

The Role of Agribusiness in Maintenance of Future Rural Employment in Latvia

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Abstract. Agriculture and manufacture of food products is important source of employment in Latvia. The number of people engaged in agribusiness has considerably decreased over the past years in Latvia. Therefore the paper seeks to analyze the existing situation in utilization of agricultural potential, as well as to evaluate the role of agribusiness potential in maintenance of rural employment in Latvia. The potential is analyzed in the context of the productivity of the persons employed in agribusiness, land use and the self-sufficiency level with the main food products in Latvia. The value added in Latvian agribusiness is very low in comparison with other EU countries, indicating low labour productivity in Latvia. The potential of agricultural land is also not fully utilized in Latvia, which gives basis to consider obtaining of higher agribusiness output in Latvia at the expense of inclusion of additional land resources. The development of the potential of Latvian agribusiness is to be associated with the satisfying of demand for meat in local market and increase in the supply of dairy products on export market. Considering the necessity to reach at least the EU average labour productivity, even the full utilization of agricultural potential is not sufficient for the maintenance of rural employment in Latvia at the level close to current. The decrease in employment in the agribusiness of Latvia cannot be stopped, even more – it is possible that it will continue provoke the decrease also in other sectors of economic activity, namely – sectors of public and private services provided to people in rural space.

Key words: Agribusiness, value added, employment, land use, rural space.

Introduction

Agriculture is still an important source of employment in Latvia, accounting for 12.3% of the total number of the working-age population. In some regions of Latvia the role of agriculture is even more significant – in Latgale region it accounts for 28.2% of the total number of the working-age population. Furthermore, if only manufacturing sectors are considered (NACE activities under A–F, H, J), the share of agriculture increases to 20% of the total employment in Latvia on average, and even reaches 44% in the rural territory. When food processing is considered, its contribution to the total employment reaches 5.5%, thus reporting that agribusiness totally employs every 4th person employed in manufacturing sectors.

According to the agricultural census, the total number of persons engaged in agriculture in Latvia has decreased considerably since 2003 (by almost 57 thousand AWU [annual work unit of the person employed in agriculture on full time basis, i.e. 1840 working hours annually, but not exceeding 1 unit per person] or 40.4% in 2010). The decrease in the agricultural employment has contributed to the employment outflow from the rural territory – other manufacturing sectors are not offering the replacement for people in rural areas, therefore people are leaving to seek for other more gainful economic activities in other territories (including other countries). Similarly, the decline in the number of the persons employed can be observed also in the manufacturing of food products (since 2005, the number of the persons

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employed has decreased by almost 30% or 8.6 thousand people).

Considering that value added in Latvian agribusiness sector is very low and proportion of people engaged in it is high in comparison with other EU countries, which threatens the competitiveness of agribusiness in long-term, the further improvement of labour productivity will inevitably result in further reduction of labour input. And therefore a new wave of rural depopulation can be expected in Latvia. On the other hand – the possibilities to increase the volume of agribusiness production by better utilization of agribusiness potential exist in Latvia.

There is a public opinion that Latvia is a country of forests, sea and agriculture, the potential of which could solve the rural depopulation problem. The prevailing opinion of the society in Latvia stimulated a proposition of **the hypothesis** that the full utilization of agricultural potential is sufficient for the maintenance of the rural employment in Latvia. Therefore **the objective of the study** is to evaluate the role of agribusiness in maintenance of future rural employment in Latvia. The tasks were set 1) to analyze the existing situation in utilization of agricultural potential in Latvia; 2) to evaluate the effect of the full utilization of agricultural potential on agribusiness employment in Latvia; and 3) to evaluate the impact of the possible changes in agribusiness on the employment of other sectors in rural space in Latvia.

This paper contributes to the knowledge on the employment, its problems and possibilities in rural territories. In addition, the effort has been made to use the interconnection approach when analyzing rural employment – what could be the impact of the changes in agribusiness on the employment of other sectors in rural space, the use of which the authors did not find in the existing relevant literature.

Materials and Methods

The object of the study is agribusiness in Latvia (agricultural primary production and processing of agricultural products), with its employment being as the subject.

The analysis and evaluation are carried out based on the Eurostat Economic Accounts for Agriculture, Structural Business Statistics and Annual National Accounts data, as well as on DG Agri FADN data. The information relevant to the study was used from

such national sources as Central Statistical Bureau of Latvia, Rural Support Service, State Land Service and Ministry of Agriculture.

