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Social infrastructure planning in declining rural centres

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THEME C. Urban and regional planning

SOCIAL INFRASTRUCTURE PLANNING IN DECLINING RURAL CENTRES

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Abstract

The aim of this empirical contribution is to analyse social infrastructure (SI) planning and development practices in Estonian local communities. The SI considered: schoolhouses, kindergartens, sports halls, cultural houses and the like, were extensively built by collective farms and local enterprises during the 1970s and 1980s.

During the post-socialist transition period, spatial structures have gone through drastic changes. Especially remote rural and old industrial areas lost a major part of their employment and remarkable share of population. The SI facilities are partly out of use because of low demand and high operation costs, simultaneously, they would need remarkable investments to be renovated and upgraded.

This paper consists of three principal parts. First, we analyse a historical development of planning practices in the Soviet Union and its consequences to the settlement structure. Secondly, we present an ad hoc typology and genesis of rural settlements and service centres; using census data, we describe their socio-economic and demographic (social) transition of the 1990s. Finally, we analyse comparatively the problems and planning practices of SI in selected communities.

1. Introduction

Geographers and regional scientists of the West were interested in the settlement planning and social infrastructure in the 1960-70s. By now the subject is no longer topical for researchers, this field has been regulated with legal acts and has been reduced to more like a routine administrative technique applied by planners of the communities and regions. Spatial processes taking place in entire Eastern Europe constitute a breakthrough, however: disintegration of structures based on old economy and on the social order of planned economy, processes and follow-up developments accompanied with the emergence of new economy.

At the end of the 19th century and at the beginning of the 20th century, on the crest of the industrial revolution in Eastern Europe and the demographic transition, rural service centres – small towns – with 400–2,000 inhabitants developed mostly on church villages. Small craftsmen established their businesses there and also schools were opened, all of which provided services to a close by agricultural hinterland. At the same time several industrial villages and cities were built around the railway centres and ports, which grew even faster due to industry and trade.

After World War II, a number of new settlements appeared or well expanded, where primary processing of raw materials took place – related to agricultural, fishing, peat, oil shale and forestry industries, also called as staple economies. Besides, military bases, social settlements like elderly care homes, mental hospitals and the like appeared. While social infrastructure and dwelling houses for the employees of institutions were built, the services hinterland, organised often by government agencies, was limited to the settlement itself.

Most settlements built were agricultural, however: centres of collective farms (dairy farms, piggeries, machinery workshops, office space, dwellings, etc.) and farm villages (farms and dwellings). This is considerably different from Western Europe where agricultural producers were concentrated into farmsteads and did not have a considerable effect on the settlement structure. In the Soviet Union the rural settlement structure developed proceeding from socialist agricultural economy and from the needs of the industry. Therefore, although the expanded settlements built outside larger cities and also in the immediate hinterlands of old local centres had certain service functions, the state-planned industrial agricultural system had the main role in the development of these centres.

Particularly farm settlements remained relatively small (with 150-300 inhabitants) and with limited service functions. Their hinterland was small, the population mainly consisted of blue-collar workers with a low level of education, and the living environment was generally not very attractive. Such a small settlement was practically fully dependent on one enterprise of staple economy, therefore many of them have not proven sustainable in the course of industrial changes due to the lack of new production inputs.

Already in the Soviet period the merging of collective and state farms led to the stagnation of smaller farm villages and settlements which lost the status of a centre, since the merged farms generally started to develop a new centre. Selection of new centres and construction of infrastructure did not, however, proceed from the developed settlement structure and often proceeded from *ad hoc* solutions: new rapidly growing settlements changed the existing settlement morphology and formed new local settlement systems, inhibiting and partly overlapping with the development of the existing local centres.

In conclusion we can state that settlement policy of government agencies caused disharmony in the settlement system with the concrete result of inefficient use of resources. Shaping of the settlement structure proceeding from the current interests of a specific economic sector is obviously problematic. Also planning or – more correctly – lack of planning is an important factor here. It is probably even a paradox that despite the ideology of planned economy it was not followed everywhere by far. Planning in the

Soviet Union was more often planning by government agencies, which often left the interests of the local population and regional development in the background.

The situation with planning is not better even now. In rural areas the decreasing primary economy is causing conflict situations: both the decreasing population and the number of consumers and the degenerated settlement system and the social infrastructure that used to be planned by government agencies but now fails to meet local needs. The inefficiency of the administrative system and its financing and the weak co-operation between local governments also contribute to the chaos in planning.

In article, first, we analyse a historical development of planning practices in the Soviet Union and its consequences to the settlement structure. Secondly, we present an ad hoc typology and genesis of rural settlements and service centres; using census data, we describe their socio-economic and demographic (social) transition of the 1990s. Finally, we analyse comparatively the problems and planning practices of SI in selected communities.

2. Planned disorder in Soviet settlement system

2.1. Soviet planning

In Soviet literature, social infrastructure was called a services sphere or sector. This term was actually very wide and covered also personal services such as retailing, catering, housing and communal services, education, health care, science and arts, etc. (Nõmmik 1979). The discipline dealing with comprehensive economic and infrastructure planning was called accordingly “*raiyonnaya planirovka*” and “*territoriyalnaya planirovka*” (Percik 1971) in Russian and “*rajooniplaneerimine*” and “*territoriaalplaneerimine*” in Estonian (Pragi 1974, 5-12).

The essence of Soviet planning was quite similar to the regional and land use planning principles known in the West earlier. The Soviet regional planning was based on the basic concept of territorial social-economic complexes (TSEC) (Nõmmik and Mereste 1984, 200-211, 219-226). The concept of TSEC was a sort of growth pole theory (Perroux, 1955; Nõmmik and Mereste 1984, 204). Central place theory of Walter Christaller and Edgar Kant was also widely known (Nõmmik and Mereste 1984, 207).

However, Soviet planning regime had an even more complex character, aiming to change of an entire settlement system. Since the industrial production and service related economic activities belonged 100% to the state or strictly controlled cooperative sector, extensive comprehensive planning was possible and highly required.

Because of administrative and planning control, the socialist economy could coordinate socio-economic processes, including settlement system development, which was the true element of socialist ideology from its very beginning. A classical socialist model included most elements of Western urban planning and was based on collective (state) ownership and strong central government control over land and infrastructure development. The central government decided location of new developments; local administration just implemented the orders.

Optimisation goes much further in Soviet planning theory and practice: e.g. new living estates were planned according to jobs: blocks of flats were built close to farms and factories. According to their functions, settlements were divided into three categories:

- 1) Perspective settlements where all new construction activities were concentrated;
- 2) Non-perspective but temporarily saved settlements where only repairing and very limited new construction may take place;
- 3) Liquidated settlements where no construction and only very limited repairing could take place (Pragi 1974, 93).

The basic idea of socialist planning was to guarantee equal access to (public) services to the whole population. This ideal was based on norms: the number of seats, beds, personnel, and floor space per 1000 inhabitants in different kinds of SI facilities. Territorial planning dealing with the location issues of the service sector was intended to respond to the consumers' needs in the best way and minimize construction and operation costs simultaneously (Volkov 1969). The hierarchy of the settlement system was taken as a basic framework for the service sector development (Nõmmik 1979).

Territorial planning dealing with the location of service sector should respond to the consumers' needs in the best way and simultaneously minimize construction and operation costs (Volkov 1969). The hierarchy of settlement system was taken as a basic framework for the service sector development. When defining hierarchies, Soviet planning tried to include also industrial development besides the services (Nõmmik 1979), based on Lösch (1955) model.

According to the size of the centre and its hinterland, six levels (ranks) were defined in the hierarchy of Estonia's settlement system (Nõmmik 1979):

- 1) 3441 villages with the population below 250 inhabitants. As Estonian villages are very small and disperse, service units like an elementary school (4 class), small shop and post office were planned for a group of villages.
- 2) Small centre (300-700 inh.), usually a new fast growing collective farm centre with a total population of approximately 1000-1200 in the hinterland, had a number of service functions e.g. a kindergarten, basic school (8 classes), cultural house with a public library, apothecary, more specialised shops, bank office, etc., and production units active within the territory of this particular collective farm.
- 3) Local centre, normally historical rural towns (parish centres) with more diverse services and sometimes also some industries, serving a wider territory: several collective farms and/or village soviets with a population of ca 5000 in its hinterland. A local centre was supposed to be accessed within 20-25 minutes. The number of such centres was about 60-70 in Estonia. Industrial towns without a significant hinterland whose population was above the critical level were also ranked as local centres.
- 4) *Rajoon* (county) centre, in most cases old historical regional capital has an average of 15-20 thousand and with hinterlands 40-100 thousand inhabitants in most cases.
- 5) Larger cities with more than 50000 inhabitants were considered as regional centres.
- 6) Capital of Estonia.

