

# Chapter 10

## Functional Transformations and Socio-demographic Differentiation of Lithuanian Rural Spaces



E. Kriaučiūnas and D. Burneika

**Abstract** The collapse of communist regime resulted in deep transformation of spatial structures, which were created according to economic and politic needs of soviet society in Lithuania and in other countries of similar historical pathway. One of the most evident spatial results—redistribution of population as new economic and social structures evolve. The paper seeks to identify specific features of functional change and its influence on the social and demographic processes in rural areas of Lithuania. The general transformation of rural areas is deeply influenced by the processes of peripherisation and decreasing economic importance of rural places, however actual situation differs a lot in different places. Many rural areas close to metropolitan centres were transformed into suburban ones. The rural settlements in recreational areas have been transformed into resort areas, which statistically often have no inhabitants. The biggest challenges face small peripheral rural settlements, which are losing population and social infrastructure at very high pace, while social exclusion of part of their residents is increasing. The empirical research is mostly based on statistical data analysis but other sources of information had also been employed.

**Keywords** Rural · Lithuania · Functional change · Regional differentiation · Post-communist

### 10.1 Introduction

The collapse of communist regime, which was seeking to control both economic and social processes, resulted in the fundamental transformations of spatial structures related to these processes. One of the most evident spatial results—redistribution of

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population as new economic and social structures evolve (Lang 2011; Lang et al. 2015; Schmidt et al. 2015; Shleifer and Treisman 2014; Smith and Timár 2010). Post-communist reforms of economy were implemented during a few initial years but related spatial structures, such as a settlement system, are changing much slower than modes of production (Sýkora 1999). Every nation has inherited different spatial structures and processes of changes were somewhat different notwithstanding general similarities related to similar reforms in all post-communist countries. Rural areas are not an exception as they also evolved differently (Bański 2008), though we expected that many findings of this chapter would be evident also in other countries. Notwithstanding similarities of development, which are inevitable as principle economic and political reforms were quite similar as well as neoliberal economic systems that evolved, we hypothesize that actual scale, pace and spatial patterns of processes should be different as they take place on a different background (land use structure, settlement and self-government systems, resources and other factors).

This chapter analyses transformation of rural areas in Lithuania after the restoration of the independence in 1990. Ongoing changes, especially spatial redistribution of population, have made drastic impact on the rural areas, which, depending on location and other structural factors, experienced entirely different fates. Changes of the number of population, demographic structure, economical function and mobility of population differ in different parts of the country. In general, the decrease of the number of population in Lithuania, together with other Baltic states, was among the fastest in the world since 1991 (Berzins and Zvidrins 2011; Civinskas et al. 2011; Eurostat 2018; Ubarevičienė 2017). Rural space, which previously was the main generator of natural increase, played its role here too.

The fast decrease of the number of population in most rural areas raises both real and imaginary problems. At the moment it's a topical theme in Lithuanian media, which perceives these processes exceptionally negatively; however rarely one asks the question, how rural areas could withhold 1/3 of country population at the beginning of 21st century. We are keen to think, that ongoing processes were grounded during soviet period, when rural space was developed according ideas and plans of communist regime. The labour ineffective soviet agriculture and related network of central towns was created, what limited urbanisation of the country. This system was due to collapse in free market economy and it collapsed. The consequences of such a collapse are multiple and mass emigration from the Baltic States also can be perceived as continuing urbanisation, which due to an absence of real borders and income differences involves areas outside the borders of the Lithuanian state.

The process of transformation of Soviet rural spaces could have been different and less drastic, but general trends were inevitable. The governmental policy, lack of self-government at local level, poor reforms (i.e. land restitution), absence of real regional policy and other factors determine that processes of change take place chaotically and in many cases causes bigger economic and social problems than they should. The depopulation, which is happening because of shrinking demand for working force first of all in agriculture, could be less intensive and involve different social groups as mostly younger and more educated people are leaving (Ubarevičienė 2017). Local communities, de facto are most important players defining the trajectories

of development of their places, but they have very limited tools for planning and regulating their future. Notwithstanding of the absence of self-governing powers, namely local communities are becoming more and more active players in rural areas of Lithuania and this provides some hope for their brighter future.

## 10.2 Methods and Data

This study of development trends of rural areas in Lithuania is mostly based on empirical methodology. Authors try to reveal ongoing trends mostly using statistical data directly or indirectly illustrating rural development trends during analysed post-soviet period. Though the statistical data analysis is the main tool of the research, but other methods had to be employed as well because of limitations of existing data sources. The reference analysis of findings of previous authors was used for the revelation of the situation in rural areas mostly during soviet era. The third source of information, which has helped to detect trends of socio-economic change at local level, was related to several field trips carried out in different Lithuanian rural regions in 2013–2017.

Sufficient changes in data gathering methodology have occurred during analysed period, therefore some comparisons had to be made with the great precaution (especially concerning data describing the last decade of previous century). The database of Department of Statistics of Lithuania (Statistics Lithuania 2018) was the main source of data. Majority of data on demographic and socio-economic development are available only at municipal (or even County (NUTS 3)) level, while Lithuanian municipalities always involve urban areas; therefore regional statistics can be used only for illustration of general trends of development but not specifically for rural areas. For the illustration of socio-demographic situation in rural areas in different regions we used data of population censuses of 2001 and 2011. Though the data is of a few years old, but it illustrates situation and trends of changes quite well. The visual analysis of prepared maps was used to detect regional trends.

The reference analysis was mostly used for the revelation of trends of changes of rural areas during Soviet era of command economy. We found it useful to start our analysis from this period, which actually reshaped all historical heritage of Lithuania rural areas (both economic and settlement systems). As many statistical sources used by previous studies are not easily reachable now and it's only the secondary task of the chapter, authors found rational to use reference analysis for this part of the study.