General research methods, such as the logical constructive analysis, graphical analysis and synthesis method, as well as specific methods of statistical and economic research were employed during the study in order to analyze the data, describe and interpret the results, and to make assumptions.

The study derives from and is an elaboration of the broader study carried out in 2011–2012 on the development of Latvian rural space and the possible future scenarios.

To describe the present and possible changes in rural employment, the term *rural space* was used. This term is derived from the definition used by France's National Institute of Statistics and Economic Studies (INSEE), which defines rural space as area comprising all the small urban units and rural municipalities that do not belong to the predominantly-urban space (urban hubs, suburban rims and multicentric municipalities) (National Institute ..., 2012). In Latvian case it covers all the administrative territories of Latvia, excluding nine major cities (Riga, Daugavpils, Jelgava, Jekabpils, Jurmala, Liepaja, Rezekne, Valmiera, and Ventspils). Considering the large differences within territories included in *rural space* – three subgroups were outlined for further analysis:

- territories with RDC (regional development centres) – 20 municipalities (Latvijas Republikas ..., 2010);
- Riga surrounding territories – municipalities located near Riga and enjoying its strong influence (Adazi, Babite, Baldone, Carnikava, Garkalne, Ikskile, Incukalns, Kekava, Marupe, Olaine, Ropazi, Salaspils, Saulkrasti, Seja, and Stopini municipalities);
- the rest of municipalities – other rural territories (totally 75 rural municipalities).

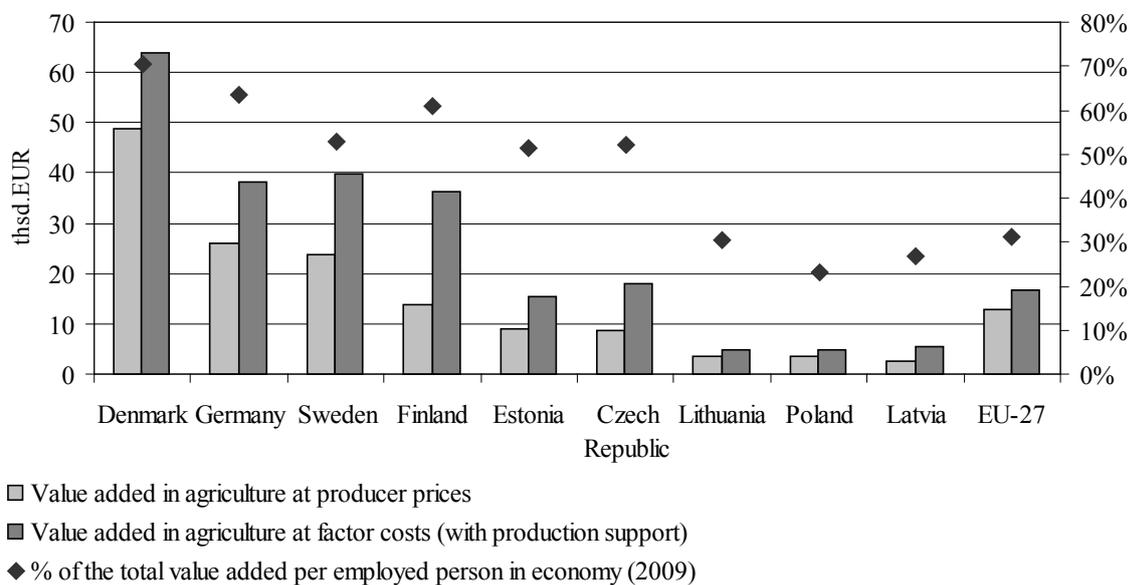
Results and Discussion

In order to evaluate the opportunities arising from better utilized agricultural potential for ensuring the rural employment, authors first analyzed the current situation. The potential of agricultural production in Latvia was analyzed in the context of productivity of the persons employed in agribusiness, utilization of land and the self-sufficiency level for the main agri-food products (as an indicator of the competitiveness of the sector on international market) in Latvia.

