-project decisions and to introduce the development 'flow', compromising quite often public interest. While adjusting legal and institutional framework for planning, adaptive role-setting for authorities as well as for plan-making expertise with a stronger emphasis on community and business needs is contemporary requirement.

To restrict further scattered residential development and plan-making for speculative purposes, the major step could be drafting a new comprehensive plan for the core city as well for fringe municipalities. The new plan should consider realistically demographic trends, declining student population, developments in education, health and service sectors dominating in Tartu labour market. The global economy means the urbanization and concentration of human capital. Tartu is faced with critical threshold in terms of its economic potential in globalisation processes.

Within the drafting county plan for smart, sustainable and cohesive development of urban region as, the residential growth zones should be allocated by housing forecasts of residential market and site quality, preferably in-fill mode. The de-concentration of the central city is generally a favourable circumstance, apart from the fact that it poses a great challenge to the administrative and planning capacity of the local government. Land consolidation could be an integrated part of a urban fringe development policy for densification and necklace.

The recession since 2008 has changed sharply planning practice as quality of planning and legal

enforcement has improved. Policymakers and developers demonstrate institutional learning and in developing and promoting land use planning capacities to intertwine the key actors of periurban development. The strengthening of urban region and dynamism in urban fringe is also another manifestation of soft planning as Allmendinger and Haughton (2009) discuss the new generation of "soft spaces" and "fuzzy boundaries" that characterize emerging political objectives within new relations, all of which are causing a changed agenda for planners and others charged with formulating territorial-based strategies.

Collaboration between municipalities of urban region is a key to strengthen and consolidate the implementation of county plans, as cases are to be solved on joint spatial developments instead of adopting a competitive approach to land allocations for residential development. A vertically organised political and financial system as well as eclectically designed legislation does not support cooperation and joint action between neighbouring municipalities. In broader context, the political process is related to amalgamation of local authorities within urban region. On the local level, the major issue is empowering local authorities to implement their comprehensive plans. In the case of suburbanisation, comprehensive plans adopted in late 2000s are already outdated. The concern with the efficiency of the planning system, the appropriateness of procedures and institutional arrangements for decision making need to be continuously addressed (RAAGMAA et. al., 2013). The 2000s express neo-liberal pragmatism and fragile inter-municipal cooperation on local level though there are signs of the transition from government-led to governance-led approach in spatial development policies and spatial planning.



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