Service units in different sectors had their own normative standards: a minimum required number of people to be served and capacity. The goal of Soviet service sector planning

was to improve the quality and selection of services in larger centres and to homogenize service quality on the lower level of hierarchy. According to recommendations of planners, a special emphasis was given to local centres serving a group of settlements and *rajoon* centres. This actually means the third rank or old local centres.

The reality of soviet comprehensive planning was not comprehensive, but a sector planning of branch plants and collective farms. Despite the planning economy doctrine, which had a key role in the Soviet economy, comprehensive territorial planning and especially SI planning was much weaker than in Western Europe and Nordic countries in particular. This is because of extreme centralisation and missing self-governance.

Soviet regime applied extensive investment policy in order to utilize natural or labour resources in rural areas. A number of plants were built in small centres, which were often subordinated to headquarters located in Tallinn or even in Moscow. On the one hand, this policy was rather positive in achieving a regionally balanced growth. On the other hand, administrations at the regional (*rajoon*) level had very limited opportunities to have their say and coordinate processes.

Production activities of the collective farms were coordinated by the *Agrotööstuskomitee* (Agro-industrial Committee) at the *rajoon* and state level which included a wide structure of support services. Planning procedures and construction activities were carried out by the *Maaehitusprojekt* (Rural Construction Project) or *KEK* (Kolkhoz Construction Office) structures, actually acting as design and construction companies. They had to follow building standards and other guidelines, but they did not plan service and production units on the larger (*rajoon*) scale. Or did it just *pro forma*.

2.2. The results of soviet planning: disorganised settlement structure and new centres outside central places

As a consequence, Soviet sector planning created a great number of the so-called mono-functional, or single enterprise settlements around mines, paper-mills, peat factories, saw mills, sewing plants and food industries. These factories utilised local natural or human resources but they were not integrated with their hinterland when speaking of infrastructure and service development.

As there was a major lack of the SI and living estates, every enterprise built their own housing stock, kindergartens, shops and schools. However, the factory-built SI did not always consider the needs of surrounding territories and economies of scale within the settlement structure. It was rather typical that even small towns had 2-3 different retail, health care, and kindergarten-school systems as by-products of a factory, a military site or a railway centre, in many cases directly managed from Moscow or Tallinn.

As a result of the lack of coordination (planning), these settlements were even more vulnerable than surrounding rural areas, because of their absolute dependency on their main employer, which simultaneously was also a service provider. Western (and particularly Nordic) regional policy of the 1950s and 1960s “yielded” fairly similar results: decentralisation of manufacturing units, creation of industrial mini-growth poles (Oscarson 1989). These settlements have been in the focus of several researchers such as Rex Lucas (1971), John Bradbury (1985), Jarmo Kortelainen (1992) and Ilmar Talve

(1983). True, in Western and Northern Europe, the SI was mainly developed by local communities. That makes an essential difference.

In the socialist period, the economic geography of rural areas of Estonia was predominantly influenced by agriculture, which had great importance in changes in settlement and population. Since small towns had rather limited development prospects until the end of 1980s, except monofunctional settlements of strong enterprises, and agricultural enterprises had better prospects, a new morphology of the settlement system developed.

Collective and state farms built their central settlements in the immediate vicinity of the above-mentioned towns (see case study 4 – Sääse borough in Tamsalu municipality), offering apartments and the salary on their part (in exchange for the necessary labour), without having to build services. This resulted in the impeded growth of many small towns and cumulative negative demographic processes.

Fast development of centres of collective and state farms changed the rural settlement morphology also in areas which are further away from urban settlements, having an inhibiting effect not only on the development of small villages but also on larger settlements which had no significant economic functions in the specific economic system.

The process of “decentralised concentration” took place also because the average size of collective/state farms increased. The total number of units has decreased since 1950s (when there were about 2400 state and collective farms) up to the 317 in 1988. The most serious drop was at the beginning of 1970s. Stronger collective farms just swallowed weaker ones, concentrated economic power and construction activities in the new centres. They also had a greater lobbying capacity to shift central infrastructure investments (e.g. roads) for the benefit of their territory.

Collective farms, as considerably large and well-subsidised economic units played a decisive role in the development of rural settlement system and competed with old central places and branch plant settlements. In rural areas, these farms made virtually all investments into production, social, and cultural infrastructure. They concentrated investments predominantly in their production centres. When two or more collective farms merged, most of these investments were directed to the new, usually the strongest centre, leaving the former centres with their surrounding villages without the necessary level of services.

And again, like in the case of industrial settlements, local administrative units village soviets (*külanõukogu*) and county (*rajoon*) administrations had practically no power to influence the SI development. Construction of housing and SI was probably the most powerful “tool” (even better than high salary) to attract new labour force. At the same time several historical rural centres, being outside collective farm territories and investment policies, stagnated.

2.3. Transition period of the 1990s – breaking down Soviet structures and chaos in planning

In 1989 more than 60% of rural population lived in collective/state farm central (larger) settlements. Their share was gradually growing in previous decades, but started to decline

during the 1990s (figure 1). The collective and state farms employed more than 180,000 people in 1989, and only about 30,000 rural people were employed officially by the primary sector enterprises 15 years later. 1990s have brought along a fast turn of earlier trends into an exactly opposite direction: the larger is a (rural) settlement, the faster is the decrease in population.

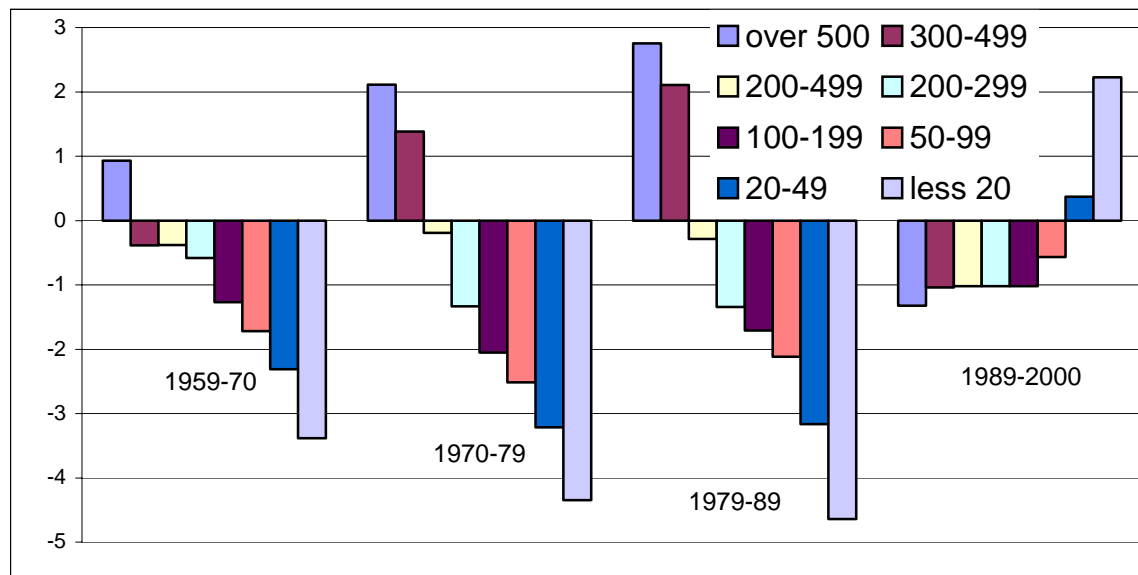


Figure 1. Yearly population change (%) in rural settlements¹ of different size (1989) between five censuses 1959-2000.

As a majority of these settlements had one and only employer – a state or collective farm – they were greatly affected by the economic decline of the dominant enterprise(s). Many larger rural settlements are very probably losing their role: in comparison with many small towns and smaller villages, the maintenance and heating of living space in apartment houses is expensive and the milieu unattractive. Most agricultural jobs have disappeared, the population is decreasing and the sphere of services is withering up (e.g. closing of rural schools and other services institutions).

