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Influence of General Plans on Urbanization of Agrarian Territories on Lithuania's Seaside

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Scientists of the world are concerned about a decrease in agrarian territories because of active urbanization. Many global problems arise because of a rapid increase in population. One of these problems is an increase in the use of agricultural products. In order to get these products, agricultural land is required. Such agricultural land is a limited natural resource. In accordance with the territory planning policy implemented in the Republic of Lithuania, general plans of administrative units are the most important documents establishing priorities of land usage. In this scientific article general plans of municipalities are analysed, spatial position of agricultural land decrease is simulated and particular rates of unreasonable land usage are calculated.

Keywords:*Complex planning, land administration, sustainable territorial development, environmental management.*

1 Introduction

General, special and detailed plans are documents, intended for planning of territorial development – building-up. Territorial planning is regulated by the Law on Territorial Planning of the Republic of Lithuania (1995). The purpose of this law is to ensure sustainable territorial development and rational urbanization, by determining requirements for system of decisions of territorial planning process as well as requirements for compatibility and internecine effect of different level documents, and to allow consistency in natural and anthropogenic environment and urbanistic quality, by preserving valuable landscape, biological variety and values of natural and cultural heritage.

Thus, at the beginning of urban modelling, philosophers and engineers had the largest influence (Gaudėšius, 2015), but for many years issues of urban development and land build-up have been solved by architects. It means that in the course of time people moved from wisdom and accuracy to art and creation. Here a discourse may arise that there are many philosophical ideas in architecture, and technical accuracy becomes more influential within this field area.

Therefore, architects agree that there is no sustainability in urban development as obvious urban emptying and chaotic build-up of suburban territories could not be denied. Such development has influence on many social, economic and natural processes.

Increase in the world population and discrepancy of interests between different groups are the most important reasons for unreasonable use of land. Namely for this reason and because of the fact that usage of land is not strictly controlled, many countries confront with various local and global problems. In South America, scientists solve this continent relevant problem how to control destruction of forests in order to develop agriculture. Such active deforestation creates global natural changes on the earth (Ceddia, 2014; Brando, 2013).

The most noticeable thing in the global context is the lack of food. Conditions of farming are different. Agricultural productivity is determined by place, soil characteristics and climate. International

scientific literature emphasises that nature does not provide sufficient harvest; besides, agricultural development destroys forests, marine systems, etc. and, thus, has negative influence on biological variety. A suggestion to create a system, where more measurable social, economic and environmental parameters would be involved, was made and thus transformations of territorial usage would be controlled. It is necessary to seek for sufficient amount of food products, reduce poverty, seek for a healthy way of life and retain natural resources. Low or not adjusted irrigation is also considered the largest enemy of agriculture (Sayer, 2013). As one of the ways for solution of the mentioned global problems is the proposal to zone land usage for different activities more strictly and more accurately as well as to activate farming (Lambin, 2011).

Considering global tendencies because of climate change and increase of population, various international strategies and agreements are made. The initiative of European sustainable development is validated in Aalborg Charter. The first sustainable development and life quality indicator systems were created in the United States of America in 1998−2000. In 1998 assessment of social, economic and environmental quality of European towns and cities was started, after the system of indicators "Urban Audit" was created. The understanding of goals of sustainable development depends on the level of development of countries' social economic policies as well as on prevailing attitudes. Some Western countries emphasise the importance of an individual for development (USA), but in Europe the balance between an individual and public interests is more preferable (Bardauskienė, 2007).

General plans of the largest Lithuanian cities and towns as well as surrounding territories have been studied by many researchers (Kavaliauskas, 2011; Dringelis, 2011; Bardauskienė, 2007). Researchers criticise existing design solutions and analyse land zoning and other rates. Therefore, themain rates that are analysed are related only to population in appropriate territories. There is much information about common problems, but there is a lack of various calculations, which would be referred to more various rates (for example, loss of work places, finances, fertile soil, melioration equipment because of solutions made).

Certainly, in the course of time, human attitudes to the same phenomena change and ideologies should be reconsidered. All natural, social and other rates on the grounds of which scientists criticise old or new ideas or particular solutions change as well. One group of people hopes to start from sustainable actions of every individual and the others hope that sustainability will be provided by the authorities.

Local authorities are very complicated organizations, operating in very dynamic environment. They are required to plan ahead changes, identify and react to complicated demographic, social, economic and environmental problems as well as to different needs of users and wishes of citizens, effectively use and economise rare recourses and perform everything by constant supervision of attentive and critical society (Arimavičiūtė, 2012).

Scientists of various fields try to present models on how to achieve sustainable development. Many of them refer to the model "from bottom to top", i.e. in decision making, the greatest attention is paid to population needs and requests. Other theorists are categorical as chaos and disputes occur.

