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Can we improve a Soviet city: Strategic Environmental Assessment of the Master Plan for Narva in Estonia

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Abstract

We studied the Narva city (North-East of Estonia) master plan with the aim of finding new strategies for using the ruins of a Soviet city and industry for the development of a modern city. Narva is a point of transit between Russia and Tallinn harbor, the Russian border is in the middle of the city, Saint Petersburg with a population of 5 million is only 130 km away. The industrial potential is still attractive for investment and industrial development. Developmental problems of Narva are connected with old infrastructure and housing. The city was destroyed during the Second World War; today, 95% of the housing consists of typical soviet block houses which will need basic renovation during next 20 years. There are no attractive residential districts and apartments available in Narva. Income of the local specialists is rising rapidly, 300 top-managers are for the most part living in other cities and they only visit their working places. The objective of our study was to improve urban environment, structure, and buildings of the Soviet city with the new master plan. First, we analyze and evaluate the present situation, focusing on residential areas, the transportation network, and the urban center. Thereafter, we describe the planning process and results with the aim of showing how the Narva master plan can solve the problems of a Soviet city.

1. Introduction

In the beginning of the 1990s, the Soviet system collapsed, and the eastern European countries regained their independence. Estonia was one of these countries which started to rebuild the whole country - the political system, the economy, industry, cities etc. One of the hardest things to change is a Soviet city which we define as a city that was left behind by the 50 years of Soviet rule. The *Soviet city* was planned to support industrial plants, industry was planned after availability of energy, raw materials, and transportation infrastructure. Human resources (labor), apartments and transportation network were secondary, and infrastructure, recreation and services for habitants were

tertiary considerations. A typical Soviet city had a relatively well-developed public transport network with the aim of transporting people between apartments and industrial areas. There was no concentrated city center with urban space - such as shopping and cultural centers, services, restaurants, hotels and places to go out. The few public services were de-concentrated to sleeping and industrial areas.

Narva is a typical example of the Soviet city. The most characteristic things to Narva (and to all Soviet cities) are apartment blocks and unidentified public space between them. Now, these 30-50-year old blocks are falling into disrepair and planners are confronting a dilemma: whether to repair old ones or demolish them and build new houses. But the state of disrepair of the apartment houses is not the only problem of the Soviet city. Public spaces between apartment houses create a perfect place for crime that is also magnified by the homogeneity of the city structure (Ekblom 1997). The functional zoning of a Soviet city was planned by industry, not by human needs (Alden et. al. 1998). Now, the human needs are more important than industry, and there is a growing need for good apartments, places to work, services and recreation. There are no attractive residential districts and apartments available in Narva, this problem is similar for most of Soviet cities (Kährik 2000). New planning that was done together with SEA had solutions to several of Narva's problems. But discussion of planning methods is going on - are there any other possibilities to change the Soviet city to be more diverse and fit to human?

The main objective of our paper is to find out whether we can improve urban environment, structure, and buildings of a Soviet city within the case study of the Narva master plan. First, we analyze and evaluate the present situation, focusing on residential areas, the transport network, and the urban center. Thereafter, we describe the planning process and the results with the aim to show how the Narva master plan can solve the problems of a Soviet city, as listed above. We focus on the issues of reorganization of the urban environment, transport network, apartment block areas, and strengthening Narvas' public safety. We also study the project of rethinking and creating the city center and of high-quality residential areas. As the planning process included strategic environmental assessment, we bring out the differences in planning and SEA process in post - Soviet countries and western methodology.

2.The city of Narva and the new master plan

2.1. Historical development

History of Narva and its geographical position Narva is located in the North-Eastern Estonia, on the left bank of the Narva River, at the Russian - Estonian border. The Narva River has been a historic boundary between the Catholic/Lutheran and the Orthodox world for more than 700 years. Narva is one of the oldest towns in Estonia and the Narva River has been a historically important trade route; Later, the trade route from Tallinn to Petersburg was used, crossing the Narva River, and close to the place where the route crossed the river, a trade settlement sprang up and was granted town status in 1345 by the Danish king Valdemar IV Atterdag. Medieval Narva played an important role in the trade system of the Baltic trade that had been formed under the Aegis of the Hanseatic League and the German orders. By the XVI century, Narva had an important role of an intermediary in Russian-European trade relations. Narva was also a military frontier outpost, a town-fortress. During centuries there were different masters - Danes, Germans, Swedes, Russians and Estonians. In the XIII century, the Danes started building Narva Castle on the bank of Narva River. Narva Castle and Ivangorod Fortress form a historical and architectural ensemble of European importance. The old town of Narva was built in the XVII century after its predecessor had perished in fire; only stone constructions were allowed in the reconstruction. Architects from Germany, the Netherlands, and Sweden took part in designing the new town. Local elements and elements of the Baroque style that were typical to architecture of many northern European countries merged there. Also new system of streets was constructed in E. Dahlberg's project. In the Northern War, Narva and the rest of the Estonia were captured by Peter the First's forces.

