Urban Sprawl and its Effects on Environment and Farmland a Timisoara Case Study

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Abstract

Urban sprawl has been plaguing Western European and American cities for the last 70 years. One has fought against this phenomenon all over the world with a combination of strategic planning and urban regulations, focusing on growth management, sustainable development and preservation of farmland. East European cities, Romanian cities included, have been rapaciously consuming the free natural and agricultural land around them, without long-term development policies. The aim of this paper is analyzing urban sprawl around Timișoara and finding efficient ways of economizing urban and rural land. The article is based on several urban studies, statistical and traffic data showing the magnitude of the phenomenon and its dramatic effects on the environment.

The European Union required to recent members to follow the path set by the developed countries, even if their economies have a system more or less centralized inherited from communism. It is still unclear who should be responsible for urban planning; the rules and regulations are made along the way, while the investors’ pressure is huge. Meanwhile extended rural and agricultural land might be destroyed. Most politicians do not acknowledge this problem as they approve further expansion into farmland without any previous planning. This paper might be just tackling this subject, but its target should be making urban sprawl more visible, understanding its dimension and dramatic effects around Romanian cities.

Keywords: urban sprawl, environment, strategic planning, agricultural land

INTRODUCTION

Urban sprawl could be defined as: “Low-density land-use patterns that are automobile-dependent, energy and land consumptive, and require a very high ratio of road surface to development served.” (Davidson, Dolnick 2004) The phenomena has been plaguing American cities from 1950s, it spread soon after in Western Europe and has been very present in Eastern Europe since the fall of the communism in 1989. To fight this phenomenon, the New Urbanism movement invented a set of terms like growth management, smart growth, and compact city, all of fitting under the sustainable development wide-umbrella.

All these theories and practices, which find their source in a number of post-modernist movements in the United States and Europe, emerged as a reaction to the often-brutal modernist ideas, including the uniformity of modern high-rise residential areas in the Occident after the Second World War. Due to these movements, the medieval European compact city was rediscovered. The writings of Robert Venturi, Rob Krier, Aldo Rossi, Jane Jacobs, etc. have spared thousands of American and European cities from modernist theories. Contemporary urban practice in Western Europe and US find a direct source of inspiration in these anti-modernism planning ideas.
Of these, perhaps the most important is the *compact city*, a movement which rose to the rank of urban policy in many urban agglomerations in Western Europe. This policy is fully compatible with contemporary discourses related to sustainable development and natural land conservation. To synthesize: densification within the city, regeneration of brownfields, and compact city development as opposed to sprawl, are nowadays most influential ideas in planning.

**MATERIALS AND METHODS**

No special materials were necessary for the present study.

This study is based on:

- Gathering documentary evidence
- Observation *in situ* of remarkable examples of urban sprawl around Romanian cities
- Application of new tendencies to specific sites in Romanian towns, in this case Timișoara, Dumbravita, Mosnita Noua
- Launching and guiding students’ projects on the topics of this paper.

**Urban sprawl- the subject’s relevance for sustainable development**

Western societies have been trying to correct the effects of urban sprawl for the last 50 years. This phenomenon, inexistent in Eastern Europe during the Communist central planning regime, has become extremely fashionable nowadays. Villages are torn apart, agricultural land is ruined and the historic and natural heritage vanishes every day, under the ignorant eye of local authorities.

Romanian cities raised and developed under the influence of a model or another. Whether it was the Central European medieval city, the Ottoman city, the Austro-Hungarian, the Parisian model, or finally Soviet planning, Romanian cities have flourishing, had had periods of decadence or development.

Paris was for a century an urban development model for cities in Moldova and Wallachia, as Vienna and Budapest were models for Transylvania and Banat. Because of this complex heritage, the challenge of post-communist Romanian planning will be to find a local suitable solution. This is more difficult in practice then in theory as Romanian leaders have a natural tendency to ingest without chewing first, certain regulations coming from Brussels.