In 2010, the labour contribution in the agriculture of Latvia was 85.9 thousand AWU, 81% of it being unpaid labour. In 2010, value added in market prices per person employed in Latvia constituted LVL 1.9 thousand (LVL 4.0 thousand at factor costs [with production support, less taxes on production]). According to Eurostat, this is the lowest value added in the entire EU common market area, with the value added at producer prices falling behind the EU average level by almost 5 times (see Fig. 1). The value added per person employed in Latvian agriculture also falls behind the level of Lithuania and Poland, and especially the level of Estonia. It must be noted that the total value added

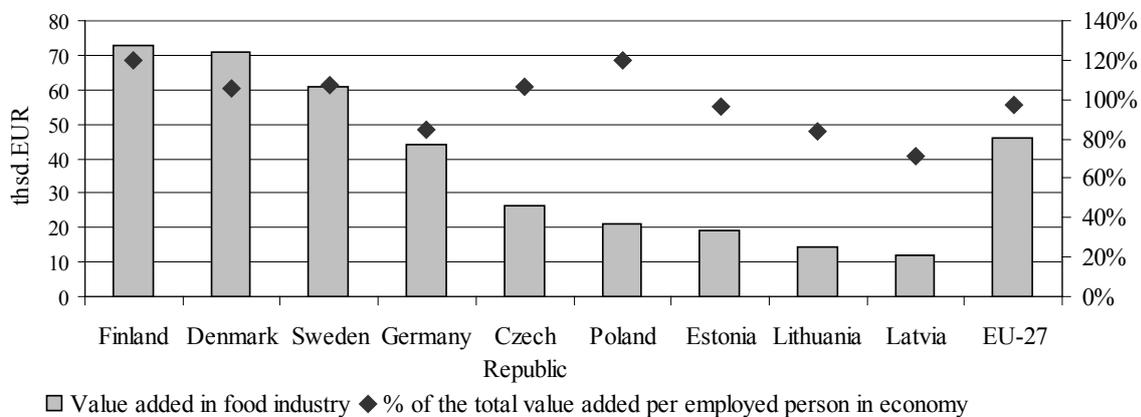
of the agricultural sector in recent years has changed mostly only under influence of the price growth (as well as the decline) on international markets, and not as the result of significant increase of the production volume in Latvia or its efficiency.

In 2010, 22.9 thousand persons were employed in the food manufacturing of Latvia, producing value added LVL 8.3 thousand per one average person employed. Manufacturing productivity of the food sector of Latvia is by 3.8 times lower than on average in the EU countries, but significantly falls behind the level of, for example, Finland, Denmark and Sweden, and also is by more than one and a half times lower than the level of Poland (see Fig. 2).



Source: based on data of Eurostat (2012a, b, c).

Fig. 1. Value added per AWU in agriculture in Latvia and other EU countries in 2010.



Source: based on data of Eurostat (2012c, d).

Fig. 2. Value added per person employed in food sector of Latvia and other EU countries in 2009.

Among particular food sectors of Latvia, the highest value added per person employed is produced in milk processing industry.

In general, the value added in the food manufacturing industry is higher than in agriculture, while poultry and pig farming (mostly poultry farming) are the only sectors of the agriculture where the volume of value added per one person employed can compete also with the average level of national economy of Latvia. Significant fallback in labour productivity from the average level of EU can be observed in all agribusiness sectors of Latvia.

Despite the number of the persons employed in agribusiness is constantly and substantially decreasing, the low labour productivity measured in value added per labour unit is connected with still high labour input in Latvian agribusiness and its low physical productivity. If the current labour contribution (including the family labour force) in Latvia would be evaluated based on the average remuneration level in the EU agriculture and food manufacturing, the personnel costs would significantly increase, exceeding even the volume of the current production value (which includes also the support payments given to agriculture).

We can therefore conclude that the labour potential in Latvian agribusiness currently is not being utilized efficiently. In order to increase the efficiency of the labour use to the level demonstrated in other EU countries, the increase of the labour physical productivity must be achieved. However, in order to utilize the entire potential and also to maintain the employment in the rural areas, a possibility to increase the production volume of agribusiness sufficiently is an important prerequisite.

The area of land to be involved in agricultural production has certain limitations, caused by the nature and the patterns of humans' economic activity. Various sources report different acreage of the agricultural land in Latvia (see Table 1), showing the lack of single understanding on the available agricultural resource and its use in the country. According to the survey performed by RSS (Rural Support Service), in 2010, 2,352.2 thousand ha of the land were counted as used for the agricultural purposes, from which 52.6 thousand ha in reality can be considered as already lost for the agriculture and some 316.3 thousand ha being under risk to be so because of being uncultivated.