The third and the least important source of information, which also helped to reveal ongoing changes in rural settlements, was related to the field trips carried out during several studies in 2013–2017; however these studies weren't devoted for the revelation of functional changes of rural places in whole Lithuania. Instead they were implemented for the revelation of some specific cases of rural change (i.e. situation in suburban or the least populated or recreational areas). Due to this reason, semi-structured interviews taken and data gathered do not provide sufficient basis for making the conclusions on the transformation trends in whole Lithuania. How-

ever, more than 30 rural settlements were visited in several Lithuanian regions and additional evidences of actual trajectories of change in rural places were gathered, which support conclusions made by the authors using other methods. Though the major findings of these field trips go in line with the situation described using statistical information, but major conclusions and generalisations were made using other methods of research.

Authors do not seek to contribute to long lasting discussion on urban—rural division of space (Halfacree 1993). The analysis is based on formal division of settlements into urban and rural ones adopted in Lithuanian legislation, which distinguishes 103 urban settlements in 2017, while remaining settlements are qualified as rural ones. Many of the latter function as suburban ones, while some smaller formally urban towns have important agricultural function as well.

### 10.3 Functional Divisions of Rural Settlements in Soviet Lithuania

Though communist period have made huge impact on rural areas of all CEE countries, but actual impact was different in different countries; therefore post-communist reforms took place on “different ground” and should have had different consequences in different states even if the reforms had been the same. We will briefly present the main points of those Soviet reforms in Lithuania, which influenced analysed processes the most.

*Reforms of rural settlement network.* Until the WWII Lithuania was an agrarian state where a small farm was a dominant mode of agricultural production and grange (or small village) was prevailing type of settlement. 160 thousand granges were established in 1919–1939 (Rupas and Vaitekūnas 1980) and there were some 300 thousand of them altogether (Lietuvos TSR ... 1974). Approximately 46 granges existed in 10 km<sup>2</sup> and such a structure didn't suite Soviet society (neither for economic reasons nor for political ones).

The collectivisation<sup>1</sup> or creation of collective farms (kolkhozes) started already in 1947 and almost 90% of farms belonged to kolkhozes already in 1951 (Jepsen et al. 2015). At the same year the resettlement of farmers to central settlements began but the process was slow due to opposition of residents of granges. 264 thousand

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<sup>1</sup>So called collectivisation is a forcible soviet agrarian reform, which aimed at creation of kolkhozes by forcing farmers to become members of cooperative agricultural farms so actually nationalising their property (land, stock, etc.), which formed background of a kolkhoz. The collectivisation was “supported” by the deportation of those rejecting to join kolkhoz to Siberia. More than 70,000 residents (98.3% of them were farmers) were exiled and their property was alienated to kolkhozes just in 1948–1949) (Skebas and Spečiūnas 2006). Apart of other negative consequences, the collectivisation resulted in sharp decrease of agricultural production as number of stock and grain harvest dropped twice compared to pre War period. Previous production level was reached only in the middle of 60s (Truska 1995). Though the harvest of kolkhoz formally belonged to its members, actually state disposed it.

granges still inhabited 73.9% of rural households in 1967 (Maldžiūnas 1970). The process gained pace in 70s, when the implementation of spatial planning conception of “Unified settlement system” has been started (Maldžiūnas 1970; Šešelgis 1975, 1996). The reconstruction of rural areas was based on kolkhoz type agricultural development. The lowest level of settlement system was a single farm (“*kolkhoz*” or “*sovhoz*”),<sup>2</sup> which consisted of the central settlement and a very few smaller subsidiary settlements, which were to be liquidated in the future (Maldžiūnas 1970; Šešelgis 1975; Vaitekūnas 1989). These farms administrated (governed) approx. 70% of all Lithuanian territory (Rupas and Vaitekūnas 1980).

Settlements for other economic activities were scarce but they were important at local level. Forests took some 30% of Lithuanian territory but settlements for forestry workers was an exception found mostly in the biggest forests of Lithuania. According to Soviet statistical data there were 485 rural settlements devoted to forestry system, which inhabited only 1.5% of rural population in 1970 (Lietuvos TSR ... 1974).

Rural settlements for industry workers were created mostly near places of extraction of natural resources. There were some 150 of such settlements in Lithuania and most of them were established near deposits of peat, sand, clay, dolomite, sandstone (Vaitekūnas 1989). Some settlements had also recreational functions, but usually it was only supplementary function foreseen in planning documents (except a very few cases of resorts).

The Soviet efforts of deconcentrated economic development also resulted in creation of suburban (or actually periurban) farms, which specialized in vegetable cultivation (mainly greenhouses), gardening or poultry. Such settlements often were created in between biggest cities (i.e. big poultry farms in Vievis and Kasiadorys located between Vilnius and Kaunas) and employed rural and closely located urban residents. Majority of these periurban settlements were quite attractive places of residents (even for those employed in other places) and started to grow faster than planned. Finally they became the biggest villages in Lithuania (inhabiting a few thousand residents).

Service infrastructure in rural settlements. The development of institutions for residential services and education used to depend on the place of village in a hierarchical system of settlements. Central farm settlement concentrated institutions of everyday needs (shop, kindergarten, canteen, school, house of culture, post office, bank office, library, medical office) (Teisės aktų ... 2009; Vaitekūnas 1989). The number of institutions differed according to size and function of a settlement and the administrative centres had more institutions. Bigger settlements have higher level schools. Small subsidiary settlements usually had just one small shop. In reality the

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<sup>2</sup>Formally the property of kolkhozes (land, stock, farms, harvest, etc.) belonged to kolkhoz members, while employees of sovkhoses were contract workers, which used to receive salaries. Property of sovhoz belonged to the state; however in reality the differences were minimal as decision power was in the hands of state and communist party in both cases. The sovkhoses usually were created in places of nationalised bigger noble farms right after the World War II and had to serve as a pioneers of soviet agriculture, illustrating the advantages of soviet farms for neighbouring farmers so helping to “persuade” them to join kolkhoz. (Šopa 1974). Sovhozes also were actually all specialized farms (for example garden, poultry farms).

development of social institution networks could depend on some other unpredicted circumstances such as the position and relations of leader of collective farm.