**a. International tendencies**

According to a 2010 demographic report (Eurostat and European Commission 2010), in 2009, the average European age was 40.6, and in 2060 will be 47.9 years with consistent differences between Western and Eastern Europe. Immigration, in the context described above, seems to be the only way to rejuvenate the population. The European Union currently hosts about 20 million non-Europeans. 10 million Europeans live in a different country than the one they were born, and 5 million gained citizenship since 2001.

Out of the total EU population, 8% were not born in the country they live in, and 5% have at least one parent of a different origin. By 2060, a third of Europeans will have at least one foreign-born parent, counting up to 15% of the official labor force. In addition to these forms of mobility, another one should be added: a consistently growing number of young, highly educated Europeans move for a longer or shorter period of time from one country to another to find a job or to study (European Commission, 2009).

In 2008, 3.8 million people have migrated to or from EU countries, Romanians and Polish being the most mobile Europeans, and Moroccans, Chinese and Indians, the most mobile non-Europeans. Germany, Spain and the UK host 53% of these immigrants. While the average age of the European Union in 2009 was 40.6 years, the average age of immigrants was 28.4 years. (Eurostat and European Commission 2011)

A 2009 UN Habitat report (Hirt, Stanilov, 2009) reveals that in the next 20 years, Eastern Europe will be the fastest aging region in the world. The same study detects that the region will suffer from the fastest recorded population decline due to aging, decline in birth rates and emigration. With an ethnically different and aging Europe, one might raise the question of how to build the cities of tomorrow.

How do we prevent from ruining the last villages in Europe? According to a study by the European Commission (2010), in 2050 more than 70% of the planet will live in cities, while in Europe the percentage is even higher: 83% (i.e. 557 million Europeans).

In Eastern Europe, beyond specific local traditions, contemporary planning has some common features. *Laissez-faire* planning blossomed, after the collapse of communist centralized system. In
Romania and other former communist countries, the Urban Law delayed nearly 10 years, during which time there have been dramatic changes with a huge impact on the city and agricultural land. For nearly 10 years, the General Urban Plan remained the only tool to control urban planning. Without support from the Central Government, without a clear land ownership scheme in the city, without strong legal framework, the authorities found themselves defenseless against real estate speculation and the so-called investors. In Sofia, for example, even before communism, a non aedificandi area was established in order to build the city’s Ring Road. After 20 years of transition and incoherent building in this particular area, this strategic goal will be difficult to fulfill.

Lack of funds, corruption and uncertain legal framework, a shortage of specialists in public institutions are only few of the reasons why planning in Eastern Europe is not done by the books. This situation has led to the fact that in Tirana, 25% of post-communist housing is illegal. In Belgrade, the situation is similar, in 1997, 50% of the houses were either illegal or under legal technical standards. As one can neither ignore these houses, nor demolish them, they are often legalized post factum. (Hirt, Stanilov, 2009)

Citizen involvement and public outreach is something new in the East. After 45 years of urban strategies dictated from the Center, it is not easy for local authorities to engage with citizens or for citizens to feel at ease with their local politicians. For many Eastern Europeans the Government still holds an oppressive communist-era stigma. Perhaps one of the most serious problems in the management of urban space is that, unlike the West, Eastern, citizens do not perceive public space as a common good and do not feel responsible for its maintenance.

Spontaneous sprawl, sometimes informal and illegal, although found in some areas of southern Europe as well, is widespread in the East. For example, between 1990 and 2000 the Bulgarian Black Sea shore was flooded with illegal hotel buildings. Their legal status is not clear in certain cases, until today. (Hirt, Stanilov, 2009)

b. Urban sprawl’s environmental effects
Case study-Timisoara

In Romania, for the last 20 years, cities with over 300,000 inhabitants have had significant population losses. In these circumstances, paradoxically, urban areas have increased in all major cities.