Currently, it is possible to state that territorial planning is carried out on request of investors. Scientific research has proved that a number of designed territories intended for residential houses in suburban territories is larger than needed (Gaudėšius, 2014; 2013).

Unreasonable usage of land and unconsidered conversion of agricultural land into other landed property (build-up) will not only change landscape but generate economic damage, e.g. fertile soil and melioration systems are destroyed (Aleknavičius, 2011).

The purpose of the research is to determine particular rates, which would prove unreasonable land usage, caused by general territorial plans.

The subject of the research is the agrarian territory around Klaipėda city (in the territory of Klaipėda county).

The research methods are data analysis, methods of description, alternatives, analogy, synthesis and modelling (AutoCAD program). The data from National Land Service under the Ministry of Agriculture of (NLS), Department of Lithuanian Statistics and State Enterprise Centre of Registers (RC) were used for this research.

Hypothesis is that persons responsible for sustainable territorial planning of the Republic of Lithuania do not cope with assigned international tasks, and valid general plans of administrative units allow unreasonable use of land.

2 Materials and methods

Spatial position of urbanised land

The Law on Land (2004) is the most important legal act, which regulates land usage within the territory of the Republic of Lithuania. Duties of land owners and other users are indicated in Article 21 of this Law. It is indicated in the Law that a land owner or user must rationally use and cherish land, forest, water, minerals and other natural as well recreational resources that could be exploited under the order established by legislation; to implement land, forest and water protection against pollution, soil protection against erosion and impoverishment, environment protection measures, established by legal acts, so that ecological condition of the environment would not get worse.

In this provision of the Law on Land, it is possible to envisage the personal duty of a land owner to use owned land plots in the most rational way, depending on natural characteristics as well as

social and economical needs. The role of state institutions is also regulated in Articles 32 and 33 of this Law on land, which indicate that they plan the use of territories and supervise if determined usage is performed appropriately.

In 2002, Seimas of the Republic of Lithuania approved the general plan of the territory of the Republic of Lithuania. Following legislation of the Republic of Lithuania, the main tasks for preparation of the general plan of the territory of the Republic of Lithuania were established:

1) to concretise outlook of territorial development of the most important spatial structures of the country (urban systems, landscape and cultural heritage territories, production, recreation, social, cultural and technical infrastructures);

2) to determine general strategy and priorities of usage and protection of the country's territory;

3) to determine the main guidelines for formation of regional policy of the country.

Decisions of the general plan of the territory of the Republic of Lithuania are valid for indicated planning period (until 2020), during which they can be corrected or supplemented by strategic planning measures under the order established by the law on Territorial planning. Problem-based situations and habitats of territorial arrangement of the country are indicated in this plan. From environmental management point of view, productive inefficiency of landed property was determined as one of the most important signs of arresting development on the economic plane. In urban plane urban intensity is distinguished: insufficient development of central places, not optimal functional and maintenance relations, and in integrated environmental protection plane: non-ensuring of environmental healthiness and danger of degradation of natural values. The most problem-based planes are situated at the edges of the country's territory, among them at the seaside.

Under the general plan the coast is attributed to range, which is suitable for usage of active agriculture (Figure 1a) as soil is not sensitive to such a process, when looking at the exploratory territory from the agrarian perspective. Here large farms can be established and various activities can be initiated. Priority interests near Klaipėda city, towards Kretinga and Gargždai (Figure 2b), include intense agriculture, sparing forestry and extensive recreation. Priority interests in the northern part of the region, towards Skuodas, are sparing forestry, sparing agriculture and conservation established by legislation. Priority interests in the south of the region, towards Šilutė, are sparing forestry, intense agriculture and extensive recreation.