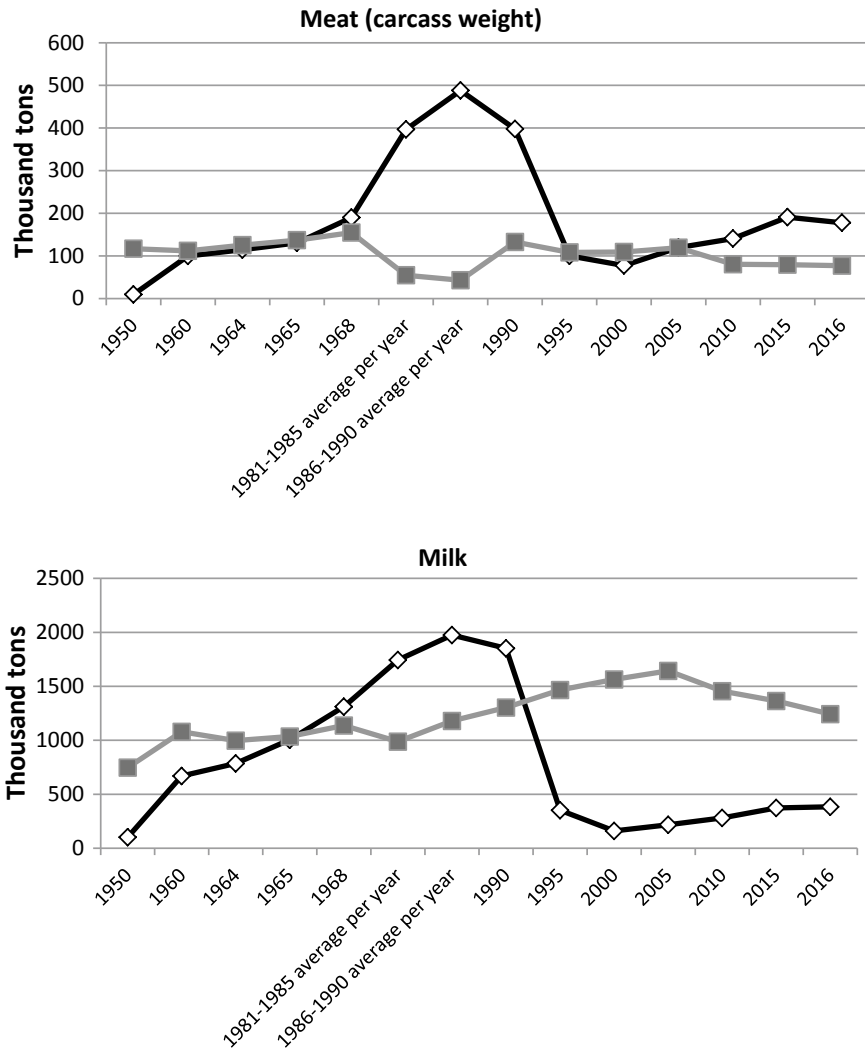
Besides central planning other factors were making impact on development of rural settlements too. The location of settlements in relation to the bigger cities was crucial factor defining trajectories of change in periurban settlements. The closest settlements grew faster and gained additional functions. More distant villages, even the biggest one, were losing population faster, while the smallest tend to disappear altogether (Rupas and Vaitekūnas 1980). Obviously, even in Soviet era the peripherisation processes were common for Lithuanian territory. Almost 1 million residents left rural areas in 1951–1990 and natural increase compensated only 37% of this loss (Stanaitis 2010). Birth rates were decreasing (until become negative) and emigration was increasing almost constantly during this period.

*The development of agriculture in rural areas.* One of the major tasks of Soviet system was to destroy private agricultural farming concentrating agricultural production in cooperative enterprises. The task was challenging and agriculture remained an ineffective sector (in a sense of labour and energy consumption). Constant deficit of agricultural products in Soviet Union and some other factors (such as relatively well developed state system of buying of milk and animals, small incomes of kolkhoz members and comparatively high prices of milk and meat) determined that private (or so called individual) production played an important role during all the period. The soviet agriculture was inefficient and even Soviet statistics indicated that private production constituted an important part of it (Fig. 10.1). It was especially evident in stock raising and dairying. Various restrictions for the individual production were introduced but still private production of meat and dairy matched the one of cooperatives until 70s (Lietuvos TSR ... 1969).

*The results of soviet reforms.* The final results of Soviet reforms have become visible only in 80s, when the number of kolkhozes has been decreased (by means of joining the smaller ones) and big meet and milk producing facilities were established. Approximately 1.18 million residents or 32% of Lithuanian population use to live in rural settlements in 1989. The network of rural settlements was reshaped during this period, as 737 kolkhozes and 282 sovkhoses were finally operating with 1086 central and 1132 subsidiary settlements (Žemės kadastras 1989). There were still some 100,000 granges though all of them should have been liquidated according to the earlier mention plan and general aim of rural development of communist party (Vaitekūnas 2006).

During 1940–1990 agricultural land area decreased by more than 20% and arable land by more than 25%. In 1990, agricultural land accounted for 54% the country's area (Jepsen et al. 2015). The agriculture produced some 27.3% of GDP at the end of Soviet era and employed 17.6% of working force (Lietuvos statistikos ... 1991). 56% of employed rural residents used to work in agriculture and forestry.

We may summarise, that several decades of reforms weren't able to annihilate private farming, which was still producing more than 1/3 of milk and substantial amounts of meat at the end of soviet period (Lietuvos statistikos ... 1990). We must have in mind that people had to hide their own production, which was exceeding permitted limits, so real numbers of private production should have been much bigger.