During communist The Local Planning Institute, designed plans for the city, while the chief architect, the most influential planner on local level, was involved in their approval. Today, the Chief Architect has the prerogatives of approval, but lacks the ability to make plans and strategies. Only private architecture firms do planning in the city. The local authority is unable to design its city’s strategy. This practice opened the doors to a highly speculative practice of public auctions.

Lack of professionals in public institutions to deal with strategic planning in Romanian is very dangerous in long-term development. Meanwhile the cities expand; natural areas vanish, traffic increases and green spaces disappear. In addition, due to flawed legislation designed after 1989, in an attempt to reconcile a system practiced for 45 years with massive investment in new construction, private Zonal Plans can change the Urban General Plan, the main local planning tool. This type of derogatory planning worked perfectly under communism when changes were relatively rare and controlled. Now that every homeowner can do their own Zonal Plan, changing regulations, an alarming situation appeared. Municipalities found themselves with hundreds of amendments to the General Plan making it almost unusable. In 2008, due to a government decision, O.G. No. 27/2008, the process was slowed, but not set.

c. Historical and prospective view

In its current form, Timisoara developed from the Hapsburg conquest in 1716, which erased the Ottoman urban fabric of the previous 200 years. After, Timisoara found itself under Austrian, Hungarian and finally Romanian administration in 1919. The city tripled its population and expanded its boundaries during communism. Timisoara’s current form developed from the construction of a Vauban citadel under Hapsburg authority. This determined the city’s central historic center, and the radial urban development. The citadel was the military and administrative center for the other historic neighborhoods: Iosefin, Fabric and
Mehala. Together, these historic neighborhoods comprise the largest protected historic zone in Romania.

After 1989, the city started to sprawl. After 45 years of collective housing, for Romanians, the suburban home was a symbol of personal freedom. 20 years later, the dream turned into a nightmare for the city's sustainable development. The villages surrounding Timisoara started to sprawl, growing up to 5 times in surface. Timisoara's most conflicting situation is with Dumbravita, a village on the northern side of the city on the road to Arad and Hungary. Since 2002, the population has doubled with people from Timisoara who build a house in Dumbravita, but continue to work and go to school in Timisoara.

RESULTS AND DISCUSSIONS
Timisoara's outskirts- The Dumbravita Study Case
Teodor Gheorghiu (2009) notices the fact that in the Banat region, between 1770 and 1860, although the population increased five times, the villages maintained their former limits. Nowadays, Timisoara and other cities expanded regardless of population losses. Although Dumbravita increased in population in the last 10 years, the extension of its surface five times, approved by the townhouse, has no logical reason.

In 1991, Timisoara was the first Romanian city to design a post communist urban general plan (PUG). In this strategic document, the planners envisioned a Garden City development for Dumbravita. They have designed a lake near

Fig. 1 Proposed development for Dumbravita, Timisoara Urban General Plan, 1991

Fig. 2 Proposed development for Dumbravita, Timisoara Urban General Plan, 1998
Fig. 3 Proposed Development Plan for Dumbravita, where the scale of the proposed expansion is visible, 2004. In white the former limits of Dumbravita village.

Fig. 4 A current view of Dumbravita’s sprawled development. In a white line the former limits of the village, in light gray the current ones.
Fig. 5 Proposed Development Plan for Mosnita Noua (delimited with a white line, the physical borders of Mosnita Noua and Mosnita Veche)- expansion of city borders with single family residential neighborhoods, consuming all existing natural and agricultural land.

Fig. 6 Mosnita Noua’s sprawled development today. In a white line the former physical limits of the village, in light gray the current ones.
the Green Forest and several green belts around
the main county roads. 20 years later, the current
PUG shows a leap frog development, and a 5 times
larger build territory of Dumbrăviţa.