The network of rural centres no longer conforms (being a product of the socialist production system) to modern requirements. The issue is not just the too large number of too small centres but the fact that efforts are made to preserve most of the above-mentioned centres with the support of public service facilities. Many local governments have inherited from the times of the Soviet era inefficient institutions of social infrastructure for their service area (e.g. cultural, sports and educational facilities), which they are unable to maintain and supply with up-to-date equipment.

A number of schoolhouses, kindergartens, cultural houses and the like, constructed in the 1970s and 1980s, are partly or entirely out of use because of low demand and high operation costs. On the other hand, these facilities would need remarkable investments to be renovated. There is a real risk that self-regulation of the settlement structure may lead to a situation where the network is broken in some areas with a possible consequence of closing rural schools, considering the number of pupils only.

¹ See chapter 3 for definition of rural settlement in this study.

The development potential of different rural settlements and their potential as local centres varies. There are not enough strong centres and there is a too dense network of weak service settlements. Decrease in population and the declining birth rate, small population density and low purchase power of the population, lack of public resources and other reasons have already decreased the volume of consumption of services and forced to close local public and private service institutions (bank offices, post offices, schools, etc.).

The number of children living in the area of schools has become the biggest problem in rural areas because the number of births has dramatically decreased and is geographically unevenly distributed in Estonia. We can state that the possibilities for maintaining and financing the educational network in Estonian rural areas according to the current system have gradually deteriorated and the problem of quality will presumably appear in addition to the problem of quantity. Since the existence and quality of educational institutions has a very important role in the development of a region, local governments are naturally trying to preserve the existing educational network at any cost, which may, however, lead to even more painful decisions in the long term.

Gradual rationalisation of the educational network is already going on, some smaller schools have been closed every year. At the same time the small number of pupils cannot be the only criterion for the closing of a school, since continuation of such a trend may lead in essence to the absence of a network of schools in regions consisting of several rural municipalities, although schools with a larger (but not large enough) number of pupils located close together may be preserved, overlapping with each other.

The biggest problems related to rural settlement structure are found in rural municipalities located outside the hinterland of larger cities, because they have a rather poor socio-economic and demographic situation. The network of the SI is currently changing (incl. from the aspects of the settlement system) according to the decisions adopted by government agencies or on the local level but there are no planned activities which bear in mind the settlement network as a whole.

Some municipalities, especially central towns at the regional and sub-regional level, are building new SI, and many of them are trying to do so, without considering already existing regional overcapacity. Quite often, the reasons are political. And the lack of long-term planning and strategic thinking: analysis, calculations and collaborative action. Despite a “production” of all kinds of strategies and development documents on the national and county levels – these papers usually remain on the shelf and do not approach community level in real terms.

Because of permanent lack of financial resources, investments into the local SI are overwhelmingly dependent on lobbying in the ministries and in the national political structures, which in their turn influence ministries and budget formation. A good mayor should be permanently “on the wheels” between the community and the capital city. Mayor’s qualification is measured by investments he/she has brought in the community. For a mayor, lobbying is definitely more important than planning. As yet.

3. Morphological typology and socio-economic development of rural settlements

To create the typology of rural settlements we omitted the municipalities, which lie at the hinterland of large cities where rural settlements are suburbs rather, and decided to focus on rural areas outside urban residential areas where commuters account for less than 20% (see figure 2). Actually, most Estonian towns are small settlements with 1000-3000 inhabitants and with a large proportion of rural activity, in Europe they are boroughs rather. But as they are independent municipalities and have had different development morphology, we have excluded them of the analysis.

Two concepts denoting a small compact settlement are used in Estonia: *alev* and *alevik*. *Alev* (borough; rural town) is a larger urban settlement, which usually has an industrial function. They existed as independent units of local government until Estonia regained independence, but disappeared as a notion when the new constitution became effective. *Alevik* (borough, small rural town) is a smaller service centre as a rule, often a church village. They grew rapidly in the 19th century thanks to the service demand of their rural hinterland.

In the 1990s a number of changes in the borders of settlements (villages) were carried out locally, thus the results of the 1959, 1970, 1979 and 1989 censuses are not comparable to those of 2000. Consequently we had to omit additionally 47% of municipalities with changed internal (village) borders. The sample of included settlements is representative, so the error does not exceed 0.2%.

Figure 1. Suburban communities, excluded from the rural settlement analyse: more than 20% of labour force commuting to the county centres in 2000 (see Appendix 6)

We also excluded specific settlements from the analysis, such as special school, prison, old people's homes and other settlements, where service-providing contingency significantly distorted the population picture.

3.1. Morphological typology of rural settlements

We primarily considered central function of the settlements and change in the function in the typology:

1. Historical local market centre – borough (*alev/alevik*).
2. Present centre of municipality, usually the largest settlement and also the main service centre. Being in most cases former village soviet (*külanõukogu*) centre, this settlement became centre of municipality in 1989-1992 along the administrative reform, which created local self governments. So far, during the Soviet times, village soviet was not a real administrative unit: it was dealing mainly with population registration, it had no budget and employed just few clerks. Real administrative power was on the county (*rajoon*) level.
3. Former collective/state farm centre in the 1980s. Collective farms had the real economic power in rural locations and were real suppliers of SI.
4. Former collective/state farm subunit centre in the 1980s.
5. Industrial, forestry, fishing, etc. factory settlement.
6. Small village without significant service and industrial functions.

1. Borough, current municipal and former collective/state farm centre (BMF)

Old local centres are the “happiest” concerning their development while have enjoyed sustainable development: retained their central function, increased population and gained investments in the infrastructure. The borough formed around the church and service settlement as a settlement of craftsmen. Being a traditional centre, it normally has a rich social and cultural life, long traditions, and nice physical milieu.

Generally this type of centre has over 500 residents with a considerable hinterland. Often small industrial enterprises or centres of agricultural machinery were established there, which developed the economic base of the settlements. The status of the collective/state farm centre meant intensive construction of SI and housing in the 1970s and 1980s. As the settlement was formed earlier, new developments did not create an absolutely new “kolkhoz” culture and areas of old milieu were preserved. This type most often is also the former village soviet centre, which in its turn meant the status of the rural municipality centre and a guarantee that SI is renovated and maintained in the 1990s as well.

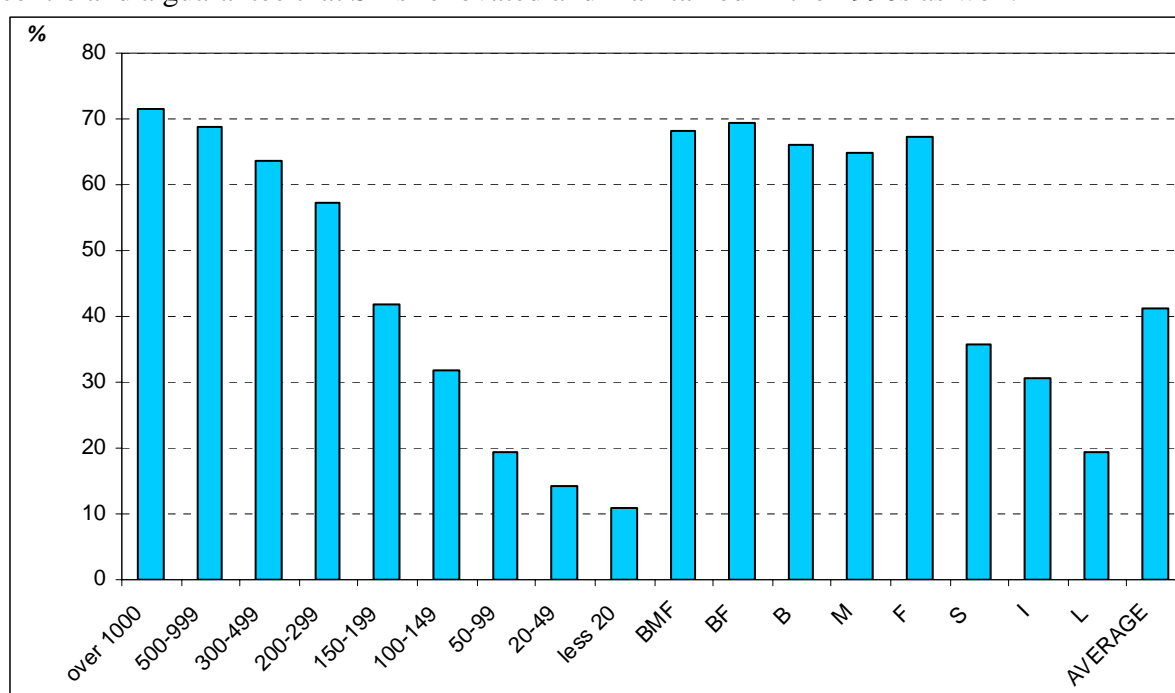


Figure 3. Living stock built in Estonian rural settlements according their size and morphological type in 1960-1990, % of total.

