Urban Sprawl in Estonia (EU)

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Estonia is a small, relatively sparsely populated state in North-Eastern Europe. The republic was formed in 1918 after centuries of German, Swedish and Russian rule. Estonia was under Soviet and Nazi occupation in 1940-91. Since the end of Soviet occupation Estonia had a remarkable success both in economic, social and political progress. With the westernisation also the “Western” troubles started. In spatial development one of the main concerns has in last decade been urban sprawl which is directly linked to another major problem – increasing use of private vehicles for transport. As an example for the distribution of residential areas close to a larger town we have taken Tartu rural municipality which is situated just north of Tartu town, the second largest city in Estonia.

Before WWII Estonia was largely a rural country. People were mostly living in small farms and were occupied with agricultural activities. Landowners had manor houses. The farms did not form populous villages but were scattered around in the landscape. A few villages had houses in a row (fig 2). Most densely populated were the areas with high fertility soils, in wetlands and forests there were only a few inhabitants.

Towns started growing in the 13th century, but urban population did not exceed 25% by 1897. 37.4% in 1922 [1]. During the first period of independence in 1918–40 the government promoted agricultural production. Large estates belonging to German-speaking landowners were divided up into smaller farms and many new farms were established. By 1940 the rural production as well as the number of farms reached the highest level (fig 3). At the same time urban population grew slowly – in 1934 lived 31.3% and in 1939 33.0% in urban areas.

After the Soviet occupation in 1940–41 and 1944–1991 the traditional way of living was destroyed – farms and manors were dismantled and people were forced into collective farms (kohtus). In addition many people were deported or fled the country to the West. The agricultural production decreased considerably (afterwards the agricultural output grew again thanks to mechanisation) and many people moved from countryside to the towns. The increase of total population after WWII was based almost exclusively on immigration from other Soviet republics, especially from Russia, Ukraine and Belorussia. The number of native Estonians has stayed on the same level as it was before WWII. Still, the overwhelming majority of rural population are native Estonians.

The Soviet system of spatial planning was based on W. Christaller’s Central Place Theory and relied on urban and rural centres of different level of importance – capitals, county centres, regional centres and collective farm centres. At the same time heavy industry and specific branches of light industry were encouraged in larger towns and in new industrial centres, mostly in North-Western Estonia. All these measures lead to fast urbanisation – by 1990 urban population reached 56.4%, in 1970 45.5% and in 1989 71.5%. Rural population was gathered in agricultural centres of urban character, which were established close to large complexes of collective farms (fig 4). The number of single farms decreased dramatically.

In the Soviet period urbanisation meant mostly the building of stately financed apartment blocks in prescribed centres. Private one family houses were allowed but not encouraged as well as public transport was preferred over private car use. Thus the urban sprawl in Soviet period did not mean the spreading of suburban private houses around larger centres as it happened in the Western Europe and in USA. Wasteful and poorly organized land use still resulted in considerable loss of previously agricultural or natural land to urban structures. Compared to other European countries Estonia had still a lot of naturally looking landscapes in 1990s [2].

In the Soviet period the spatial planning was organised centrally through a state planning institution. The popular opinion was not taken into consideration and land usage was taken in use according to institutional and political needs. This resulted in many irrational outcomes where e.g. 5–story houses were raised in the middle of the fields. On the other side the system could preserve natural and agricultural land close to urban centres which would have had high building value in a market economy. Since Estonian coastline was the western border of USSR, whole coast was bordered by military fortification and military installations. Any building without special permits was prohibited. The rigid control kept coastline free of residential areas and summer houses.

After the end of Soviet occupation in 1991 the development has turned more to Western-like direction. The use of private cars has exploded and new residential areas have been established around larger cities – mostly Tallinn, Tartu and Pärnu. As a reaction to Soviet planning economy many considered spatial planning superfluous at all. People relied mostly on their own efforts and freely decided where to build. Even though a spatial planning law was passed in 1994 the planning system did not function properly. One side there was a reluctance of people to deal with planning, on the other side the local municipalities were not prepared to take the responsibility for spatial planning. The situation has improved in recent years and planning is serving often its purpose not done only to fulfill the law requirements.

Right after liberation the living standards were very low – the old planning economy had collapsed and new market economy did not function fully yet. Therefore not many new buildings were erected. The welfare increased towards the end of 1990s and today even an average family could afford a private house if they preferred to do so.

Since the end of 1990s the urban sprawl in the sense of Western tradition has taken place. The tendency has increased continuously. New residential areas around larger towns are laid out close to the town boundary and along main roads (fig 5). Two primary effects of urban sprawl are the loss of agricultural land, half-natural pastures and forests and speaking of landscape scenery. As we may observe most new residential neighbourhoods are located on previous fields which surrounded towns’ built-up area (fig 5). The biggest pressure of landscape consists of fields and forests dotted with single farmhouses has been replaced by urbanised land use – paved roads, single family houses, fences, street illumination etc.

In addition has urban sprawl numerous side effects of which many represent a negative and even dangerous development. The most evident one is the widespread use of private vehicles which in turn creates need for great investments in road facilities. The increased use of fossil fuel pollutes the nearby environment and may even put in danger the global climate balance.

Up to now the urban sprawl in Estonia has not affected the whole society. The magnitude is relatively small – Tartu town has “lost” to the surrounding rural municipalities ca 2...6% of its population (fig 6 and 7). Similar numbers, somewhat higher apply for Tallinn and somewhat lower apply for Pärnu and Kuressaare (biggest town on the island of Saaremaa). The rest of the country does experience only a few cases of serious urban sprawl.

Even though the phenomenon of urban sprawl has not yet given large results, the processes are quite evident both when observing the changes in the landscape and the increase of motorised traffic. According to UN forecasts the amount of urban population in Estonia will grow from ca 70% today to 75% by 2025 [3]. If this growth takes place in suburban areas, the changes in both natural and social environment would be remarkable and potentially harmful. Therefore the reasons for and the effects of urban sprawl have to be clarified more thoroughly. Thereafter we may apply appropriate countermeasures to realise non-wanted results.

Facts about Estonian Republic:

Area: 45 227 km² (the Tartu Peace Treaty of 1920 defined 47 549 km²)
Population: 1,207,655 (July 2000 estimate)
Inhabitants per km²: 29
Land: 88.6% of total; population 72.6 years.
Male 67.2 years, female 78.3 years (2008 est.)
Climate: moderate winters, cool summers
Terrain: marshy, boglands; flat in the north, hilly in the south
Highest point: Suur Munamägi 318 m
Avalad: 12,000,000 (2004), Spread: ca 50% of land area
Member of European Union since 2004

2) Estonia: Estonia Academy of Arts 2005
5) Jachimowicz, Jozef S. Limnogeographic (Urban Geography). Estonian Academy of Arts 2005
6) Bennett, Lilja. Laidudestumine Tartus Covid-19 ja pandemias. Tartu University of Technology, Tartu College 2020
7) Zamanzhanov, Oleg. City of Twentieth Century. Tartu College 2020