Pursuant to data of CSB of Latvia (Central Statistical Bureau of Latvia), the utilized agricultural

land in Latvia constituted 1,805.5 thousand ha in 2010, including only 1,414.7 thousand ha used in production.

Wherewith the potential of the agricultural land in Latvia is currently not being fully utilized, and there is reasonable basis to assess the possibility of achieving higher output of the produce in Latvia by involving additional land resource in real commodity production.

When to look at the ability to supply the main food products, Latvian agriculture produces most of the products (but meat from granivores), having rational basis to be produced in Latvia (natural and market conditions), in volumes exceeding the demand of domestic market. It is achieved even under the conditions of „unequal and discriminatory state support” applied in EU according to the current CAP. Furthermore, these products are produced in increasing or at least non-decreasing volumes.

The data provided in Table 2 shows the ability of Latvian agribusiness to compete on broader markets, which may be treated also as a sign of competitiveness. Latvia demonstrates the ability to sell milk, cereals, eggs, and now even beef and mutton in the external market. A principal exception is pork and poultry, where the production volume constitutes only approximately a half of the Latvia market demand, which means these industries are not sufficiently competitive even in the domestic market.

Wherewith we can conclude that the development potential of the agribusiness in the local market is connected with the ability to fully satisfy the local demand for meat, but in regards to an export market, the opportunities offer an increase in the supply of dairy and grain products.

In order to evaluate whether and at which extent a better utilization of agricultural potential could contribute to the maintaining of the employment in the rural areas, authors have made several assumptions:

- an EU average productivity (value added per person employed) is reached in Latvia by 2020;
- prices of the products, support payments and cost structure remain at the current level;
- all produced grain in Latvia is also locally processed – 1,120 thousand tons of grain will be used in milling and manufacturing of animal feeding products (providing that the manufacturing structure of this group of products remains the same);
- all produced grain, which exceeds the self-sufficiency level, is used as feed for the production of meat in Latvia, until the self-sufficiency level

Table 1

Agricultural land resources in Latvia in 2010 and 2020

Source	Land	2010	2020
SLS	Agricultural land, ha	2 430 000	
MoA&RSS	Agricultural land (according to the 2010 survey), ha	2 352 159	
MoA&RSS	– with standing buildings, ha	2 849	
MoA&RSS	– overgrown, ha	49 710	
	Actual agricultural land resources (according to the 2010 survey), ha	2 299 600	
MoA&RSS	– uncultivated, ha	316 341	
MoA&RSS	Maintained agricultural land, ha	1 983 259	
RSS	Declared agricultural land for SAPS, ha	1 566 299	
RSS	Undeclared agricultural land for SAPS, ha	855 236	
RSS	Total agricultural land (according to support declaration system), ha	2 421 534	
CSB	Utilized agricultural land, ha	1 805 500	
CSB	Agricultural land used in production, ha	1 414 700	
	In addition with 80% of the currently unused grassland area, ha		1 664 540

Explanation: SAPS – Single Area Payment Scheme, SLS – State Land Service, MoA – Ministry of Agriculture, RSS – Rural Support Service, CSB – Central Statistical Bureau.

Table 2

Self-sufficiency with food products in Latvia in 2005–2010

Product	2005	2006	2007	2008	2009	2010
Cereals	137%	115%	130%	172%	169%	...
– wheat	176%	137%	143%	247%	233%	...
– rye	108%	102%	196%	206%	131%	...
– barley	127%	108%	113%	115%	125%	...
Milk	121%	131%	130%	125%	119%	127%
Eggs	107%	103%	121%	114%	137%	147%
Meat	55%	54%	55%	58%	62%	65%
– beef and veal	90%	99%	102%	115%	127%	175%
– pork	54%	51%	51%	49%	53%	55%
– poultry	38%	41%	42%	50%	52%	54%

... – no data available.

Source: based on data of Central Statistical Bureau of Latvia (2009, 2011) (calculated as volume of production to volume consumed in country).

is reached (necessary volume of meat to reach self-sufficiency is 42 thousand tons, the volume of feed, recalculated in grain, necessary for it – 126 thousand tons), the remaining grain will be used as feed for production of additional milk (obtaining some additional 554 thousand tons of raw milk);

- all milk produced for market in Latvia is also locally processed, producing additional value added in the milk processing industry;
- at least 80% of currently unutilized agricultural land (250 thousand ha) is returned for agriculture commodity production, which, assuming some 25% lower productivity as compared to the

current average productivity, could increase the agricultural output by some additional 13% and the manufacturing of the food products by other 10%, comparing to the aforementioned changes.