This type of urban development is prob-
lematic not only for Dumbraviţa but also for
Timisoara. The Dumbraviţa townhouse is unable
to develop roads and other utilities for the newly
built neighborhoods; the price for all this new
development exceeds the local budget. Since
Dumbraviţa is just a small village on the outskirts
of Timisoara, it is unable to offer proper jobs,
educational and medical facilities; therefore, many
people move everyday between Timisoara and
Dumbraviţa. The vast majority, use their personal
car increasing the traffic on the northern part of
the city.

A similar situation is taking place in Mosnita
Noua, another village on the outskirts of
Timisoara. We notice the same type of sprawl, and
the local authority’s intention to transform the
vast majority of the agricultural land into build
land, without any regard to the environment or
the local economy.

Proposals - the need for a metropolitan
strategy
Timisoara has had a number of attempts to
initiate discussions with Dumbravita and build
a metropolitan-like association between the city
and the surrounding villages. After 2007, in order
to be able to access European funding on the POR
Axis I, such an association was created between
Timisoara, Dumbravita and other 14 villages.
Unfortunately, this association’s sole purpose was
to access funding, it does not actually work.

From time to time, representatives from
Dumbravita and other surrounding villages meet
for strategic discussions with Timisoara regarding
roads, traffic and utilities, a great concern for
Dumbravita city hall. The issue of sustainable
neighborhoods is rarely in discussion.

Private
developers draw plots and design roads, without
having any responsibility and aiming maximum
profit by selling the plots. As long as the Urban
Law allows this practice, sprawl will never be
controlled.

Some serious issues must be solved:
• The metropolitan area association should be
in charge of designing the new developments,
tracing the new roads, deciding when and how
the villages around the city should be expanded,
avoiding leap frog developments
• A great neighborhood design example is the
Rozelor area, an area developed after the First
World War in Timisoara, on the former non
aedificandi space required around the walls of
citadel. After the demolition of the citadel, a new
neighborhood was envisioned. The Rozelor area
is probably one of the best examples of planning

Fig. 7 Ybl map in 1893 with the first proposal and maps with the newly build neighborhood
from 1920, 1941, 1970, 1998, and a current Google Earth map
in Timisoara, and could be an example of good design practice for the City Hall of Dumbravita and Timisoara. In the maps below, we see the proposals for the area since 1889, and the wonderful garden street-villa neighborhood created:

• The local administrations, in a coherent metropolitan association, should be in charge of developing their own territory. The practice of Zonal Plans (PUZ) developed by private investors should be banned.

• With long term (15-25 years) strategic planning, one can foresee how Timisoara and all surrounding villages should grow. Dumbravita has no roads and no utilities. There is only one access road, passing through the village centre, which collects all the traffic. Growth management lacks. The local authorities of Dumbravita have as main concern to build houses on the former agricultural land, even without paved roads, water supply and sewage or public lighting. The growth of villages like Dumbravita should be controlled by the metropolitan association as it affects the future development of the city of Timisoara as well.

CONCLUSION

In the vast majority of urban planning literature, the increasing traffic, the destruction of natural land and the spending of local budgets on utilities are listed as some of the biggest problems urban sprawl is causing. In Romania, villages on the outskirts of big cities also consume agricultural land.

The two case studies of Dumbravita and Mosnita Noua are very relevant. For these two villages, the Local Development Plan envisions the extension of the boundaries up to almost 5 times, regardless of agricultural land or existing orchards. The problem with this urban thinking is that instead of trying to find a balance, or plan gradual growth according to population growth, wants to transform all their administrative land into build land.

It is a well-known fact that the Banat Plain has some of the most fertile lands in Europe, and building them without any strategies with single-family housing it is unsustainable and detrimental to the national economy. That is the reason why a national strategy to prevent sprawl and preserve not only some of the most fertile agricultural land in Europe but also the Romanian villages with their unique urban tissue and historic heritage should be developed.

If there is something that Romania has to offer to the world it is its rural heritage. Because of post-communist sprawl and population losses, a significant part of this heritage is irrecoverably lost.

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