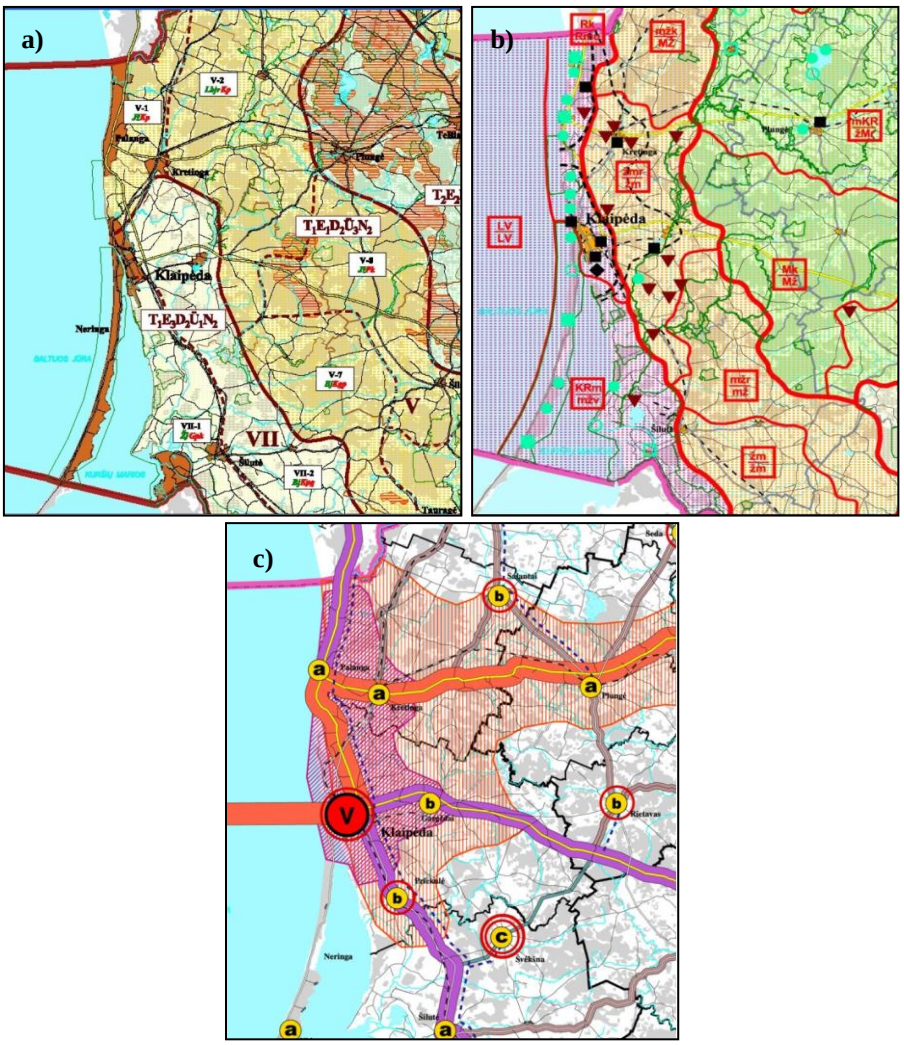

Figure 1. The extract from the general plan of the Republic of Lithuania: a) Agrarian area, b) Functional zoning, c) Urban framework

Under the general plan the coast should become agglomeration, when looking at the exploratory territory from the urban perspective. Skuodas and Šilutė are far away from the agglomeration impact plane; therefore, the analysed territory in this respect will be reduced. Palanga, Kretinga and Gargždai are included into this plane near Klaipėda (potential object of research). For visual comparison, by chance San Diego (Figure 2b) was selected. When you know Lithuanian economic and social rates, it is very hard to understand that a very large integral build-up of the territory, including Palanga, Kretinga and Gargždai, is planned.

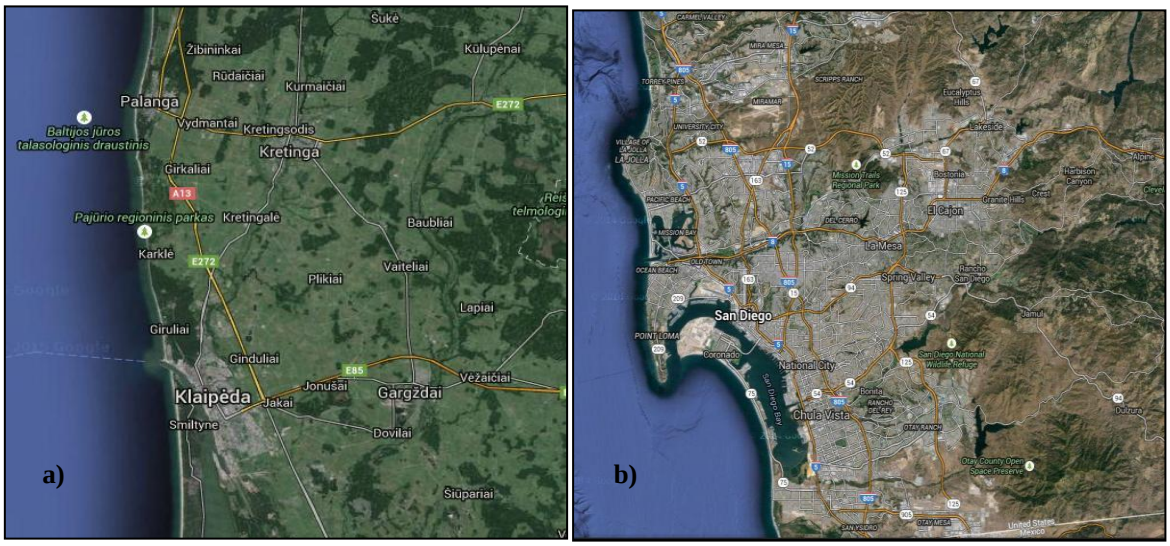

Figure 2. The estimated agglomeration of port cities :a) Klaipėda, b) San Diego (USA). Source: Google maps (scale 1: 500 000).