**Fig. 10.1** The production of meat and milk in 1950–2016 in Lithuania. Meaning of symbols in the graph:  $\diamond$ —kolkhoz and sovkhos, since 1991 agricultural partnerships and enterprises;  $\blacksquare$ —farmers' and household farms. *Source* Authors' calculations based on Lietuvos TSR ... (1969), Lietuvos statistikos ... (1990, 2001, 2012), Lithuanian statistics (2018)

The Soviet agricultural policy was ineffective and even modernisation of farming was not helping to ensure sufficient production. Agriculture was inefficient especially in a sense of labour consumption, as employment in agriculture exceeded the one in western countries several times. The private farming was decisive ensuring living standards of rural residents and supply of agricultural products for local population.

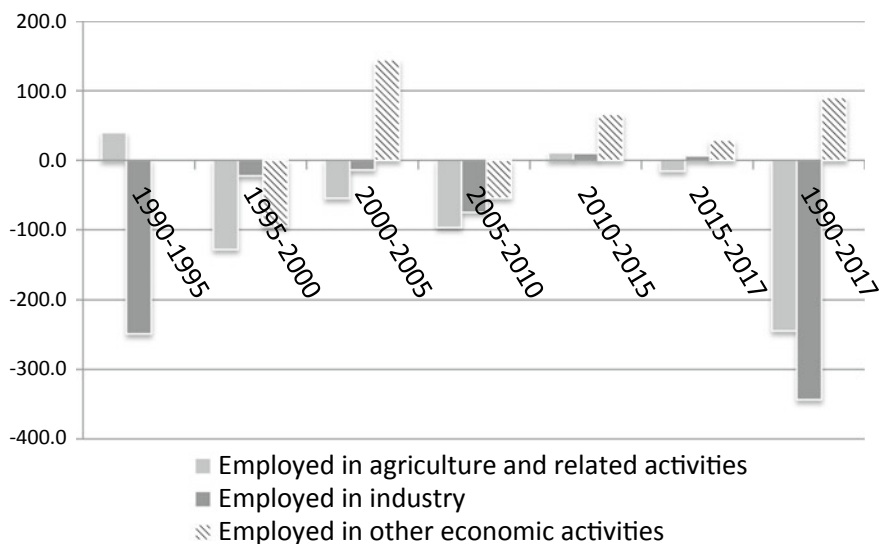
## 10.4 General Trends of Development of Rural Areas Since 1990

The production system and settlement network inherited from Soviet period was not suitable for rural areas based on private farming under the condition of free market economy. The changes of political, economic and social conditions for economic development have resulted in the collapse of most soviet industrial economy, including industrialised soviet agriculture. Kolkhoz system collapsed as land was privatised and system of obligatory employment was abandoned. Human decisions reacted to ongoing changes, though it wasn't easy to change the way of thinking and doing for people raised in Soviet system, where all the decisions had top—down character. Negative demographic trends (decreasing birth rates, increased mortality) in rural areas has started to make their influence on the development as natural increase become negative.

The collapse of soviet system has mostly affected employment in industry and agriculture. The loss of jobs in industry took place during the very beginning of the post-communist period, while later it was quite stable (with the exception of 2008–2009 economic crisis). The employment in agriculture had trend to slightly increase until 1995–1996 (Fig. 10.2) as land restitution has attracted some urban residents back to rural areas, where they or their parents used to live. The employment in agriculture reached 23.7% in 1995 but small farms weren't able to make substantial profit and the employment started to fall down at a high pace. The rapid downfall ended approximately in 2010 when the number of agricultural employees dropped till 106.4 thousand, what constituted 8.4% of total employment. As general level of employment was growing this share has dropped till 7.8% in 2017, when agriculture employed 105.6 thousand employees (Statistics Lithuania 2018).

The employment in agriculture dropped more than 3 times during last two decades, while it was growing in tertiary economic sectors (the total decrease of employment in post-communist period reached some 25–30%). These numbers mean that previous industry and agricultural workers had to find other jobs and in the case of rural areas, almost all alternatives meant the different place of job. Obviously this triggered mobility of rural labour force, which in some case gained international dimension in a form of emigration and sometimes resulted in growing commuting flows. As number of rural residents has decreased only by 21%, we may state that cardinal functional changes of rural areas should have happened and at least formal (statistical) rural areas are not predominantly agricultural any more.



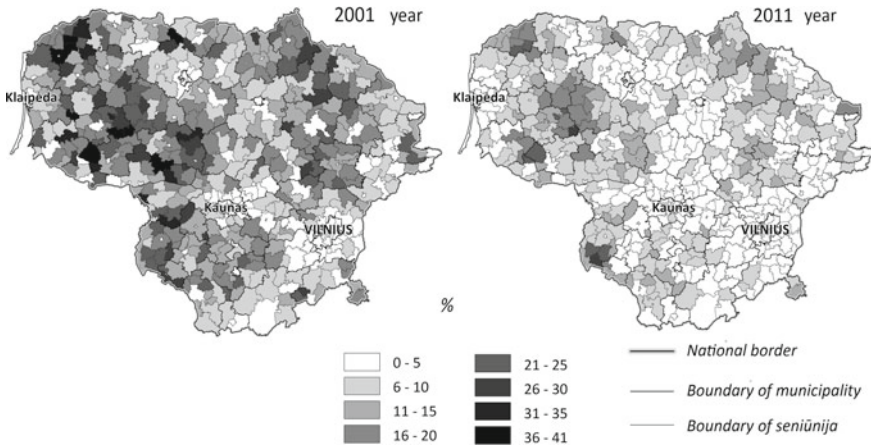


**Fig. 10.2** Changes of employment (thousand) in the main sectors of economy in Lithuania in 1990–2017. *Data source* Authors' calculations based on Lietuvos statistikos (1990, 2001, 2012), Statistics Lithuania (2018)

We also have to have in mind that the employment in agriculture often provides households only with partial income and part of those employed in agriculture have different main source of income. Our former analysis of censuses data showed that the number of residents, whose main source of income is agriculture has dropped from 97.1 thousand till 37.9 thousand in 2001–2011 (Kriauciūnas et al. 2014). So agriculture was the main source of income only for 3.5% of rural population in 2011. Though this decrease is also related to dropping share of working age population in rural areas (Fig. 10.3), but it confirms decreasing role of agriculture as the main income provider for rural areas.