2. Borough, former collective/state farm centre (BF)

Borough-collective/state farm centre, which was not the centre of the village soviet, did not thus become the municipality centre either. They received substantial investments in SI and housing in the 1970s-1980s, but remained excluded in decision-making processes today and in the future.

3. Borough, without administrative functions (B)

Many small towns were outside the limits of collective farms due to their size and industrial background. Thus, because of their size and service to their hinterland, service functions were maintained. These settlements have grown a bit slower and have a bit older population (figure 4) than settlements, which also were the centres of collective/state farms.

4. Municipal centre (M)

On rare occasions the settlement may have had an industrial or another function where the settlement later became centre of the village soviet and local government. Compared to the centres of former collective/state farms this type has had most moderate growth.

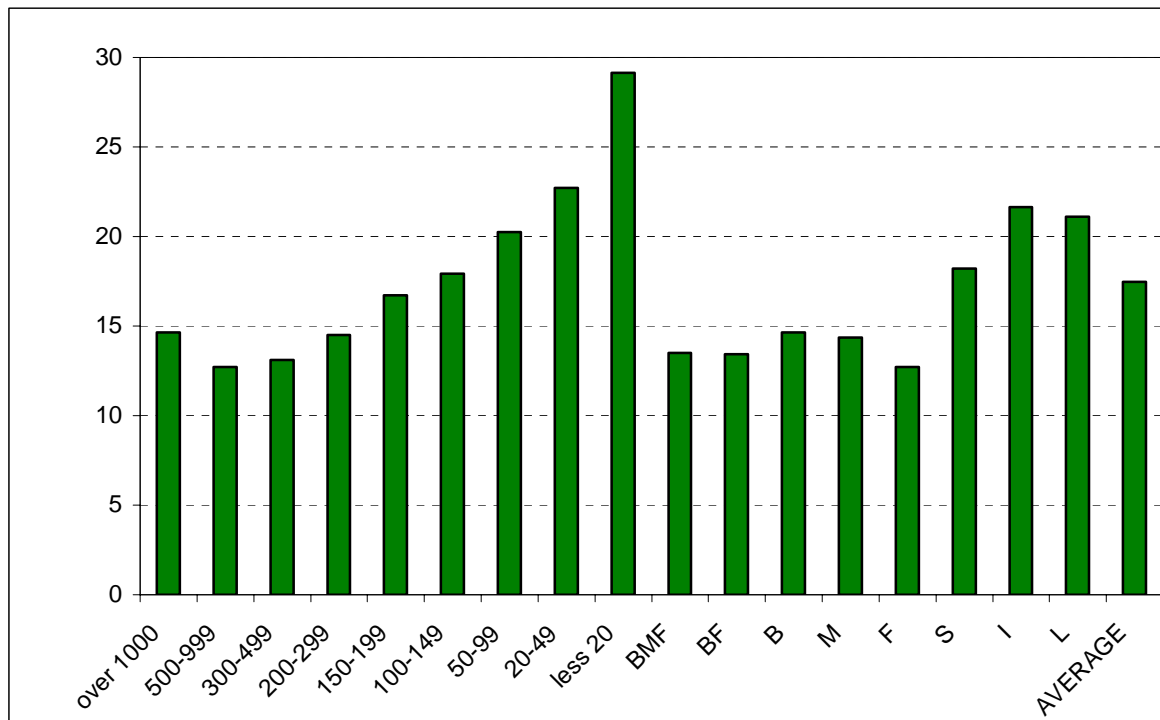


Figure 4. Share of elderly (65+) people in Estonian rural settlements according to their size and type in 2000, % of total.

5. Former collective farm centre in 1980s (F)

As a rule, a larger village which grew rapidly, where production facilities, housing and SI were constructed. Such a centre has undergone a rapid growth and usually has a number of large blocks of flats. Generally, the population is the youngest in this type.

6. Collective farm sub-centre or farm settlement (S)

Housing for workers of production facilities, mostly smaller blocks of flats were constructed in a large number of **former** farm centres and farm settlements until 1970s. Dependent on the settlement's size service units, such a shop or kindergarten-primary school were also set up. A number of farm centres, which operated until 1970s, as well as department centres and farm settlements did not have any considerable service functions as a rule. During a later period, the 1980s, when the farms' investment capacities were at their peak, many of these settlements often fell into the "non-perspective" category and did not receive investments: the population was ageing and infrastructures were not renovated.

7. Industrial settlement (I)

Industrial settlements were established in the vicinity of production facilities, similar to agricultural farm settlements. Industries were located in the rural areas in the 1950s and 1960s in particular, to use the local labour resources. When labour mobility increased, industries were concentrated in the county centres where labour resources were more abundant.

8. Small village

Small villages are most numerous, have a low number of inhabitants in mostly private housing – family farms. In villages of over 100 inhabitants smaller blocks of flats can be found. Development of the villages depends on their location as to roads and service facilities.

3.2. Socio-economic changes in different types of settlements

It is important to note that the historical settlement structure in Estonia had been sparse, similar to the Nordic countries: villages are not compact settlements but consist of scattered farmsteads. In the Soviet period habitation was concentrated into remarkably larger settlements. Hundreds of villages, which were difficult to access, and solitary farmsteads disappeared, people were concentrated into flats built close to or in industries, farms or the existing centres according to the state policy. The number of residents in private housing in the present small towns and boroughs grew remarkably slower.

During the rapid post-war urbanisation process of the 1950s all settlements which had become administrative centres, especially district (*rajoon*) centres, (39 altogether) grew notably. Later, the collective farms and industrial enterprises and social institutions like mental hospitals gained in importance, they created jobs, constructed housing and SI.

The “monopoly” of local industrialist in the SI development weakened when Estonian collective and state farms grew stronger. Especially at the beginning of the 1980s, the so-called “Soviet nutrition programme” raised subsidies for collective and state farms which became considerable economic agents in Estonia. Many urban dwellers moved to the countryside to work in collective and state farms in the 1980s because of better wages, available accommodation and brand new SI.

Generally, the growth of settlements correlates with their size, but types of settlements underwent significant changes as described above in planning section. Settlements with 200 and more inhabitants, operating mainly as centres and sub-centres for state and collective farms went through rapid growth during the 1970s and especially 1980s, concentrating majority of rural population in these settlements.

Most production facilities, service institutions and dwelling-houses of collective farms were built there. In total the proportion of the population of the settlements with more than 200 inhabitants increased to approximately 60% of the rural population by 1989. The farm centres often grew at the expense of old centres. However, statistics did not prove this fact clearly.

But the population of the majority of rural settlements (villages) considerably decreased, during the period 1959-1989, even by approximately a half in 15% of them (figure 1). The population of small settlements decreased particularly fast in the years 1979-1989, when the average annual decrease in the population of approximately a half of settlements was more than 1.5%. The correlation between the size of settlements and changes in the population could be well observed.

Transition in the 1990s overturned the settlement model established in the interests of the argoindustrial sector, it brought about a general depopulation of rural areas which mostly concerned farm settlements of the 1980s: inhabitants moved in search of jobs either into larger towns or back to farmsteads in small villages. Decreasing population has caused problems in SI implementation, which in own turn has cumulatively decreased jobs available.

In conclusion, the development of population of the new central settlements evidently largely depended on collective farms, enterprises and their construction policies. Statistical differences in the construction development and population development of the old (*alevik*) and new centres (new collective farm centres) are not that significant as we had hypothesised. The industrial function of the larger settlements probably played its role, keeping the average development standard of small towns at a high level, even though a considerable stagnation was already evident in a number of small towns (*alevik*).

Statistically, smaller settlements which had lost their central status or industrial function differed from the others: the so-called department centres – central settlements, which had lost their role as a main centre by 1980s and left without investments, and small industrial settlements where the population situation, economic indicators and a development potential are evidently weaker.

A decrease in the number of population of large settlements in the 1990s is caused by a dual movement: upward and downward along the centre-hierarchy. In the latter case the people of a local background, who had recently moved into blocks of flats, moved back to farmsteads, the reason frequently being expensive central heating or even disrupted provision of heating and water supply. Younger, better-educated specialists of the disintegrated collective farms moved to towns in the 1990s. Out-migration from central settlements of collective farms with younger population is still continuing. Population in smaller farm and industrial settlements where people are older and less mobile, is more stable, but have more problems as far as their development is regarded.