In summary of solutions of the general plans of Lithuanian Republic, Kretinga district (2008) and Klaipėda district (2011) concerning further use of the land, it is possible to create a spatial model, where one could see which agrarian territories may be mostly influenced because of foreseen urbanization. In Figure 3a, agglomeration of Klaipėda is foreseen in the general plan of Lithuania, nearby actively urbanised territories and already existing settlements. In Figure 3b, general plans of districts that detail solutions by anticipating development of existing cities and towns and more accurate contour of agglomeration by reducing area are presented.

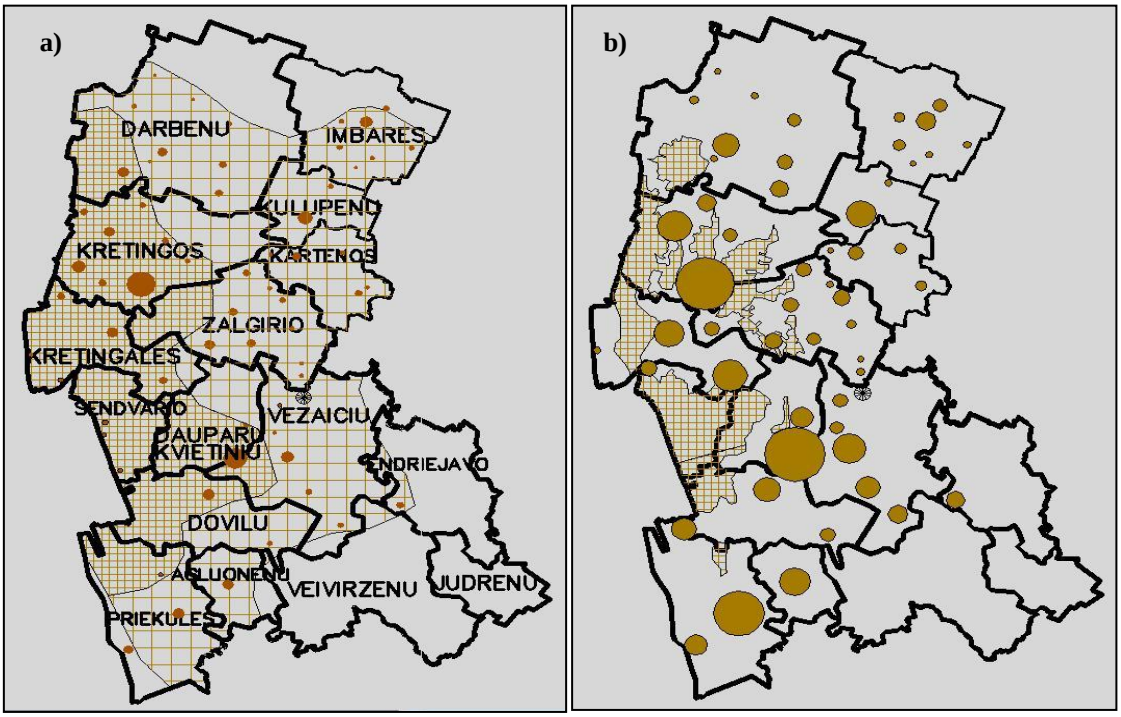

Figure 3. Urbanization development: a) by general plan of Lithuania; b) by general plan of regional unit (prepared by the author).

3 Results and discussion

According to the data announced by the Statistics Department of the Republic of Lithuania and the data of the National Land Service (Table 1 and 2), it is possible to calculate many important rates (Table 3). In summary of the obtained results, it is possible to assess the influence of solutions on general plans.

Table 1. Distribution of the population in the subdistricts by age.