In the XVIII and XIX century Narva developed into a powerful industrial center of Estonia. In 1870 the railway was built which created new opportunities for trading. At the end of the XIX century, the Kreenholm Manufacture was built on the cascades of the Narva River and it became one of the largest textile factories in Europe. Kreeholm Manufacture was established as an integral little town which had not only production facilities, but administrative, dwelling and a social complex as well. The development of Narva into an industrial center in the XIX century and in the first half of the XX century didn't affect the historic center. During the Second World War, in 1944, the Old Town and most of Narva were destroyed. Only Narva Castle, Narva Town Hall, Kreenholm Manufacture, and some other historical buildings weren't demolished. In 1944 the Soviet regime divided Narva into two parts - Narva and Ivangorod. Estonia with Narva became part of the Soviet Union.

2.2. Genesis of the Soviet city

In the Soviet Union, town planning was not a free-standing administrative system in the way it is understood in the West; rather, it was a component of the Union-wide economic planning system. In this scheme, town plans had to "nest" within the overall economic plan, and the requirements of economic planning developed into land use proposals along with planning and construction standards or "norms". Therefore, the driving force in plan preparation was not only the local perception of needs for residential, industrial, and other developments, but also the overall planning of the Union and the individual republics (see Alden et. al.1998). After the city was demolished in World War II, the town planners started to reconstruct it by the new planning system, and mining of oil shale near Narva was started. Two thermal power plants were built near the town and were fuelled with oil shale. Next to the Kreenholm Manufacture were built a furniture factory, a construction materials factory and an engineering plant.

The growing industry needed labor forces and thus, the resulting inflow of labor forces resulted in the need for cheap housing. Large districts of apartment blocks appeared in the southern, western and northern parts of Narva. So instead of reconstructing the Old Town, apartment blocks were built. Apartments of Stalinist-style were built in the central part of the city in 1940 and 1950ies, all together 5% of housing. One of the most unique styles of apartment blocks is "Khrushchevka" (after Nikita Khrushchev, the First Secretary of the Communist Party at the time) that were thought to be the most economical design that time. There were flats in a rectangular five-store block without lifts in the "Khrushchevka". Unfortunately a number of these flats were built not only at the expense of space standards, but also of construction standards. The amount of the "Khrushchevka" houses in the central part of Narva is about 20%. Today, these 30-40-year old houses suffer from many constructional problems (Alden et. al.1998). In 1970ies and 1980ies the apartment block standard was renewed with the addition of square meters and rooms to the apartments. The houses of that type were built of standardized concrete panels. Most of Narva's houses (67%) belong to this type of buildings. They have problems with bad quality of building materials. Especially dangerous is the low quality of construction concrete. Only 5 % are family-houses and 3% are historical Kreenholm factory apartments.

As the buildings of Narva changed from Baroque style into soviet style apartment blocks, the population of Narva also changed - from Estonian into Russian population. While in 1922, 67% of Narva's population were Estonians, in 1989 there were only 3% Estonians and 93% Russian-speakers. By the 1990ies, Narva had changed from a historical Estonian city to an industrial Soviet city with Russian-speaking population (Tammaru 2000). 96% of people live in similar apartment blocks with similar room planning. There is no historical center and very few suburban residential areas, large industrial areas with two thermal power plants in southern part of the city. There is a lack of apartments and of offices of various quality. The city has become one homogenous system.