National planning has not even attempted to affect such processes in Estonia: disintegration and dying out of collective farm centres and industrial settlements is not considered an issue at the national scale and no special policies have been applied to restructure collective farm centres or farm settlements.

However, bottom-up village action movement has become active. About 1000 non-profit village associations have been established all over Estonia with the aim to improve local living environment and also, foundation of small-scale SI: village community centres, libraries, sports grounds, etc. Corresponding small-scale national support measures have been implemented as well as means from SAPARD and the EU structural funds.

4. Analysis of case-areas

The following examples of municipalities characterise socio-economic conditions and development of settlements of varied morphology in the Estonian rural areas. Data of population and housing censuses of the Statistical Office of Estonia, materials of case

study interviews in rural municipalities of Lääne-Viru and Pärnu Counties which were conducted within the Phare CBC CIA project have been used.

Pärnu County has a territory of 4807 km² and population of 90127, it has a strong centre - the town of Pärnu, about 75% of the county population live in the so-called Greater Pärnu. Polarization of centre-periphery is clearly evident. Lääne-Viru County with 2747 km² and 67 629 people has a more even development level: the central urban region has about 30% of the county population only.

4.1. Koonga – peripheral rural municipality

Koonga rural municipality is one the largest municipalities as to its area in Estonia but one of the smallest as to the population. The municipality is compact but has two centres. The centre is located in the midst of the municipality. Daily and local services can be bought in Koonga village, Lõpe village, as well as Pärnu-Jaagupi and Pärnu. Radius from the central point of the municipality is about 11 km, but the furthest households are 24 km from the centre. Essential neighbouring municipalities are Lihula, Pärnu-Jaagupi, and Pärnu from the SI point of view.

As to socio-economic welfare (employment and income) the situation of Koonga municipality is far below national average: unemployment rate in 2000 was 25.4% which is below the national average by 13.4%. Revenue from personal income tax per capita in 2002 was just 46% of the national average. Economic capacity and development potential place the municipality among the average ones in Estonia.

The number of inhabitants is decreasing. Proportion of 65-year-olds and older is comparable to the national average, ratio of 25-44-year-olds to 45-64-year-olds is equal to 1. If out-migration of 25-44-year-olds does not take place they will replace the retired people within the next two decades. Construction was continuing from inertia after the Soviet period was over but in 1996-2000 construction slowed down and is negligent today. The only settlements with new buildings constructed in the 1990s were Koonga and Oidrema.

The municipality has 3 larger settlements: the former collective farm centres Koonga and Lõpe, and Oidrema village. Agricultural associations operate in these settlements today. The former collective farm centres are still clearly the most powerful as to the economic activities and development potential. The economic situation of Oidrema village can be regarded satisfactory. The weakest are Irta village and “behind-the-bog” Tarva village with the highest unemployment, lowest employment rates. “Behind-the-bog” villages may be considered as dying out.

The following objects of social infrastructure are located in Koonga rural municipality:

1. Koonga Basic School
2. Koonga Kindergarten
3. Lõpe Basic School
4. Lõpe Kindergarten
5. Lõpe Community Centre
6. Tarva Library

The central issue of SI is whether and how to preserve the existing two centres Lõpe and Koonga and their SI conditions where:

1. the population and SI users in the municipality is declining;
2. an additional centre is not far enough from the central settlement but services a large hinterland as to the territory.

Another problem is posed by two competing basic schools (Koonga Basic School and Lõpe Basic School). Still another obstruction is that the municipality centre and community centre are in different settlements a dozen kilometres away from each other. The municipality heads claim that Lõpe school district cannot be merged with Koonga's, even though no problems occurred when they closed Tarva and Oidrema schools. They say that new school bus routes would be two hours long. Lõpe schoolhouse and equipment are suitable. Transport of pupils to neighbouring centres has not been considered.

4.2. Tori rural municipality, Pärnu County

Tori is an average-sized rural municipality as to its number of inhabitants. The municipality does not border the town of Pärnu but is located nearby (urban region). In 2000 about 40% of the employed people worked outside the municipality, most of them evidently in Pärnu. The municipality is fairly compact with the central settlement almost in the centre. Radius from the central point is 9.5 km, the furthest households from the central settlement (Tori small town/*alevik*) are about 20 km away.

Socio-economic welfare (employment and income) situation in the municipality is above the national average, which is characteristic of municipalities located in the close vicinity of regional centres. Unemployment rate was about 10% in 2000, personal income tax receipts per capita were 80% of the national average in 2002. Employment rate is 5% below national average, while economic capacity and development potential of the municipality is at the average national level. The number of inhabitants declined in 1959-1989 but remained stable in the 1990s. Proportion of 65-year-olds and older is at the national level. Ratio of 25-44-year-olds to 45-64-year-olds equals one. Housing construction per 1000 inhabitants in 1991-2000 exceeded the national level.

There are three larger service settlements in the municipality: Tori small town, the historical centre, and Selja and Jõesuu villages. In 1980 all were centres of collective and state farms. The other three larger (and more compact) villages were department centres of collective farms. The strongest settlement is Tori. The socio-economic situation of Selja village may also be considered very good. Even though loss of jobs was significant, Selja has a development potential due to its favourable location by the main road.

Jõesuu has the weakest position for its unemployment and lowest employment. However, it cannot be considered a dying village as to its current indicators: in the 1990s housing was built and the number of inhabitants is rising. Its development prospects as a local centre are indistinct. It is a settlement which grew after World War II according to the needs of large-scale agriculture not services: in 1959-1989 the number of inhabitants grew over 2.5 times.

Tori municipality has a good social infrastructure listed in Appendix 5. Let us look at the most problematic issue – education. In the academic year 2003-2004 there were 300 students in the municipality, and another 137 students studied outside the municipality. There are three schools: Tori Basic School, Viira Basic School, and Selja Primary School. In the autumn of 2004 only 13 pupils (!) will start school: 6 in Tori, 3 in Viira

and 4 in Selja. The problem lies in two basic schools, in Tori and in Jõesuu village, which provide similar education.

The focal issue of SI is whether and how to preserve an additional centre (Jõesuu with its SI) in the vicinity of the existing (historical) strong central settlement under the conditions where the number of population and SI users decreases, including the number of students which will plummet to very low levels. Jõesuu village is not far from the central settlement but services a large hinterland.

The development plan of the municipality plans to invest in renovation, modernisation and development of the present service-providing institutions. Plans are far-fetching and costly. Main financing should be obtained from outside the municipality, especially from the national budget or EU Structural Funds. There are no plans concerning making changes in inhabitation or SI proportions. The near future is likely to bring about a number of conflicts that are not considered in the development plan: alternative solutions are absent.

4.3. Laekvere peripheral rural municipality, Lääne-Viru County

Population of Laekvere municipality is just below and the area above the average. Laekvere is located 40 km from Rakvere, the county centre. Over 30% of the employed worked outside the municipality in 2000, most probably in neighbouring municipalities. The municipality is compact but has several sub-areas. Radius from the centre is about 10 km, the furthest farmsteads are 20 km away.

Employment and income levels are below national average. Unemployment was close to 12% in 2000. Revenues from personal income tax in 2000 accounted for just above a half of the national average. Employment rate is 7% below the national average, development potential and economic situation are among the poorest in Estonia. Average decrease in the number of inhabitants per year was 1.3% in 1959-1989 and 1% in 1989-2000. Proportion of 65-year-olds and older people was just above the national average. Ratio of 25-44-year-olds and 45-64-year-olds was 1.15. New housing construction per 1000 inhabitants in 1991-2000 and in 1996-2000 was significantly below the national average.

The most important settlement of the municipality is Laekvere small town/*alevik* with about 25% of the municipality's population. It used to be the centre of the large Laekvere collective farm. The other four larger (and more compact) settlements are Muuga, Paasvere, Rahkla and Venevere; they were all centres of earlier collective farms which later merged with Laekvere farm and then became department centres. Muuga and Venevere villages have the SI but their hinterland is insignificant.

The number of population of Laekvere small town doubled in 1959-1989. In the post-1989 period it has considerably fallen. The population at Muuga has not declined in 1989-2000 and it is fairly young. New housing has been built as well. Muuga is therefore probably another stable and strong settlement apart from Laekvere.