Administrative territory	Total	of whom			Number of workers in agriculture
		Aged 0–15	Working age	Retirement age	
Subdistricts in Klaipėda locality	36,287	7,114	22,953	6,220	8,124
Agluonėnai	1,178	185	792	201	440
Dauparai – Kvietiniai	2,900	569	1,872	459	611
Dovilai	4,888	1,019	3,162	707	1,093
Endriejavas	1,675	261	1,032	382	827
Judrėnai	705	141	407	157	304
Kretingalė	4,736	965	3,086	685	568
Priekulė	7,829	1,536	4,815	1,478	868
Sendvaris	5,033	1,128	3,348	557	352
Veiviržėnai	3,055	517	1,786	752	1,430
Vėžaičiai	4,288	793	2,653	842	1,631
Subdistricts in Kretinga locality	20,720	3,742	12,603	4,375	6,287
Darbėnai	4,716	819	2,786	1,111	1,736
Imbarė	2,135	372	1,280	483	1,035
Kartena	1,719	251	1,061	407	590
Kretinga	7,198	1,371	4,434	1,393	1,361
Kūlupėnai	1,593	310	945	338	730
Žalgiris	3,359	619	2,097	643	835

Prepared by the author according to the data from Statistics Department.

Table 2. Agricultural activities in the subdistricts (farms, areas, produce).

Administrative territory	Number of farms	Land area used in agriculture, ha	Plot of subdistricts, ha	Plot of expected urbanization, ha	Standard produce, total, M Eur
Subdistricts in Klaipėda locality	4,869	53,691	129,642	25,045	21.90
Agluonėnai	255	1,859	5,954	751	1.96
Dauparai - Kvietiniai	444	4,723	9,896	4,277	1.79
Dovilai	568	5,059	12,954	3,469	1.91
Endriejavas	477	5,811	14,058	282	1.88
Judrėnai	194	2,540	6,874	–	1.04
Kretingalė	309	7,419	12,868	4,422	3.67
Priekulė	506	5,731	16,999	2,792	2.69
Sendvaris	268	2,116	6,722	5,894	0.83
Veiviržėnai	869	9,019	22,260	–	3.12
Vėžaičiai	979	9,414	21,057	3,158	3.01
Subdistricts in Kretinga locality	3,754	49,289	98,853	19,341	21.11
Darbėnai	942	15,528	33,925	3,375	6.34
Imbarė	690	10,304	15,080	611	4.19
Kartena	386	4,301	8,375	308	1.94
Kretinga	783	8,147	19,101	10,871	3.96
Kūlupėnai	378	3,650	7,936	679	1.99
Žalgiris	575	7,359	14,436	3,497	2.69

Prepared by the author according to the data from Statistics Department and NLS.

The calculations performed demonstrated that the largest percentage of people involved in agriculture were in Imbarė (80.85%), Endriejavas (80.13%), Kūlupėnai (77.24%) and Judrėnai (74.69%) townships, and the smallest percentage in Sendvaris (10.51%), Priekulė (18.02%) ir Kretingalė (18.40%) townships. Follwoing these results, we can decide in which townships agricultural activity is important to citizens as a living source.

The average area of a farm in different townships differs from 7.29 ha (Agluonėnai township) up to 24.0 ha (Kretingalė township). The greatest part of township territory used for agriculture is in Imbarė (68.32%), Kretingalė (57.65%), Kartena (51.35%) and Žalgiris (50.97%) townships, and the smallest part in Agluonėnai (31.22%), Sendvaris (31.47%) and Priekulė (33.71%) townships.

The analysis of general plans of districts showed that largest build-up is planned in Sendvaris

(87.68%), Kretinga (56.91%), Dauparai – Kvietiniai (43.21%) and Kretingalė (34.36%) townships. It is possible to state that urban planning will not affect Judrėnai, Veiviržėnai and Endriejavas townships.

After calculations, it is possible to determine in which townships planned urbanization will mostly reduce the amount of land suitable for agriculture. After implementation of decisions, it is possible to state that no territories suitable for agriculture will be left in Sendvaris and Kretinga townships. Other territories may also be strongly affected, for example, area of this land in Dauparai – Kvietiniai townships may be reduced by 90.55%, Dovilai – 68.57%, and Kretingalė – 59.60%.

Depending on natural characteristics, technological abilities, type of grown culture etc. factors, it is possible to receive EUR 300–1000 of standard production from 1 ha per year. In case planned build-up is implemented, then Kretinga (EUR 3.96 M), Kretingalė (EUR 2.18 M) and Dauparai – Kvietiniai (EUR 1.62 M) townships will annually lose the largest amount of standard production.

It is natural that the number of registered economies (about 70−700 in a township) and the number of people working in agriculture will reduce because of urbanization impact. The greatest number of unemployed people or people who will have to involve into other activity will be in Kretinga (1,361 residents) and Dovilai (739 residents) townships.

Table 3. Employment in agriculture, financial indicators, and land areas in the subdistricts.