2.2. Present day problems and the new Master Plan

In 1997, the contemporary planning process was started and in end of 2000, the final version of new Master Plan was ready but not adopted by the municipal council. The new Master Plan was developed together with strategic environmental assessment. It was based on current European and Estonian laws of planning and environmental assessment. The planning process was started with the analysis of the present situation and determination of factors that play an important role in the development of Narva. Subsequently, the planning focused on how to strengthen these positive factors. Thereafter, the strategic vision of the city was worked out: Narva as a Network City i.e. strategic planning, based on a network of spatial relations, which form between areas of related functions. This planning strategy is the best for that kind of city because it enables dynamic planning and monitoring changes. Most of the city's crucial problems have found solutions in this planning and obviously they are the most realistic in today's Narva. Because of the new methods of city planning, the scale and depth of the changes, there are still many discussions going on and problems to solve, and for this reason the city council did not adopt plan yet. Social problems are intensified by cultural and national problems. The local population, being ca. 93% Russian, is mostly not concerned with Estonian issues and development. Many people have relationships only to the Russian side or do not like to be disturbed by "government". This lack of public activity and awareness makes planning and SEA processes more complicated. One of the most important issues in the new master plan for Narva is its transit function as a "window to Europe" for Russia which results from its location on the Narva - St Petersburg -Viborg line. This situation implies advantages as well as problems. At the

same time, because of the location on an isthmus between lake, sea and wetlands, there are not many alternatives for bridges to cross the Narva river.

A number of transit lines - train, road, gas, electricity, and communication- go through the centre of the city. This has a great potential for development but at the same time involves many risks to the population. Intensive traffic also causes air pollution and noise. Five alternatives for transit are under consideration. All of these five alternatives had their pros and cons, but the analysis showed that the best alternative was A as there is enough free land near the railway, and this improves the structure of Narva. Alternative B was unacceptable to the Russian side. Alternative C would draw off the attention from the city centre. Alternative D passes through residential areas. The main argument against alternative E was its cost. The second problem for Narva city is that there are no good residential areas. The overall living standard is low and living conditions are not very good. A major shortcoming of the Soviet City is the homogeneity of residential areas and there were no private houses or good apartments planned in the city. At the same time, there is a need for good houses and apartments. The income of local specialists and businessmen is rising, and there are more than 200 specialists from Tallinn and abroad employed in Narva, but they do not stay there because of the living conditions. At the same time, 40 year-old apartment blocks suffer from rising damp and constructional problems. Quite often three generations live in one three-room apartment. Besides that a huge area of block buildings, including their stairways, is open 24 hours for every visitor. This creates public space, which has no private place. This space between poplar trees and iron garage-boxes has no borders, name, or special function. There are also many industries in the city centre and large industrial areas in the southern part of the city. Many industrial buildings are abandoned and, thus, a perfect places for criminal action. Districts of apartment blocks with no structure and no private place between them and abandoned industrial buildings have created many social problems - children have no place to play, unemployment is increasing together with criminal activity, and narcotics have become an enormous problem together with the spreading of AIDS. In the summer of 2000, AIDS became epidemic in Estonia. It started to spread among drug users. If in 1988-1999 there were only 96 HIV positives in Estonia, then in the end of the 2000 there were already 425, and in the first half of 2001 about 800. About 70% of Estonia's HIV positives live in Narva and most of the affected are 18-24 years old. The reason why narcotics are so popular among youngsters may be partially because of lack of jobs, identity, and places

to spend time. One big task of the new master plan was to create a center for the city, and to develop social infrastructure and services in mono-functional residential areas. It is not an easy task to reorganize this space between houses and there are many opposing views. According to the new master Plan the one solution to this problem is the "sandwich method". The term stands for the creation of polyfunctional urban space that is expressed in multi-storey buildings where every storey can have a different function. As a rule, the ground floor is in public use (services) and higher storeys are residential. Polyfunctionality of the urban space enables day-and-night use of the space and reduces significantly inner traffic of the city. The second solution for reorganizing those residential spaces between houses was the local model of a "linear city" by rows of buildings near main streets. This reorganises transportation scheme, network of green areas, services, and gives chances to create closed spaces for habitants. Every single slice of the linear city contains industrial, residential, entertainment, or business etc. uses. If you walk perpendicularly through these slices then all functions are within walking distance from one another, which is extremely efficient. More important is that linear zoning enables to give different functions to a homogenous city. With function there is identity and possibility to reduce the amount of public spaces.