Paasvere has been losing its population. Unemployment is over 20%. In 1996-2000 no new housing has been constructed. The economy in the settlement is weak, development potential negligible. Whether the village retains its function as a service settlement is disputable. The situation of Rahkla village is fairly similar to that of Paasvere.

The population of Venevere village has decreased as well but not as much as in other settlements of the municipality over the recent period. It should be noted that unemployment is very low (below 2%), and proportion of 25-44-year-olds and 45-64-year-olds is good. However, its development potential is insignificant.

Laekvere municipality has the following SI objects:

1. Laekvere Basic School
2. Muuga Basic School
3. Venevere Primary School
4. Laekvere Kindergarten
5. Laekvere Community Centre
6. Laekvere Library
7. Muuga Library
8. Venevere Library

There are 3 schools. Laekvere Basic School had 137 students in the year 2003-2004, 9 children are expected to start school in 2005 and 12 in 2006. Muuga Basic School has 111 students, 7 children are expected to start school in 2005 and 6 in 2006. The distance between the schools is 6 km. Venevere Primary School has only 29 pupils. 2 children are expected to start school in 2005 and none in 2006.

The focal issue of SI is: whether to preserve two closely located centres and SI in the municipality under conditions where the number of population and SI users is on decline. Both central settlements are close to each other at the one end of the municipality and the additional centre has small hinterland.

The development plans of the municipality foresee renovation, modernisation and development of the service-providing businesses. There are also plans to construct sports and recreational facilities. The present central settlements dominate in such investment plans. Plans, however, are voluminous and costly. Funds from sources other than the municipal budget have a major role in the large projects, i.e. the latter have no real coverage. There is a contradiction between the plans to close Venevere Primary School and allocations for the school until 2010 in the investment plans.

4.4. Tamsalu rural municipality, Lääne-Viru County

Tamsalu is an average Estonian municipality as to its number of population or area. It is peripheral and surrounds Tamsalu small town (2750 inhabitants), which actually is the centre of the municipality. Other larger centres with strong SI are not far away - Tapa and Väike-Maarja (10-12 km) and Rakvere (20 km). Tamsalu municipality is 15 km long from north to south and 37 km from east to west. In the proximity of the town is the largest settlement of the municipality – Sääse small town/*alevik* – the centre of the former Põdrangu collective farm.

Tamsalu employment and income indicators are not the best. Unemployment was about 21% in 2000 exceeding the national average by 8%. Revenues from personal income tax per capita accounted for a half of the national level. There are not enough jobs in the area, thus many people work outside the municipality: 43.1% in 2000.

The number of inhabitants fell in 1959-1989, the fall has been decreasing since the 1990s drop of 23.3% (!). Proportion of 65-year-olds and older is comparable to the national average. Ratio of 25-44-year-olds and 45-64-year-olds is equal. 22 new dwellings were constructed in 1991-2000, this makes 10.7% per 1000 inhabitants and is 7% below the national average. In 1996-2000 construction tempos slowed and were below the national average.

The municipality has 4 settlements with central functions: Sääse and Vajangu small towns/*alevik* and Assamalla and Porkuni villages. Vajangu small town and Porkuni village are of medium strength for their economic activities and development potential. Assamalla is clearly different being the weakest settlement socio-economically and for its development potential: it has the highest unemployment rate (20.8%) and lowest employment rate (38.8%). Assamalla is, however, not a dying-out settlement due to its location by the Rakvere-Tartu road, but its connections to Tamsalu are weak.

Sääse small town/*alevik* has weakened as a centre after a decrease in the agricultural production. Several former service buildings have fallen into disuse and disrepair. Another problem is dilapidated blocks of flats which require major renovation in the near future. The settlement also requires investments to improve residential housing and power supply because of its poor socio-economic situation. Unemployment stands at 10.7% and unemployment rate is 3% below the national average.

Tamsalu municipality has the following SI objects:

1. Vajangu Basic School
2. Vajangu Kindergarten
3. Sääse Kindergarten
4. Porkuni School (students: hearing disabled and/or multiple disabilities)
5. Sääse Nursing Home
6. Assamalla Library
7. Vajangu Library

217 children of Tamsalu municipality attend Tamsalu Gymnasium. Vajangu Basic School has 73 students, children of Assamalla village go to either Tamsalu or Väike-Maarja schools.

Many people have moved away in search of jobs, thus the major problem at Sääse is residential housing. Buildings of former service-providing businesses also stand empty with no new functions. This is evidently a case of becoming a slum where SI and milieu of a settlement near a larger town has run down, more active and intelligent population has left and considerable investments, which the municipality does not have, are required to stop the process. On the other hand, there are not enough flats in Tamsalu.

In order to foster development, manage efficiently, enhance educational standards (competitiveness) of Tamsalu rural municipality, closer cooperation with the town of Tamsalu is required and an administrative merger is recommended. The councils of the town and rural municipality of Tamsalu have already agreed on it and documentation is being prepared.

The central issue of SI is whether the merger safeguards improvement in the quality of life or regional business. Another important issue is whether settlements located further from the municipal centre (Assamalla) will have closer connections with the centre or lose them altogether. A separate issue is how to solve the range of problems at Sääse: housing management, disused SI, decline.

The development plan of the municipality suggests renovation, modernisation and development of the present SI institutions, closer and better cooperation between the town and rural municipality of Tamsalu. Consequently, the present SI is being planned to be maintained.

4.5. Conclusion of case studies – centre-periphery thesis reconsidered

The analysis of comparative cases included two Estonian counties – a peripheral and a more developed one, where the authors looked at the socio-economic situation, population development, construction, and the situation and planning of SI.

Development of settlements is largely dependent on the distance from large towns. In general, population and economic indicators are weaker and problems more complex in the centres of a lower level (subunit centres): the number of inhabitants, especially children is small and decreasing rather than growing, prospects are unclear, construction of new housing is almost nonexistent.

The diminishing population of peripheral regions has lesser demand for SI. A small number of customers, poor financial situation and incapacity to invest have forced to close small (micro) schools which were opened/re-opened for emotional reasons in the 1990s, e.g. at Koonga. Reorganisation of SI constructed in the 1970-1980s is more complicated.

Regions, which are located in the vicinity of larger towns, have a more favourable economic and population situation, largely due to commuting to nearby towns. The situation of SI and housing is critical because of being fragmented between various central settlements. Every locality keep to their present SI objects and no radical steps are taken in the political process.

The centre-periphery thesis is valid within the rural municipalities as well, where the former collective farm subunit centres which compete with the largest settlement of the municipality are especially weak in terms of population dynamics, economic situation and SI.

There are also more specific factors besides the centre-periphery factor. The socio-economic situation in the municipalities being analysed was the most difficult, the population numbers had fallen the greatest extent in the settlements of Tamsalu municipality which is close to larger centres. The collective farm centres which grew rapidly, e.g. Sääse in the vicinity of the town of Tamsalu, has neither been able to keep its population even though its location is favourable, nor develop SI, which in this case is disused. Such rapidly developed rural settlements cannot compete with better services and life environment of towns.

An important factor of development is milieu and history of the settlement creating its social environment and the so-called spirit. Thus Tori and Koonga with their rich cultural history still maintain a stronger position as centres, irrespective of their poor accessibility as compared to Selja and Lõpe.

A crucial problem in planning SI is giving consideration to the municipal SI (perhaps Tamsalu is an exception in this case). Although services are bought from neighbouring municipalities and especially county centres, local governments are generally not willing to contribute to projects to found SI in the centres, and rather maintain and invest in their own SI objects which are underused. What's more, maintenance of the buildings is more important than quality of services.

Another range of issues stems from under-financing of the rural municipalities and their incapacity to invest. Any reorganisation requires investments which exceed capacity of municipalities and expect national resources. This, in its turn, actually strengthens the *status quo*.

Thirdly, local governments do not always consider long-term development prospects when developing SI. Plans are dependent on opportunism and not the real situation or demand.

The result, in any case, is keeping the *status quo*, both in development plans and political rhetoric. Schools are not reorganised, even though hard facts and forecasts point at a significant fall in the number of students.

Final conclusions

Rural settlement structure of today's Estonia i.e. larger settlements and SI, was constructed mainly in 1960-1990 and development had to suit the needs of industrial enterprises and agricultural collective farms. Traditional dispersed settlement structure was partly destroyed and people moved to settlements founded near farms and industrial enterprises.