Administrative territory	Employed in agriculture%	Average area of farm, ha	Part of subdistricts used for agriculture %	Part of subdistricts planned for urbanization %	Reduction of agriculture land %	Standard production of 1 ha/Eur	Loss of standard produce mln. Eur	Number of farms which could be destroyed	Average number of people working on the farm	Upcoming unemployed
Subdistrcts in Klaipėda locality	35.39	11.02	40.43	19.31	46.64	4560	9.12	1943	1.6	3,100
Agluonėnai	55.55	7.29	31.22	12.61	40.39	1054	0.79	103	1.7	175
Dauparai – Kvietiniai	32.63	10.63	47.72	43.21	90.55	378	1.62	402	1.3	522
Dovilai	34.56	8.90	39.05	26.77	68.57	377	1.30	389	1.9	739
Endriejavas	80.13	12.18	41.33	2.00	4.85	323	0.09	23	1.7	39
Judrėnai	74.69	13.09	36.95	–	–	409	–	–	1.5	–
Kretingalė	18.40	24.00	57.65	34.36	59.60	494	2.18	184	1.8	331
Priekulė	18.02	11.32	33.71	16.42	48.71	469	1.31	246	1.7	418
Sendvaris	10.51	7.89	31.47	87.68	100.00	392	0.83	268	1.3	352
Veiviržėnai	80.06	10.37	40.51	–	–	345	–	–	1.6	–
Vėžaičiai	61.47	9.61	44.70	14.99	33.54	319	1.00	328	1.6	524
Subdistrcts in Kretinga locality	49.88	13.12	50.84	19.56	39.23	2661	7.34	1397	1.6	2,343
Darbėnai	62.31	16.48	45.77	9.94	21.73	408	1.37	204	1.8	367
Imbarė	80.85	14.93	68.32	4.05	5.92	406	0.24	40	1.5	60
Kartena	55.60	11.14	51.35	3.67	7.16	451	0.13	27	1.5	40
Kretinga	30.69	10.40	42.65	56.91	100.00	486	3.96	783	1.7	1,361
Kūlupėnai	77.24	9.65	45.99	8.55	18.60	545	0.37	70	1.9	133
Žalgiris	39.81	12.79	50.97	24.22	47.52	365	1.27	273	1.4	382

Prepared by the author

We can visually see townships, that are most active in agriculture and whose economy will suffer mostly after implementation of urbanization plans, after summary of calculations and after picturing of their results in graphic model.

In Figure 4a, in accordance with the studied rates (used area, percent of working people, income received), the most active agrarian townships, i.e. Imbarė, Kūlupėnai, Kartena and Kretingalė, are marked in shadowed spaces. Less active townships are marked in less shadowed spaces, i.e. Darbėnai, Judrėnai and Dovilai.

In Figure 4b, in accordance with the studied rates (lost area, unemployed people, income lost), the mostly negatively affected townships, i.e. Kretinga, Dauparai – Kvietiniai and Dovilai, are marked in dark color. Less affected townships, i.e. Kretingalė, Priekulė and Sendvaris, are marked with lighter color.

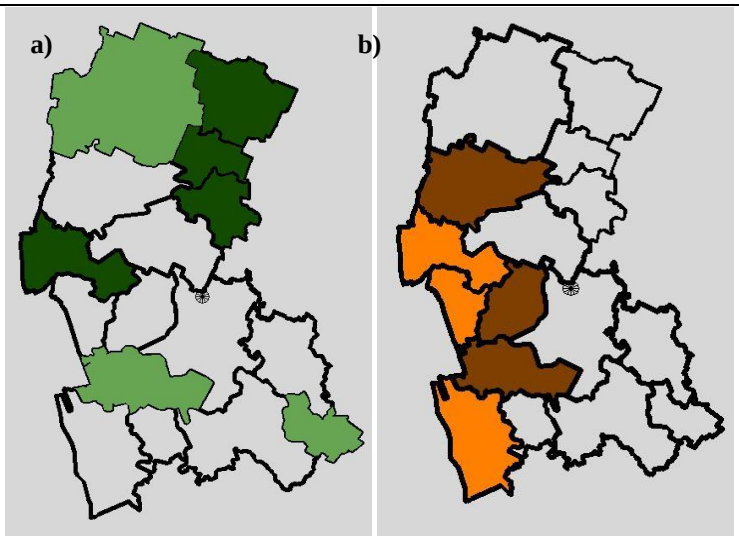

Figure 4. Subdistricts of Klaipėda region: a) the most active agrarian subdistricts; b) the most affected agrarian subdistricts(prepared by the author)

In accordance with the data of Lithuanian Statistics Department, the largest part of residents of the analysed territory prefer living in houses (Figure 5a, 5b). 41% of Kretinga residents and 37% of Klaipėda district residents live in blocks of flats. It means that the demand for a separate house is great; therefore, by using this "weakness", the investors have great influence on alteration of agrarian territories for urbanization purposes.