According to the assumptions, it is considered that there are no major changes in the structure of area sown, i.e. there is no major transition from the comparatively traditional use of agricultural land to more intensive crops, like horticulture, providing higher levels of value added per area unit.

If all the grain purchased from the primary producers would be processed locally, the value added in the grain processing could increase by LVL 33.4 million.

When all the grain produced by Latvian agriculture and exceeding the level of consumption for food would be used as fodder to produce meat and dairy products, it could increase the output of the agricultural sector by some LVL 128.8 million (and the value added by LVL 31.1 million), with additional value added created by the local milk processing industry of some other LVL 45.0 million, if all the locally produced milk would be processed in Latvia.

According to these assumptions, the value added from the meat processing would remain the same, because the locally produced meat would replace the imported meat currently used in the processing.

Involvement of additional land resources (some 80% of the currently unutilized agricultural land areas) would allow to increase the production volumes of the agricultural sector by some LVL 104.3 million (value added by LVL 25.2 million), providing the resource to produce

additional value added also in the food processing industry by some more LVL 25.9 million.

The value added of the food sector of Latvia as the result of the aforementioned measures could be increased by LVL 104.3 million, but the output of the agricultural sector would increase by LVL 233.2 million with additional value added by LVL 56.3 million.

If the necessity to ensure the average EU labour productivity is taken into consideration, the achieved changes in the volumes of value added generated by the agribusiness industries at the expense of better utilization of agricultural potential, despite their significance, still will not provide the economic basis to maintain the current employment level. The aforementioned measures would facilitate the increase of the number of persons employed by 2.7 thousand in the manufacturing of the food products and by 7.3 thousand in the agriculture, the total number of the persons employed in the agribusiness of Latvia constituting only 42.5 thousand in 2020, in comparison with 108.8 thousand in 2010 (see Table 3).

Considering the significant impact of the agribusiness sectors on the employment in the rural space, the possible impact of the agribusiness development on the total employment in the rural space of Latvia is hereinafter being estimated. The following assumptions are proposed in order to perform the estimation:

- the impact of the possible changes in the agribusiness sectors is estimated in accordance with the division of rural space territories in

Table 3

The situation in Latvian agribusiness in 2010, and the results of estimated changes in 2020

Sector	2010	2020*)
Agriculture:		
– value added at factor costs (VA), million LVL	341.9	449.0
– productivity (VA per AWU), thsd. LVL	4.0	13.3
– AWU, thsd.	85.9	33.7
Manufacturing of food products:		
– value added (VA), million LVL	190.7	295.0
– productivity (VA per employed), thsd. LVL	8.3	33.5
– employed persons, thsd.	22.9	8.8
– total employment in agribusiness, thsd.	108.8	42.5

*) – estimations based on assumption that agribusiness potential is utilized and at least the EU average productivity is achieved.

Source: based on data of Central Statistical Bureau of Latvia (2012) and Eurostat (2012a, b).

Table 4

The estimated impact of the possible changes in agribusiness sectors on the total employment in the rural space of Latvia

	Riga surrounding territories	Rural territories with RDC	Other rural territories	Total in rural space
Number of the persons employed in 2010, thsd.	67.7	129.9	132.2	329.8
Possible number of the persons employed in 2020, thsd.	58.8	86.6	74.3	219.8
Possible changes in the number of persons employed:				
– agriculture, forestry and fishery, thsd.	-1.3	-17.9	-32.2	-51.4
– manufacturing industry, thsd.	-1.3	-2.5	-2.2	-5.9
– risk area (sectors of services [NACE 2.2.red. G–S]), thsd.	-6.3	-22.9	-23.5	-52.7
Population density, pers. km ⁻²	65.0	20.5	12.3	17.1

Explanation: RDC – regional development centres.

Note. The number of persons employed in agriculture is shown as annual work units (AWU).

Source: based on unpublished data of Central Statistical Bureau of Latvia on the employed by kind of economic activity and municipality (August 29, 2011).