According to the data of the census 2011 only 47.7% of employed rural population worked in the same settlement in which they resided, while 50% worked in other place and 2% declared that they work abroad. Unsurprisingly this share depended on the location of a settlement. More than 60% of employed rural residents of municipalities surrounding the metropolitan cities had jobs not in places they resided, while the situation in peripheral municipalities was opposite (Pociūtė-Sereikienė et al. 2014).

Apart from the general decrease of role of agriculture in rural life, the fundamental changes of its structure has been monitored. The animal production has lost its leading role as crop production was becoming more profitable. The crop production constituted only 31% of all agricultural production in 1989 and it took 66% in 2017. The Lithuanian rural economy, which was based on large animal production farms (complexes) was transformed into privately managed mainly crop producing one. There were various reasons for this change. It was difficult to sustain large soviet



**Fig. 10.3** The share of the working-age population in LAU 2 regions whose main income source was agricultural activity. *Source* Authors' calculations based on 2001 and 2011 census data

complexes in privately organised agriculture. Mostly large pig production complexes, which were privatised by foreign investors, survived. The crop production at the beginning required less investments and organisational and managerial skills. The agricultural policy of EU also has made its impact as well as many other factors, which will not be discussed here. We just can summarise that when farmers noticed the growing profitability of crop production, they had started buying and renting lands. Similar effect was made by the growing importance of agro-business. The main impact of this change in our case is related to the reduction of demand of working force as such mode of production requires much less human resources than dairy or meat production. Obviously this also was a factor reducing employment in and increasing emigration from the rural areas. On the other hand, Figs. 10.1 and 10.2 show that the biggest decrease was related to the fall of production in large facilities developed in period of 1965–1990, while private production kept on going and we may hypothesize that namely private farming, which survived soviet system reforms, provided the background for the development of present agriculture instead of soviet kolkhozes or sovkhozes.

#### 10.4.1 The Main Demographic Trends in Lithuanian Regions

The country inherited one of the most balanced (in a sense of evenness) settlement system (Aberg 2005), which hadn't one clearly dominant centre and network of lowest settlements was also quite similar everywhere, though density of settlements differed. Since the collapse of Soviet Union the processes of metropolisation and centralisation have gained pace and at present approx. 1/3 of all births takes place in

Vilnius metropolitan region, while the most peripheral settlements lost up to 50% of their population (Statistics Lithuania 2018). The migration and differences of natural increase were the main processes making these changes, though driving factors of course were changing structure of Lithuanian economy and society.

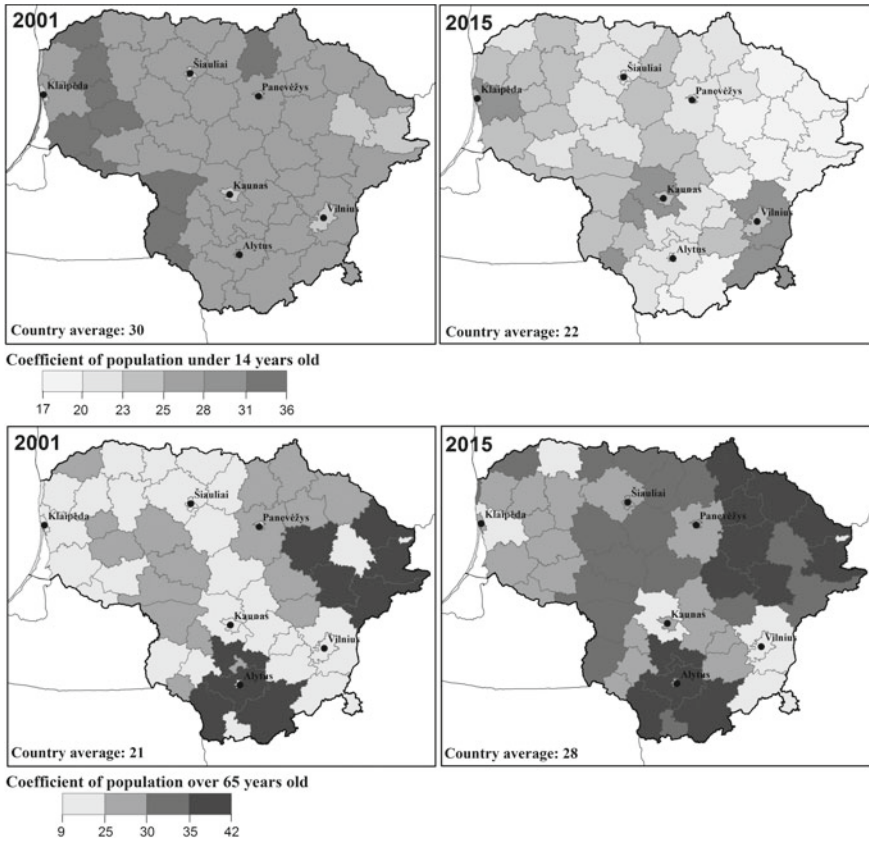
Number of Lithuanian population has decreased by 23.9% (0.88 million) from 1990 till 2018 when it stood at 2.81 million. Rural population decrease was relatively smaller (21.6%, as it dropped since 1.18 till 0.93 million) but actual trends were highly differentiated and this smaller number is mostly an outcome of the suburbanisation. The factor of centre—periphery was very visible as the degree of this decrease depended on the settlement's distance from the main cities of the country. Most peripheral areas lost more than 40% of their rural population (Statistics Lithuania 2018).

The main spatial differences of demographic development of Lithuania can be easily distinguished between its Westerns and Eastern parts (Fig. 10.4). Though most of Lithuanian municipalities had negative demographic trends in 21st century, but these regional differences remain. Western Lithuania still has bigger settlements, higher births rates, lower median age of population but higher foreign emigration, while Eastern Lithuania has got bigger density of smaller settlements and high share of old population but small negative net migration.