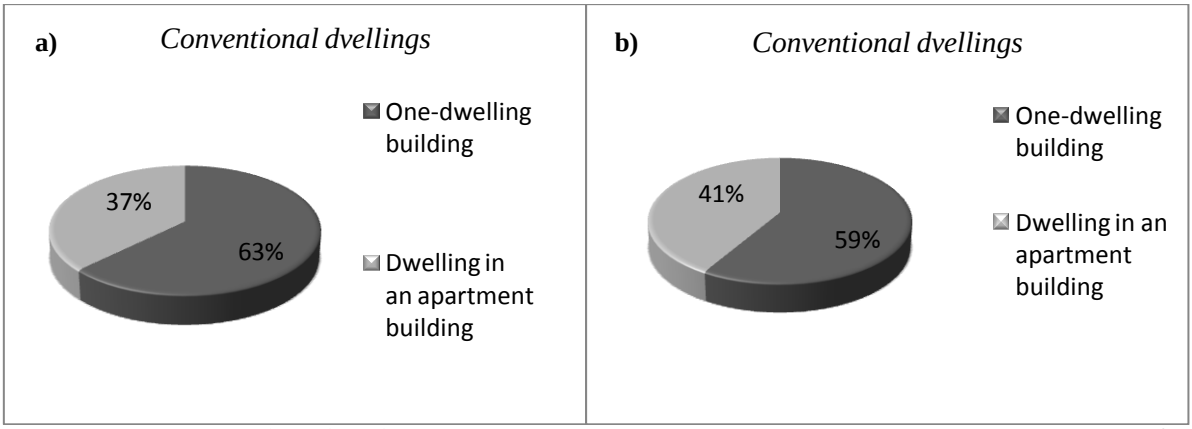

Figure 5. Housing units: a) in Klaipėdadistrict; b) in Kretinga district (prepared by the author according to the data from Statistics Department).

4 Conclusions and recommendations

- The demand for agricultural products grows together with the increase in the population. In some countries, deforestation is performed as the demand for agrarian territories increases. Depending on global problems, international agreements are concluded. The aim of such agreements is to save and use agrarian territories as efficiently as possible. The situation in Lithuania is different. Agrarian territories are being destroyed under the banner of development of settlements, which is used by investors not under real demand. The worst thing is that urban development performed by architects does not observe principles of international standards of sustainable development because of preservation of cultural and agrarian territories.
- Civil and environmental engineers, confronting with plans of architects, note that they are prepared only in consideration of demand of investors; therefore, practical implementation of such (artistic) images is not only difficult, but it is also unreasonable from the society's point of view. General territorial planning documents, valid in the coastal region, planned to build-up too large area of territory. In such a case, townships (Kretingalė, Dovilai) that are still active in agriculture may be destroyed by experiencing both social (increase of unemployment) and economic (lost production) losses.
- The study demonstrated that in case build-up of agrarian territories by residential houses was implemented then Kretinga district would annually lose EUR 7.3 M and Klaipėda district would lose EUR 9.12 M of standard production from agriculture, as well as 5,500 people of these

districts would lose their jobs (living source) or would be forced to involve into other activity.

- Lithuanian scientists talk much about problems in territorial planning, but no particular proposals are offered and state institutions do not take any measures in order to stop this chaotic urbanization. It is purposeful to reduce agrarian territories which are foreseen to be urbanised in general plans and in such a way to thicken build-up in territories of cities and towns. In such a way, a chaotic situation of new residential districts, damaging cultural landscape would be reduced. Also there will be a possibility to sustainably develop infrastructure of central settlements by using less financial resources.
- It is necessary to take measures in order to strengthen the state control because of build-up of agrarian territories, considering real needs, but not plans of investors. Land management specialists must be involved (in villages) when making final decisions (by supplementing functions assigned by the National Land Service) because of build-up in appropriate localities.

References

Aleknavičius Aleknavičius, P., Gaudėšius, R. (2011). Klaipėdos miesto įtaka kaimiškųjų teritorijų žemės naudojimui [The influence of Klaipėda city to the usage of rural areas]. Darnaus vystymosi strategija ir praktika, 1(5), 52–63.

Arimavičiūtė, M. (2012). Lietuvos savivaldybių strateginio planavimo problemos [Problems of strategic planning in Lithuania municipal]. Public policy and administration, 11(2), 272–286.

Bardauskienė, D., (2007). Ekspertinių vertinimų taikymas rengiant miesto bendrąjį planą [Assessments of Experts for the general plan development]. Ūkio technologinis ir ekonominis vystymas, 13(3), 223–236.