- three subgroups described above in this paper;
- the possible effect of better utilization of agribusiness potential in regard to the number of the persons employed in those sectors is counted in these estimations;
- labour migration does not take place between the urban and rural space;
- the number of employees in other manufacturing and related sectors (but agribusiness) remains unchanged;
- the share of the manufacturing sectors and also service sectors in the total employment for any subgroup of the rural space territories remains the same (structures are provided in Table 4).

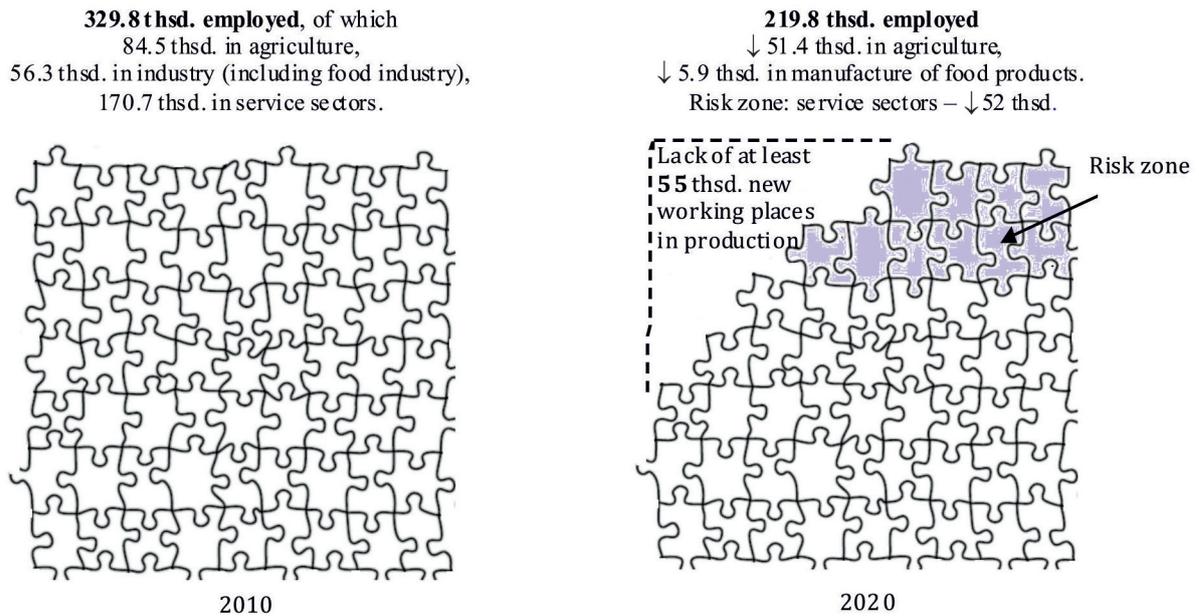
The estimation results are provided in Table 4. It is obvious that by assuming that the total employment structure (proportion between the manufacturing sectors and services) remains the same, the predicted decrease in the employment in agribusiness sectors can possibly provoke also the decrease in the number of working places in the service sectors (NACE 2.2. red. G–S) as well, because the value added in manufacturing sectors serves as the economic basis for local services – the both private and public ones. Authors emphasize that the assumptions on the employment structure are based on the analysis of the existing employment structure in three subgroups of rural municipalities – the Riga surrounding territories, rural territories with RDC, and other rural

territories. This analysis reflects the relation between the scope and density of the population in the territory and the proportion of the service sectors in the total employment structure of the territory.

Based on the estimation results, we can conclude that even when better utilization of agribusiness potential is reached, the decrease in employment in the rural space of Latvia is inevitable if no additional employment opportunities will be provided by other manufacturing industries but agribusiness (see illustration in Fig. 3). This is because the volume of additional value added possibly to be produced in agribusiness is not sufficient to provide the economic basis for the number of people employed by the agribusiness industries currently.

Even more – it is possible that the decrease in employment in agribusiness will provoke the decrease also in other sectors of economic activity in rural space, namely – in the sectors of services. It is a threat that within ongoing processes the total employment in rural space of Latvia can decrease for about one third in further years, compared to 2010.

Structural changes in rural employment can be observed throughout the Europe. There are a number of studies and publications which explain the socio-economic processes affecting these changes (disparities in incomes between rural and urban population, increase in the demographic burden, migration), as well as the role of geographic location;



Note. The symbol “↓” denotes decrease in the number of employed.