3. SEA of Narva's master plan

3.1. Planning and SEA processes

Process of SEA - its possibilities and peculiarities Together with new town plan, SEA was carried out. SEA is a systematic process for evaluating the environmental consequences of a policy, plan or programme, and it should be more flexible than EIA (Petts 1999; Lawrence 2000). SEA should be integrated in the planning process and so was in the case of Narva. The main objective of SEA of the Narva master plan was to contribute to the process of planning and finding the best solution with existent materials and data. The whole process of planning and SEA was done, based on valid Estonian legislation (Order on Environmental Impact Assessment (1992), Order on the Methodological Guidelines for Implementing Environmental Impact Assessment (1994)). The legislation for EIA and SEA come from the western world with different experiences and social development. In the western world, it took tens of years to develop legislation and reach a modern level. In Eastern Europe, those translated and implemented laws do not meet public understanding, and even officials do not understand all aspects of "process", "awareness" etc. The issues with participation and

public discussion are very problematic in our transitional society. Of course, the western practices show a similar tendency, that it is not easy to involve the public, but in Estonia and Narva it is a real problem. Firstly, the public is not interested, and the administrators do not understand the methods for organised meetings and how to involve people. Only in cases when there are business interests, do the interested bodies try to organise opposition or collect signatures with non-legal methods. The SEA of the Narva master plan can be divided into the following stages:

- 1) Making an environmental and social review - was difficult to collect and organize all existing data. The description of the present situation and identifying key factors is complicated because of different formats, methods and languages used during Soviet years
- 2) Assessing environmental impacts of planning alternatives - assessing alternatives and proposing new ones, working out mitigation measures. The difficult part was to find cooperation with other participants in the planning process and in understanding each other. It was very difficult to explain that planners and their alternatives are not in opposition to administrators and businesses, but they have to help them.
- 3) Assessing environmental impacts of the final version of plan – working out mitigation measures, defining additional conditions of plan implementation, and taking part of working out an implementation plan together with all interested bodies.
- 4) Finalizing of a SEA report and integrating it with the master plan document. Participating in public discussions: All presentations were very successful in that administrators and interest groups understood that they have to change. Thereafter started the real discussion with political games and active opposition to planners and alternatives. This was the stage where the actual interest started and during next rounds of discussions will be cleared development visions for Narva.

SEA was done to all the planning proposals:

- 1) Transport system - the best solution to the transit problem was re-routing transit from Tallinn Street to go in parallel with the railway. Creating a network of roads for pedestrians and bicycles was considered to have a positive environmental impact. Development of river harbours is important for

improvement of local and international navigation, and this doesn't have a significant negative environmental impact.

- 2) Residential areas - SEA enables to improve the quality of life in residential areas. Polyfunctionality was found to reduce the need for transport and therefore mitigate air pollution and need for parking places. It is also reasonable to concentrate the existing residential areas and to improve their quality.
- 3) Business areas- The main issues in SEA were possibly increasing traffic and the resulting conflicts (lower quality of environment, social conflicts). Polyfunctionality can mitigate these impacts as it was in the case of residential areas.
- 4) Industrial areas - environmentally safe industries allowed in the city centre. That enables more effective use of urban space. Industrial areas are reasonable to plan in the southern part of the city where there is enough suitable land and no residential areas. Concentrating industrial areas into one point permits to minimize negative impacts connected to building transport system.

Safety as one of the key issues - It is obvious that the results of urban planning and architecture do influence the behavior and feelings of all people. Hence urban planning also has an impact on crime and fear of crime (Ekblom, 1997; CEN/TC 325/WG 2 N 122). There are large districts of apartment blocks and abandoned industrial buildings - homogenous, open to everybody, not enough light at nights, no identity, and certainly not safe. Growing criminal activity is becoming a major problem in Narva. There is no actual city centre, residential areas are very open to public and have no privacy, and industrial areas are mixed with residential areas. There is no actual zoning in the city, and you can easily drive through the city without noticing any change. This openness to public and lack of privacy increases the feeling of insecurity, and that can be reduced by urban design. Yet, how can it be done in districts of apartment blocks in Narva? There are many possibilities which are not integrated into master plan yet: Showing the borders between public and private spaces; decreasing the number of people using an entrance to a building; improving the lighting; decreasing isolation, especially in industrial areas (CEN/TC 325/WG 2 N 122).

3.2. Demolishing versus renovation

There are many aspects that need consideration when pulling down or renovating the Soviet City, and both variants have their pros and cons (Table 1). The final decision depends on the life expectancy of the buildings and their constructional defects, financial recourses, and social needs.