The growing impact of metropolitan cities is making decisive impact on the trajectories of development of rural areas in their hinterland regions (Burneika et al. 2017). The closest rural settlements were transformed into suburban areas, more distant have mixed structure (new suburban areas live nearby older rural communities), even more distant ones, which are still within the limits of hinterlands, have more positive net migration as some households chose to live in periurban areas or at least purchases summer houses for seasonal residence.

The fastest decrease is evident in localities, which are the most distant from all 3 metropolitan centres. Though processes of natural increase and inner country migrations make strong impact on the population change in peripheral regions, the international migration plays the decisive role in most cases. As negative demographic situation in the Eastern part of the country is the main factor of the shrinkage of the number of population, the emigration to foreign countries (mainly to the United Kingdom, Norway and Ireland) plays similar effect in the Western regions. As a result, the pace of population decrease is similar in western and eastern parts of Lithuania with the exception of metropolitan areas. Obviously, the foreign migration affected municipalities with less favourable location (in relation to metropolitan regions, where the best jobs in tertiary sector concentrate) and higher share of younger population the most.

The aging coefficient in Lithuania increased almost twice in 2001–2015 (from 71 till 129) but it exceeded 200 in some municipalities of North-eastern and Southern Lithuania. It stands below 100 in suburban municipalities. The differences at LAU 2 level are even greater. The coefficient of aging exceeded 400 in some LAU 2 regions of Moletai, Utena, Ignalina and Svencionys municipalities. The extremely fast depopulation is inevitable as number of residents over 65 y.o. is more than 4 times bigger than the number of children under 15 y.o.



**Fig. 10.4** The differences of age structure of population in Lithuanian municipalities in 2000 and 2015. Authors’ compilation according to data of Lithuanian statistics (2018)

The location of municipality determines the supply of available jobs, which results in commuting flows or positive inner net migration (not only in suburban zone), though in most cases this impact is not related to the traditional rural agricultural activities. We may assume that the markets of metropolitan centres provide some premises for more intensive agricultural land use in surrounding areas, what also could be a factor for the smaller population loss but we have no reliable data supporting this hypothesis. Anyway, we may summarise, that regional differences of the main trends of population change are related to the inner migrations. These changes are not only inevitable reaction of employees to changing jobs’ supply but also a factor for future development as they result in shinking social infrastructure, human and economic potential in these regions.

### ***10.4.2 Some Aspects of Changes of Social Infrastructure and Settlement System***

The relocation of jobs into urban centres results in growing mobility of population almost in whole multimodal country as there usually is some city within commuting distance. Population is growing in suburban zones but it dropped more than twice in most distant LAU 2 regions. Intermediate areas, which are not affected by suburban sprawl but still within commuting distance feel positive impact of 3 biggest metropolitan labour markets but this situation of course causes some negative economic and psychological consequences as most jobs were located in place of residence during soviet period.

The 2001 and 2011 censuses' data is the only reliable source of information at rural level. During this period the number of population has decreased in 73.9%, increased in 18.5% and remain stable in 7.5% of rural settlements. This decrease has caused the actual disappearance of 1480 settlements (8.1% of all settlements). The 164 settlements have been recreated (Statistics Lithuania 2018).

The analysis has also revealed that the shrinkage has had different pace in settlements of different size. 34.2% of settlements, which had 1–4 residents, has disappeared, but the number of population decreased only in 60% of them (1/5 of them has grown bigger). Similar situation (better than average) was detected in other small settlements (up to 24 residents) as well as in the biggest of them (above 1000 residents). The worst situation was common for the middle size settlements (200–999 residents), which inhabits the majority of rural population. Only 10% of such settlements have increasing number of residents, while pace of their shrinkage was the fastest.

The role (proportion) of big suburban settlements is increasing similarly to other countries (Antrop 2004; Brown and Schafft 2002). As long as formal rural status of settlements is stable, the increase of rural population in suburban areas ensures the stability of proportion of formal rural population in Lithuania.

The decrease of population in actual rural spaces has strong impact on trends of development of public institutions' network. It makes also impact on the network of private enterprises, but available data is not sufficient in this case. The network of public institutions actually was a heritage of Soviet period and at present it depends not only on the number of its users but also on abilities and priorities of municipal authorities. This local policy differs in different places and not always directly corresponds to rapidly changing demographic and social situation. We will shortly present the main direction of development of public institutions' networks in rural areas.

Education. Every central settlement used to have secondary or at least eight grade school in Soviet period, while majority of subsidiary settlements had primary schools. At present the development of education infrastructure is under responsibility of municipalities. The decreased birth rates resulted in the shrinkage of pupils' number since 2000. As a results the number of schools has been decreasing since the same time. The number of schools in Lithuania decreased twice (51%) in 2000–2016;

however this number decreased by 70% in rural areas and only by 13% in urban ones. The number of pupils decreased by 45.2% (by 58.2% in rural settlements). The concentrations of school network in urban areas is evident (there were only 33.3% of schools in urban areas in 2000 and this share increased till 59.1% in 2016/2017). Similarly the number of pupils in rural schools also has dropped. 24.1% of pupils attended rural schools in 2000 and this share decreased till 18.4% though rural areas inhabits still 1/3 of countries population (Statistics Lithuania 2018). We also may notice, that schools of general education still operate in some small settlements with 200–300 residents.

The kindergartens still exist in bigger rural settlements, which have more than 600–700 residents. Some smaller settlements, serving as centres of LAU 2 regions (Seniunija or eldership), have kindergartens, which operate usually as divisions of bigger ones located in municipal centres.