Source: based on unpublished data of Central Statistical Bureau of Latvia on the employed by kind of economic activity and municipality (August 29, 2011).

Fig. 3. Impact of the possible changes in agribusiness sectors on the total employment in the rural space of Latvia – illustration of the calculation results.

the possible development perspectives are also proposed, as well as the role of agriculture in these processes is examined (Macours & Swinnen, 2005; Halhead, 2006; Brandes, Lejour, Verweij, & van der Zee, 2007; Janger *et al.*, 2011).

The study EDORA, carried out in the framework of the ESPON (2010), points out that rural territories are diverse, and therefore there are varied functions of these territories and their employment structure. In Latvia, a clear compliance with this opinion can be observed – there is a relatively high population density in rural territories around Riga, and the employment structure is substantially different from the average employment structure in rural space in general. In the study about the regional development in Latvia (Valsts reģionālās ..., 2011) it has been pointed out that it is quite tricky to attribute the term *rural territory* to Riga surrounding territories – in opposite to all other territories of rural space they demonstrate the trend to increase the number of inhabitants also within last decade.

The decrease in the number of people engaged in agriculture is not just in Latvia. Also other EU countries enjoy similar trends, mainly the new member states (Macours & Swinnen, 2005; Halhead, 2006; Čiburienė, 2009). The study SERA by Scottish

Agricultural College (2006) defines the decrease in the agricultural employment as inevitable process, which is going to continue and which is caused by several major global challenges including enlargement, more liberal trading arrangements, environmental issues, changes in consumer preference and in the degree and nature of public support.

In some studies and publications it has been highlighted that the role of agriculture in the rural employment is decreasing due to low productivity and in combination with the lack of other working alternatives, leading to a depopulation of the rural areas, when services also disappear (Breman, Vihinen, Tapio-Bistrom, & Pinto Correia, 2010). The role of agriculture in the rural employment is going to continue to decrease due to the introduction of new capital intensive technologies into production (Scottish Agricultural ..., 2006; Rizov, 2006).

The authors think that an interdisciplinary, targeted action plan for the facilitation of the employment in the manufacturing sectors to be developed in rural space is necessary at the national level in order to accomplish a goal of maintaining the existing employment level in the rural areas of Latvia. Several topical questions are posed by the authors in connection with the utilization of the

agribusiness potential in solution of the employment problems in rural space. First, whether the changes in the policy regarding the utilization of the Latvia agricultural land resources are possible by legal enforcement or economic stimulation measures, which would facilitate practical, effective and productive use of the agricultural land resources, including by means of effective monitoring system. Secondly, whether is it possible to develop and consistently implement a targeted and long-term complex program of herbivorous animal breeding, especially meat production sectors, incorporating in it also the knowledge development, measures for attraction of new manufacturers, and promotion of the development of cooperation. Thirdly, can the sector integration processes – both – the horizontal intersectoral integration (like field crops and livestock breeding) and vertical one, expanding into the value-adding chain (like to cover input production and supply, processing and sales), be defined and established as one of the development priorities.

Conclusions

1. The labour potential in Latvian agribusiness is currently not being utilized efficiently, because there is a very low labour productivity (value added per employed person) in Latvian agribusiness in comparison with other EU countries.
2. The potential of agricultural land is also not fully utilized in Latvia, which gives basis to consider obtaining of higher agribusiness output in Latvia at the expense of inclusion of additional land resources in production.
3. The development potential of the agribusiness in the local market is connected with the ability to fully satisfy the local demand with meat, but in regards to an export market, the opportunities offer an increase in the supply of dairy and grain products.
4. At the EU average productivity level, even the full utilization of agricultural potential can not stop the decrease in agribusiness employment in Latvia due to high labour density in Latvian agribusiness.
5. It is possible that the decrease in employment in agribusiness will provoke the decrease also in other sectors of economic activity, especially sectors of services in Latvian rural space. Therefore an interdisciplinary, targeted action plan for the facilitation of the employment in the

manufacturing sectors of the rural space at the national level is necessary in order to accomplish a goal of maintaining the existing employment level in the rural space of Latvia.

6. The proposed hypothesis which was based on the public opinion in Latvia has to be rejected because the full utilization of agricultural potential is not sufficient for the maintenance of the rural employment in Latvia.

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