Since the 1970s settlement structure in the Soviet Estonia was purposefully designed and planned based on the theory of central places. Settlements were categorised as with or without perspective, the assumption was that larger settlements should grow faster and it was recommended to construct new dwellings and SI there. Statistical analysis of the population census shows that growth of central settlements of rural regions took place in the 1970-1980s mostly, whereas the size and the speed growth had a high correlation.

However, recommendations of planners were not always followed, especially concerning the development of settlements of categories III and IV. Enterprises and collective farms constructed to suit their needs, category II settlements developed the most and thus created structures which copied the existing centres, e.g. Sääse and Selja settlements, located only a few kilometres from the stronger centre.

Collective farms were merged and grew bigger, therefore the development of the centres of the merged collective farms reduced to subunit centres halted in the 1970-1980s – they

mainly became farm settlements. Within all the case areas we could find such small centres in the phase of regression, with poor economic and population situation.

Settlement structure, formed or developed to serve the interests of the industry cannot be sustainable as the purpose of spatial development or service provision was not people's welfare but economic results. Accordingly, quality of environment was not invested in: multi-story blocks of flats were constructed, completely unsuitable in the rural environment (in the middle of open fields). Collective space was not designed through common activities or foundation of SI and living environment to satisfy the needs of the people. Settlements with long traditions, "inhabited" environment, such as Tori, which preserved their central status over time, are considerably more sustainable. However, there are few such settlements as purposeful planning which takes into account settlements' quality of environment has never worked in Estonian rural areas.

In the 1990s when the industrial base of rural economy was destroyed, larger settlements were first to lose and small villages to gain population. Shrinking of large settlements had most extreme forms, e.g. Sääse collective farm village where some blocks of flats are abandoned, real estate is worthless and the whole settlement is becoming a slum. Unfortunately, it is not a rare case. The term "collective farm village" could actually be used to denote a settlement established during the Soviet period, now having poor environment.

The whole habitation system is problematic and especially the fragmentary location of service institutions. Today, because of the decreasing population, especially children, local centres are often too small to have essential service institutions and there are too many of them, partially they copy each other, too. Some areas do not have higher category (III) centres or their services as the former settlements development was discontinued. It is a potential source of conflict because the present SI requires modernisation but lack a sufficient number of customers in its hinterland. On the other hand, these customers are used to buying the services near their homes and are not mobile either.

The analysis of the development plans of the local governments shows that the source of conflict is not considered: irrespective of falling student numbers, with classes of less than 10, merger or closing the schools is not planned. Financing of schools depends, first and foremost, on the national capitation fees, additional costs on buildings and personnel are covered from the budgets of local governments. Attitude towards other SI objects which have decreasing numbers of customers – sports facilities, kindergartens, community centres, etc – is similar. Unfortunately, there is little cooperation between local governments to commonly use and develop SI – there are no cross-border activities.

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APPENDIXES

Appendix 1. The profile of Koonga municipality, Pärnu County

Population (2000)	1353
Surface area, km ²	438.51
The distance of municipal centre from a county centre, km	35.6
The distance of municipal centre from Tallinnast, km	120.1
Share of jobs outside the municipality % (2000)	28.7

	Municipality	Estonia
Unemployment, % (2000)	25.4	13,9
Employment rate, % (2000)	35.1	48,6
Personal income tax revenues per capita, Estonia=100% (2000)	37	100
Personal income tax revenues per capita, Estonia=100% (2001)	40	100
Personal income tax revenues per capita, Estonia=100% (2002)	46	100
Population change % (1959-1989)	-34.7	31,2
Population change % (1989-2000)	-15.8	-12,1
Share of over 65-yers old population, % (2000)	14.9	15,0
Rate of 25-44-year old to 45-64-year old population (2000)	0.97	1,11
Total number of new apartments/houses 1991-2000	8	
Total number of new apartments/houses 1991-2000 per 1000 inh.	6.0	17,7
Total number of new apartments/houses 1996-2000 per 1000 inh.	1.5	6,7

Villages

	Irta	Koonga	Lõpe	Oidrema	Rabavere	Tarva
Type of the settlement	S	MF	F	S	S	S
Population (2000)	53	309	190	143	73	31
The distance from a municipal centre, km	5	0	14	21	15	11
Population change % (1959-1989)						
Population change % (1989-2000)						
Share of over 65-yers old population, % (2000)	13.2	7.4	7.9	17.5	12.3	38.7
Rate of 25-44-year old to 45-64-year old population (2000)	2.00	1.54	0.64	1.38	0.70	0.40
Total number of new apartments/houses 1991-2000	0	5	0	1	0	0
Total number of new apartments/houses 1991-2000 per 1000 inh.	0.0	16.2	0.0	7.0	0.0	0.0
Total number of new apartments/houses 1996-2000 per 1000 inh.	0.0	0.0	0.0	0.0	0.0	0.0
Unemployment, % (2000)	70.6	25.7	17.1	22.2	8.7	45.5
Employment rate, % (2000)	14.7	45.1	44.4	39.3	36.8	20.7

Appendix 2. The profile of Tori municipality, Pärnu County

Population (2000)	2610
Surface area, km ²	282,1
The distance of municipal centre from a county centre, km	26,8
The distance of municipal centre from Tallinnast, km	123,3
Share of jobs outside the municipality % (2000)	37,2

	Municipality	Estonia
Unemployment, % (2000)	10,4	13,9
Employment rate, % (2000)	44,8	48,6
Personal income tax revenues per capita, Estonia=100% (2000)	67	100
Personal income tax revenues per capita, Estonia=100% (2001)	72	100
Personal income tax revenues per capita, Estonia=100% (2002)	81	100
Population change % (1959-1989)	-15,3	31,2
Population change % (1989-2000)	-0,9	-12,1
Share of over 65-yers old population, % (2000)	14,4	15,0
Rate of 25-44-year old to 45-64-year old population (2000)	0,99	1,11
Total number of new apartments/houses 1991-2000	51	
Total number of new apartments/houses 1991-2000 per 1000 inh.	19,5	17,7
Total number of new apartments/houses 1996-2000 per 1000 inh.	5,4	6,7

Villages

	Tori	Selja	Jõesuu	Taali	Piistaoja	Aesoo
Type of the settlement	BMF	F	F	S	S	S
Population (2000)	537	414	401	252	113	56
The distance from a municipal centre, km	0	6	7	5	12	18
Population change % (1959-1989)	27	66	160	43	-3	-86
Population change % (1989-2000)	-8	4	3	11	-11	93
Share of over 65-yers old population, % (2000)	15,1	8,5	12,5	11,1	15,0	14,3
Rate of 25-44-year old to 45-64-year old population (2000)	1,2	1,2	1,2	1,3	1,0	1,0
Total number of new apartments/houses 1991-2000	20	3	6	0	2	1
Total number of new apartments/houses 1991-2000 per 1000 inh.	37	7	15	0	18	18
Total number of new apartments/houses 1996-2000 per 1000 inh.	0	0	0	0	0	2
Unemployment, % (2000)	7,0	5,6	12,1	14,6	0,0	5,9
Employment rate, % (2000)	48,3	61,5	39,6	46,6	48,9	35,6

Appendix 3. The profile of Laekvere municipality, Lääne-Viru County

Population (2000)	1899
Surface area, km ²	352,42
The distance of municipal centre from a county centre, km	36,3
The distance of municipal centre from Tallinnast, km	135,5
Share of jobs outside the municipality % (2000)	30,2

	Municipality	Estonia
Unemployment, % (2000)	11,9	13,9
Employment rate, % (2000)	41,1	48,6
Personal income tax revenues per capita, Estonia=100% (2000)	45	100
Personal income tax revenues per capita, Estonia=100% (2001)	43	100
Personal income tax revenues per capita, Estonia=100% (2002)	56	100
Population change % (1959-1989)	-38,4	31,2
Population change % (1989-2000)	-11,4	-12,1
Share of over 65-yers old population, % (2000)	16,4	15,0
Rate of 25-44-year old to 45-64-year old population (2000)	1,15	1,11
Total number of new apartments/houses 1991-2000	16	
Total number of new apartments/houses 1991-2000 per 1000 inh.	8,4	17,7
Total number of new apartments/houses 1996-2000 per 1000 inh.	2,1	6,7