Culture houses and libraries. Every central kolkhoz settlement use to have a Culture house with a few employees. Usually they had big room for cinema or other cultural events. These buildings often played kolkhoz's administrative function and had libraries inside. Many of these energy inefficient buildings were abandoned as kolkhoz system collapsed though structure of organisation of cultural life remained. Every municipality organises cultural activity differently. Centres of culture are being established, some local culture houses serve as their divisions, as centres of entertainment and leisure, halls etc. The local communities, which could receive support from EU funds, play more and more important role in activities of culture centres. Revitalisation of old manors and culture houses and their adoption to the needs of community is under way.

There were 1.4 thousand libraries in rural areas of Lithuania in 1990 (76% of all libraries) (Lietuvos statistikos ... 1991). There were still 1057 libraries in rural areas in 2016 (Statistics Lithuania 2018). The number of libraries actually corresponds to the number of former central settlements. Absolute majority of libraries have open internet access points, which are popular among local residents as we have monitored during field trips to these towns in 2013–2015. Libraries became important centres of cultural activities in rural settlements as often it is the only establishment of public (cultural) purposes after the closure of schools or culture houses.

Shops and catering. There were 6.7 thousand shops in Lithuania at the end of soviet period (2.7 thousand of them in rural areas) (Lietuvos statistikos ... 1991). Under the free market economy, the number of shops in rural areas has increased right after the restoration of independence but at present it tends to modestly decrease as number of population is shrinking (Bučienė 2011; Srėbaliėnė 2012); however the network is still denser than in Soviet era. The concentration of shops in bigger settlement is detected as towns with more than 500 residents usually have two, three or even more shops. The field research revealed that local retail chains keep shops open in settlements, which still have 300 residents or more. This trend was also monitored by other authors (Murauskaitė 2014). Most settlements with population exceeding 100, have stationary shops, while smaller ones tend to be served by private auto-shops regularly visiting small villages. In general the shopping network and supply of retail services is much better than in soviet era not mentioning the variety of

available goods. There were no regional differences detected, the existence of retail services depends on the size of a settlement and seasonal variation of tourists.

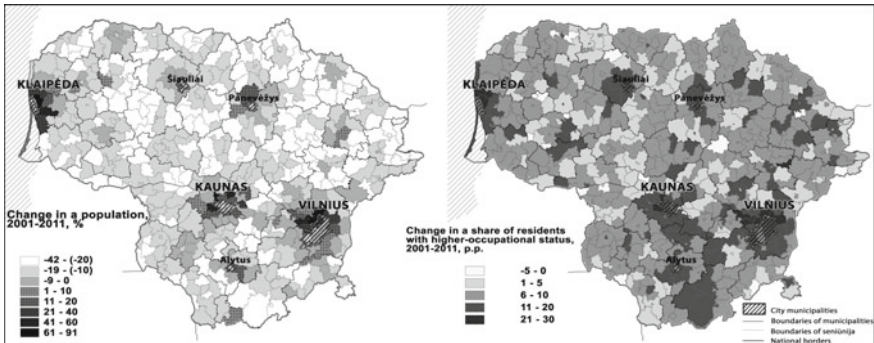
Majority of catering facilities were directly linked with collective farms in soviet era. After the collapse of soviet kolkhoz system the catering establishments have been closed in majority cases. The rural settlements used to withhold 31% of all catering establishments of Lithuania in 1989. At present the catering business is common only for those rural places, which have good external markets (near roads or close to cities or in recreational regions). The local market was the major factor of development of this network in rural places during Soviet era and the external one is now.

Though due to the limitations of the chapter there is no possibilities for the deeper analysis of other types of activities in rural areas, but networks of drug stores, post offices, medical points were also shrinking (Kriaučiūnas et al. 2016). So summarising we may state that only the networks of shops was expanding during the post-communist period. Other services were shrinking with the exception of some specific cases like tourism services providing enterprises in some regions.

## 10.5 Major Areas of Change in Lithuanian Rural

**Suburban spaces.** One of the most obvious transformations of rural space was related to suburbanisation processes in the surroundings of all bigger cities of Lithuania; however the most intensive these processes have transformed residential settlements in vicinity of three metropolitan cities – Vilnius, Kaunas and Klaipėda. The weakly controlled and fast suburbanisation was major trends of development of most metropolitan cities of Central and Eastern Europe (Boren and Gentile 2007; Gentile et al. 2012). The suburban settlements appear in former rural areas up to 30 km from the cities. The majority of population in areas close to cities' administrative limits compose newcomers from urban centres (Burneika et al. 2017). Most distant suburban areas are still predominantly rural but agrarian landscapes are under change also there as higher shares of land is actually (though not formally) used for residential or recreational purposes. According to our calculations, suburban rural areas inhabit 250–300 thousand residents or approximately 30% of total rural population. The statistical information is unreliable, as many suburban newcomers register themselves as farmers in order to gain permission to build a house in lands of agrarian destination and many do not declare the place of residence in non-city municipality in order to have permission to use cities schools, kindergartens, etc. (Burneika et al. 2017).

Figure 10.5 shows the main trends of suburbanisation in rural areas. The right hand map illustrates, that it's not only growth of population number but also the transformation of social structure as former rural areas with low skill employees become the concentration spots of higher social classes (those employed as managers and high skill professionals according to ISCO classification (International Labour Organisation 2012)). The farther the area is from the metropolitan cities, the less increase in proportion of high qualification employees. The data on the share of



**Fig. 10.5** Changes of population number and share high skill employees in Lithuania LAU 2 regions. Authors calculations based on data Statistics Lithuania (2018)

those employed in low skill jobs (map is not shown) indicates that periurban areas of these cities (settlements right behind the zone of intense suburbanisation) tend to have a highest proportion of such employees. We may assume that rural areas in this zone, at least to some extent, become a place of residence of those employed in low skill jobs in bigger cities.