Table 1. Comparison of renewal methods for block houses of Soviet city

Action	Positive aspects	Negative aspects
Pulling down	1) Is less expensive than renovation, but requires large amounts of money all at once	1) Requires alternative living place until new houses are built (can be mitigated by acting gradually)
	2) Pulling down permits to plan a totally new city	2) Many people do not like to change home because of spirit of home (memories, friends etc)
	3) New houses can be built following the constructional requirements and people needs	3) Many people like to live in cheap apartment houses
Renovation	1) Enables to renovate when financially possible (especially important in developing countries)	1) More expensive than pulling down
	2) People don't have to leave their homes	2) It is impossible to fix all the constructional defects
	3) Spirit of home (memories, friends) remains	3) Can't change outlook and living standard of existing houses

In the case of Narva, the social aspects are very important. The majority of Narva's population has lived their whole life in apartment blocks and they even can't imagine a life different from this. Even the fact that many generations have to live in one apartment doesn't bother them. They actually stick together very strongly. As for the constructional aspect, of course the quality of the apartments is declining every year - rising damp, rotting window frames, leaking roof etc.; however, on the other side people don't have enough money to move to a better place, but they have enough to repair - for example - a leaking roof. Government and local municipality don't either have money to pull the old ones down and build the new ones. Finally, it is always possible to improve the looks of an apartment block even a little bit by building balconies and reconstructing roofs and entrances of the building. Flowers, shrubs and trees that are placed linearly between sidewalk and building form a gateway to the apartment block.

3.3. “Western and eastern methods” of SEA

In Eastern Europe, environmental protection was subordinated to the interests of industry, agriculture, transport, and the centralized economic system and that influenced in a number of ways both the state of environment and environmental awareness. During that era environmental awareness of people decreased to an extremely low level, and is still quite low. That makes public participation very difficult to succeed. Almost all Eastern European countries have their own EIA legislation by now which was greatly influenced by: Centrally planned economy and decision-making; Environmental legislation of former USSR; "western-style" SEA (Peterson 1997; Rzeszot 1999). The problem with "western - style" is that it took tens of years to develop legislation and reach a modern level in the western world, and there are totally different experiences, social and economical development. When in western world EIA is often done on a new concrete project, then in Eastern Europe it is not rare that the whole city needs reconstruction and replanning . As many Eastern Europe countries, so has Estonia its own EIA legislation, but it has several insufficiencies and it may even be said that legislation actually retards development of EIA and SEA because people always do the minimal work that is required, and it is not rare that all the process of EIA or SEA is perceived only as a formality and not a process. In some cases, an EIA report is considered to be the whole EIA process and then the scoping and screening is skipped. The professional experts can control this part of the process but it is still difficult to explain the importance of this procedure for local (very professional) administrators and pollution experts. And in this step, the meaning of modern planning can be totally lost (Lawrence 2000). The Estonian problem with planning is the weakness of local municipalities and the lack of reform. Small and pure municipalities are the leftovers of the Soviet system. They do not have many local taxes to raise money, and they do not like reforms because of local jobs in administration. These small organisations do not have the power and money to create a good plan or to pay good specialists.

4. Conclusions

Soviet Cities that are inheritance of the Soviet system are each day becoming a bigger problem and there is increasing need for solutions. Most of the Soviet Cities don't have either structure or identity, apartment blocks are falling apart, and everywhere are public spaces. That in turn creates social problems - criminal activity, drugs, AIDS. That is also the case of the north-eastern Estonian city of Narva. From being a historical Estonian city, it has developed into a Soviet City with large districts of apartment

blocks, and where the social problems are intensified by the fact that 93% of Narva's population are Russians who are not interested in Estonian issues and development. Now, there is need for better quality of urban space. One possible solution to Narva's problems are solved in new master plan and SEA. However, there is always a question - maybe there is another way and maybe that is a better one? One is sure, that SEA integrated with planning process helps a lot to find better solutions in a Soviet City because environmental problems are one of the crucial ones left behind from Soviet system. SEA can be very helpful especially when it comes down to the dilemma: whether to pull down 30-50-year old apartment blocks or reconstruct them. In the case of Narva, it seems to be that reconstructing is a better variant because of the financial and social problems but it may not be in some other cases. But unfortunately, the process of SEA is not free of problems. It is mostly influenced by western methods and becomes rather complicated to implement in the former Soviet system. Eastern European planners tend to interpret western methods directly and conveniently, but western world has different experiences and social backgrounds. So there is a long way to applicable methods for Eastern Europe and to the understanding that SEA is not a formal document, but a process.

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