Villages

	Laekvere	Muuga	Paasvere	Rahkla	Venevere
Type of the settlement	BMF	S	S	S	S
Population (2000)	482	268	211	185	173
The distance from a municipal centre, km	0	6	5	4	13
Population change % (1959-1989)	88,4	-16,9	-47,3	-36,6	-44,4
Population change % (1989-2000)	-14,5	0,0	-21,9	-13,1	-9,9
Share of over 65-yers old population, % (2000)	9,5	14,9	16,6	17,8	18,5
Rate of 25-44-year old to 45-64-year old population (2000)	1,24	1,38	0,95	1,35	1,41
Total number of new apartments/houses 1991-2000	3	3	2	2	1
Total number of new apartments/houses 1991-2000 per 1000 inh.	6,2	11,2	9,5	10,8	5,8
Total number of new apartments/houses 1996-2000 per 1000 inh.	2,1	3,7	0,0	0,0	5,8
Unemployment, % (2000)	3,9	10,0	20,2	12,3	1,7
Employment rate, % (2000)	53,2	48,1	40,1	38,5	44,5

Appendix 4. The profile of Tamsalu municipality, Lääne-Viru County

Population (2000)	2075
Surface area, km ²	210,7
The distance of municipal centre from a county centre, km	27
The distance of municipal centre from Tallinnast, km	101,2
Share of jobs outside the municipality % (2000)	43,1

	Municipality	Estonia
Unemployment, % (2000)	21,0	13,9
Employment rate, % (2000)	39,1	48,6
Personal income tax revenues per capita, Estonia=100% (2000)	50	100
Personal income tax revenues per capita, Estonia=100% (2001)	51	100
Personal income tax revenues per capita, Estonia=100% (2002)	54	100
Population change % (1959-1989)	-9,6	31,2
Population change % (1989-2000)	-23,3	-12,1
Share of over 65-yers old population, % (2000)	15,8	15,0
Rate of 25-44-year old to 45-64-year old population (2000)	0,99	1,11
Total number of new apartments/houses 1991-2000	22	
Total number of new apartments/houses 1991-2000 per 1000 inh.	10,7	17,7
Total number of new apartments/houses 1996-2000 per 1000 inh.	3,9	6,7

Villages

	Sääse	Vajangu	Assamalla	Porkuni
Type of the settlement	F	F	S	S
Population (2000)	505	409	139	215
The distance from a municipal centre, km	0	11	13	7
Population change % (1959-1989)				
Population change % (1989-2000)				
Share of over 65-yers old population, % (2000)	12,7	7,3	12,9	21,9
Rate of 25-44-year old to 45-64-year old population (2000)	1,7	1,2	1,33	0,73
Total number of new apartments/houses 1991-2000	0	11	1	2
Total number of new apartments/houses 1991-2000 per 1000 inh.	0,0	26,9	7,2	9,3
Total number of new apartments/houses 1996-2000 per 1000 inh.	0,0	0,0	7,2	4,7
Unemployment, % (2000)	10,6	7,7	20,8	12,0
Employment rate, % (2000)	45,4	49,3	38,8	51,9

Appendix 5. SI in Tori Municipality

Tori:

Tori Kindergarten
Tori Basic School
Tori sports hall
Stadion (2003)
Tori Volleyball ground
Tori fitness room (2002)
Tori horse riding ground
Tori cultural house
Tori library + internet (2000)
Tori Museum
Tori Church
Tori Ambulatorium

Jõesuu:

Viira Basic School
Viira sports hall (renovated 2003)
Basketball ground
Football ground
Jõesuu village ground for ball-games
Jõesuu youth house (2003)
3 social appartements at Tohera village
Jõesuu endery care home
Jõesuu library + internet (2000)

Selja:

Selja basic school (reopened 1992)
Selja stadion
Basketball ground
Volleyball ground (2002)
Football ground (2003)

Appendix 6. List of rural municipalities analysed

County	Municipality	Lääne-Viru	Rägavere vald	Saare	Ruhnu vald
Harju	Anija vald	Lääne-Viru	Saksi vald	Saare	Salme vald
Harju	Kuusalu vald	Lääne-Viru	Tamsalu vald	Saare	Torgu vald
Harju	Kõue vald	Lääne-Viru	Vihula vald	Tartu	Kambja vald
Harju	Loksa vald	Lääne-Viru	Vinni vald	Tartu	Konguta vald
Harju	Nissi vald	Lääne-Viru	Viru-Nigula vald	Tartu	Laeva vald
Harju	Padise vald	Lääne-Viru	Väike-Maarja vald	Tartu	Rannu vald
Harju	Vasalemma vald	Lääne-Viru	Avanduse vald	Tartu	Rõngu vald
Hiiu	Pühalepa vald	Lääne-Viru	Laekvere vald	Tartu	Vara vald
Hiiu	Emmaste vald	Lääne-Viru	Rakke vald	Tartu	Võnnu vald
Hiiu	Kõrgessaare vald	Põlva	Ahja vald	Tartu	Alatskivi vald
Hiiu	Käina vald	Põlva	Laheda vald	Tartu	Meeksi vald
Ida-Viru	Aseri vald	Põlva	Räpina	Tartu	Peipsiääre vald
Ida-Viru	Iisaku vald	Põlva	Valgjärve vald	Tartu	Piirissaare vald
Ida-Viru	Illuka vald		Vastse-Kuuste vald	Valga	Helme vald
Ida-Viru	Lüganuse vald	Põlva	Kanepi vald	Valga	Hummuli vald
Ida-Viru	Maidla vald	Põlva	Kõlleste vald	Valga	Karula vald
Ida-Viru	Mäetaguse vald	Põlva	Mikitamäe vald	Valga	Palupera vald
Ida-Viru	Sonda vald	Põlva	Mooste vald	Valga	Otepää vald
Ida-Viru	Alajõe vald	Põlva	Orava vald	Valga	Õru vald
Ida-Viru	Avinurme vald	Põlva	Veriora vald	Valga	Puka vald
Ida-Viru	Lohusuu vald	Põlva	Värskä vald	Valga	Põdrala vald
Ida-Viru	Tudulinna vald	Põlva	Halinga vald	Valga	Sangaste vald
Jõgeva	Pajusi vald	Pärnu	Häädemeeste vald	Viljandi	Taheva vald
Jõgeva	Palamuse vald	Pärnu	Kaisma vald	Viljandi	Halliste vald
Jõgeva	Puurmani vald	Pärnu	Koonga vald	Viljandi	Kõo vald
Jõgeva	Põltsamaa vald	Pärnu	Surju vald	Viljandi	Kõpu vald
Jõgeva	Kasepää vald	Pärnu	Tori vald	Viljandi	Olustvere vald
Jõgeva	Pala vald	Pärnu	Vändra vald	Viljandi	Suure-Jaani vald
Jõgeva	Saare vald	Pärnu	Kihnu vald	Viljandi	Tarvastu vald
Jõgeva	Torma vald	Pärnu	Saarde vald	Viljandi	Vastsemõisa vald
Järva	Albu vald	Pärnu	Tali vald	Viljandi	Abja vald
Järva	Imavere vald	Pärnu	Tõstamaa vald	Viljandi	Karksi vald
Järva	Kareda vald	Pärnu	Varbla vald	Viljandi	Kolga-Jaani vald
Järva	Koigi vald	Rapla	Juuru vald	Võru	Lasva vald
Järva	Oisu vald	Rapla	Kaiu vald	Võru	Sõmerpalu vald
Järva	Roosna-Alliku vald	Rapla	Kehtna vald	Võru	Antsla vald
Järva	Türi vald	Rapla	Kohila	Võru	Haanja vald
Järva	Väätsa vald	Rapla	Märjamaa	Võru	Meremäe vald
Järva	Ambla vald	Rapla	Raikküla vald	Võru	Misso vald
Järva	Järva-Jaani vald	Rapla	Käru vald	Võru	Mõniste vald
Järva	Kabala vald	Rapla	Vigala vald	Võru	Rõuge vald
Järva	Koeru vald	Saare	Kärla vald	Võru	Urvaste vald
Järva	Lehtse vald	Saare	Valjala vald	Võru	Varstu vald
Lääne	Martna vald	Saare	Kihelkonna vald	Võru	Vastseliina vald
Lääne	Noarootsi vald	Saare	Laimjala vald		
Lääne	Nõva vald	Saare	Leisi vald		
Lääne	Risti vald	Saare	Lümanda vald		
Lääne	Hanila vald	Saare	Muhu vald		
Lääne	Kullamaa vald	Saare	Mustjala vald		
Lääne	Lihula vald	Saare	Orissaare vald		
Lääne	Vormsi vald	Saare	Põide vald		