**Recreational spaces.** One of the most important factors, which plays sometimes decisive role determining trajectory of change of many rural settlements is their location in relation of recreational resources. There is no available data, but our field studies revealed that number of residents more than doubles in some attractive for recreation rural settlements in summer season. Summer housing is the major factor of this increase, but temporary accommodation services also plays role. The accommodation in private sector was either illegal or partly legal in Soviet era, but many of those providing this service later established rural tourism farms. The majority of former state tourism establishments were privatised. Also the number of rural tourism farms is under constant increase. The intensity of these processes depends of two major factors—natural recreational resources and distance from major cities. These factors also determine the development of service sector in rural settlements, as those having additional demand in summer can better cope with the limited demand during the winter.

According to our calculations there were 26.25 thousand accommodation places in rural areas in Lithuania (or 30% of total). This sector is the main provider of accommodation services in many peripheral municipalities of Eastern Lithuania. Though the employment in accommodation and catering services reached 9.3 thousand in 2017 (5.2 thousand in 2010) it still provides jobs for only 2.4% of employed rural residence. On the other hand its' importance has obvious regional differences. Up to 50% of jobs could be concentrated in tourism related sectors during high season in such LAU 2 regions.



As tourism related activities start to become an important job providers at least in some LAU 2 regions, traditional rural sectors—agriculture and forestry employ less and less. The diversification of rural jobs and economic function is underway.

**Forestry and agriculture in remote rural areas.** The previous figures shows that the most peripheral areas suffer from the depopulation trends the most. Due to the decreasing employment in agriculture and forestry, the possibility to find a job in rural settlement one lives decreases. Many agree that there are a few possible directions for the development of peripheral rural areas: intensive agriculture, employment in non agricultural jobs, development of rural tourism and environment protection (Van Berkel and Verburg 2011). The agriculture traditionally played a role of the main job provider (and source of income) for rural population. Though more than half of rural employment was concentrated just in agriculture in Soviet period, only 22.6% rural employees work in agriculture, forestry and fishery in 2017 (Lithuanian statistics 2018); however only less than 5% of working age population stated, that agriculture was the main source of their income. This share reached 20% in the most extreme cases. The sufficient income in traditional agriculture can only be generated in big and intensively used farms, but resources of available land are limited so limiting the number of profitable farms. Big farmers (exceeding 100 ha) control approximately 40% of arable land. In other words, the intensive agriculture can provide jobs only for very limited number of families and actually creates precondition for future depopulation of peripheral rural areas. Under such conditions, the agriculture could be the main job provider only for a small part of rural population in Lithuania. Forestry, small industry, public services, tourism services traditionally provide other jobs in rural areas, but their number and relative importance is small. The growing mobility of population also means, that some employees actually come to work to rural areas from urban places (i.e. forestry workers, teachers, wood processing workers, etc.). All these factors limits available jobs for local rural population. The working age population in areas, located near the cities had an alternative of commuting but the most peripheral ones did not. The job seeking population of these settlements could either emigrate or took temporary jobs, commuting to cities on weekly basis (though in this cases, rural place starts to play role of the second house).

Namely the peripheral places suffered from the most intensive depopulation, which had changed not only the number but also structure of population. The youngest group of population (under 35 y.o.) dominated among those leaving rural areas. The immigration to peripheral areas was much smaller and had different social structure as more elderly and less educated population prevailed among them (Ubarevičienė 2016). The aging of population is only one of problems, which are common for remote rural places. The comparison of demographic structure of population in 1989 and 2011 revealed that only about 50% of children, which used to live in peripheral regions, remained there in 2011. The most stable (immobile) group of population—residents, which were approaching age pension at the end of Soviet era. They had the worst possibilities to find alternative jobs and change place of residence but they had at least minimal income guarantees as living costs weren't high in rural places. The shrinkage of local services makes the biggest negative impact on this group at present as these residents had very limited driving possibilities.

As less educated and more on social allowances dependent population groups concentrate in remote places and younger more educated residents are leaving them, the social inequality increases, which is especially evident in rural places. The farmsteads of prosperous farmers are easily detectible in the context of less successful groups.

## 10.6 Conclusions and Generalisation

Though Lithuanian rural settlements inherited clear functional division from Soviet period, the present transformations, which mostly depend on the locational factors, have been taking place in all peripheral places. Former “function” was not the decisive factor of change in majority places.

The changing economic conditions determined the decreasing importance of traditional rural activities. The employment in agriculture decreased more than 3 times, and shrinking jobs resulted in growing emigration and commuting. The decreasing birth and increasing death rates resulted in negative natural increase and all these trends determined the fast depopulation trends of rural areas. It was especially evident in the most peripheral places, located more than 100 km from the 3 biggest cities. The annual loss of population during recent period approaches to 3% and the number of residents in some peripheral areas decreased more than twice since 1990.

The process of redistribution of rural population was clearly visible as 3/4 of rural settlements were shrinking and only 1/5 were growing. Some 1.5 thousand settlements become uninhabited. These processes had centre—peripheral character as formal rural areas near cities were growing and distant ones were shrinking fast. Its especially evident in capital city but two other countries gateway cities also play important role.

The prevailing negative demographic trends were accompanied by the shrinkage of public and other services. Only the number of shops was growing, especially in bigger rural settlements. The public services were shrinking and trend of change of number of population supposes that this shrinkage will continue so damaging quality of life of those residing in rural places.

Rural settlements near cities have been transformed into suburban places. The process of suburbanisation is the most intensive in case of 3 metropolitan cities, where it transforms areas up to 30 km from city centres but it is also evident in smaller towns (municipal centres), as families leave soviet apartment buildings located in city centres.

The rural transformations in recreational areas have slightly different character as tourism related sectors (especially rural accommodation) play though not the most but still important role of job provider. Seasonal residence is becoming more evident and more important factor increasing demand and supply of retail services.

The most peripheral areas, which are suffering from the most negative demographic trends will continue to shrink in the nearest future. The process, which is widely perceived as extremely negative, is actually inevitable; however not the

decreasing number of population, which is quite predictable in the face of shrinking jobs in traditional sectors, but shifting social structure of population is the main concern for future development of these areas.

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