Brando, P. M., Coe, M. T., DeFries, R., & Azevedo, A. A. (2013). Ecology, economy and management of an agroindustrial frontier landscape in the southeast Amazon. Philosophical transactions of the Royal society B, 368(1619). http://dx.doi.org/10.1098/rstb.2012.0152

Ceddia, M. G., Bardsley N. O., Palima S. G., & Sedlacek, S. (2014). Governance, agricultural intensification, and land sparing in tropical South America. Proceedings of the National Academy of Sciences, 20 (111), 7242–7247.

Dringelis, L., Ramanauskas, E., & Gudzinevičiūtė, G. (2011). The use of land in master plans of towns from the point of view of sustainable spatial development. Environmental research, engineering and management, 4 (58), 65–73.

Eric, F. L. & Meyfroidt, P. (2011). Global land use change, economic globalization, and the looming land scarcity. Proceedings of the National Academy of Sciences, 9(108), 3465–3472.

Gaudėšius, R. (2015). Old towns urban transformation and immovable cultural heritage in cityscape. Sustainable architecture and civil engineering, 1(10), 26–39.

Gaudėšius, R. (2014). Integrated development of rural areas in order to increase their competitiveness compared to urban areas. Environmental research, engineering and management, 3 (69), p. 60–67.

Gaudėšius, R. (2013). Landscape architecture features in urban junction of Sendvaris district and Klaipėda city. Environmental research, engineering and management, 2(64), 72–80.

Kavaliauskas, P. & Šabanovas S. (2011). New approach to functional zoning in Kaunas city. Geografija, 47(2), 125–132.

The general plan of the territory of the municipality of Klaipėda district, approved by the order of Council of the municipality of Klaipėda district 24/02/2011, T11–111 [Klaipėdos rajono savivaldybės teritorijos bendrasis planas, patvirtintas Klaipėdos rajono tarybos 2011 m. Vasario 24 d. Sprendimu Nr. T11–111]. Retrieved from: http://www.klaipedos–r.lt/?lt=1252479830. (Accessed: 2015–02–20).

The general plan of the territory of the municipality of Kretinga district, approved by the order of Council of the municipality of Kretinga district 18/12/2008, T2–322 [Kretingos rajono savivaldybės teritorijos bendrasis planas, patvirtintas Kretingos rajono savivaldybės tarybos 2008 m. gruodžio 18 d. Sprendimu Nr. T2–322]. Retrieved from: https://www.kretinga.lt/node/318. (Accessed: 2015–08–20).

The general plan of the territory of the Republic of Lithuania, approved by the order of Seimas of the Republic of Lithuania 29/10/2002, IX–1154 [Lietuvos Respublikos teritorijos bendrasis planas, patvirtintas Lietuvos Respublikos Seimo 2002 m. spalio 29 d. Nutarimu Nr. IX–1154]. Retrieved from: http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc_l?p_id=284951. (Accessed: 2015–07–30).

The Law of the Republic of Lithuania on Territorial Planning [Lietuvos Respublikos teritorijų planavimo įstatymas]. Valstybės žinios, 1995, Nr. 107–2391.

The Law of the Republic of Lithuania on Land [Lietuvos Respublikos žemės įstatymas]. Valstybės žinios, 2004, Nr. 28–868.

Sayer, J., Cassman K. G. (2013). Agricultural innovation to protect the environment. Proceedings of the National Academy of Sciences, 21(110), 8345–8348.

Bendrųjų planų įtaka agrarinių teritorijų urbanizacijai Lietuvos pajūryje

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Agrarinių teritorijų ploto mažėjimas dėl žmonių vykdomos aktyvios urbanizacijos pasaulio mokslininkams kelia didelį susirūpinimą. Dėl spartaus gyventojų skaičiaus didėjimo kyla daug globalių problemų, viena iš jų – žemės ūkio produktų vartojimo didėjimas. Šiems produktams gauti būtina žemės ūkio paskirties žemė, kuri yra ribotas gamtos išteklius. Pagal Lietuvos Respublikoje vykdomą teritorijų planavimo politiką bendrieji administracinių vienetų planai yra svarbiausias dokumentas, kuris nustato žemės naudojimo prioritetus. Moksliniame straipsnyje analizuojami bendrieji savivaldybių planai, modeliuojamas žemės ūkio paskirties žemės mažėjimo erdvinis išsidėstymas, bei apskaičiuojami konkretūs neracionalaus žemės naudojimo rodikliai.

Raktiniai žodžiai: *kompleksinis planavimas, žemės administravimas, darni teritorijų plėtra, kraštotvarka*.