REGIONAL COMPETITIVENESS AND DEVELOPMENT SUSTAINABILITY

Regional Competitiveness And Development Sustainability: From Resources Towards Capital

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ABSTRACT:

Scientific novelty of the paper is the analysis of interconnection of the regional competitiveness and development sustainability in the context of national identity. For researching the economical determinants of the competitiveness and sustainability the authors used resource approach based on the following methodological path: resources available in the region can be transformed into assets as a result of its activation that, in its turn, can give to region socially economic benefit, i.e., it becomes a region capital. The application of the resources-assets-capital approach can be found in studies of different social sciences, sometimes revealing innovative resources or innovative forms of its activation and capitalization. The idea of the present paper – economic determinants of the regional competitiveness and development sustainability is, firstly, resources availability in the region, and, secondly, ability of the regional agents to transform them into region's capital. The authors assume that weak development of social technologies for activation and capitalization of resources is the most important reason for hindering the competitiveness and development sustainability of Latvia's regions. This hypothesis was proved by clarifying, within the limits of possibility of Latvia's statistics, how much of the resources available in the regions are transformed into assets and further – into benefit carrying capital. By applying case study method in relation to the analysis of problems of sapropelis resources of the lakes of Latgale region of Latvia's activation and capitalization, the authors proved the significant role of social technologies for successful realization of material technologies and outlined the algorithm of social technologies for sapropelis resource activation and capitalization.

Key words: regional competitiveness, development sustainability, resources approach, social technologies.

INTRODUCTION: RESEARCH GUIDELINES

For analysis of economical determinants of regional competitiveness (RC) and development sustainability (DS), the authors use resource approach (Тихонова, 2006), which is grounded on the following theoretically methodological guidelines: all the resources available in a particular region (as well as any regional agent – local municipality, company, household, personal etc.) could be transformed into regional assets as a result of effective usage; these assets, in their turn, could give the socio-economical return to the region, ie., become the regional capital – determinant of RC & DS. The geographic scope of the research includes all regions of the world, however the empirical part considers Latvian planning regions and the last part of the Article studies the case of a particular region of Latvia.

The basic concepts of the performed research, upon which all the further researches are based and which requires a precise characterization, are the following: region, regional competitiveness, regional development sustainability, resource, asset and capital.

For the empirical aims of this research, the region is considered to be a territory, the competitiveness and development of which, as well as the availability of various resources, is quantitively measured, id est, within the theoretical part of the Article these are the countries (which also could be named as regions due to the methodology of regional economics) (Boroņenko, 2007, 2009), which are included into *The Global Competitiveness Report*, however within the empirical part of the Article – Latvian planning regions, where the statistical information is available.

Regional competitiveness due to empirical aims in this research is considered to be a region's resulting position within the Global Competitiveness Report of the World Economic Forum in comparison to other regions which are included into the same report (Lopez-Claros et al., 2006; Schwab, 2012).

The development sustainability of a region in this research is considered to be region's competitiveness, ie., the stability or development of region's position within Global Competitiveness Report, which is indicative of sustainability of the competitive preferences of a particular region, ensuring its sustainable development instead of temporary growth (as it was during Latvian "years of great plenty"). A similar interpretation of development sustainability is given also within the Global Competitiveness Report, using the concept of "sustainable competitiveness" (Bilbao-Osorio B., 2012).

A resource in this research means any material (money, estate properties, raw materials etc.) or nonmaterial (time, confidence, rights etc.) subject which is or tend to be available in the region (or regional agent).

The term asset in this research is used to characterize usable or activated resource, which does not mean that it gives any benefit, but it definitely means that the region (or regional agents) actually uses it in order to benefit from it.

The capital in this research is considered to be a profitable asset.

All these basic concepts are discussed in the context of national identity and regional capacity; which means that the authors have integrated them into one functional model (See Figure 1).

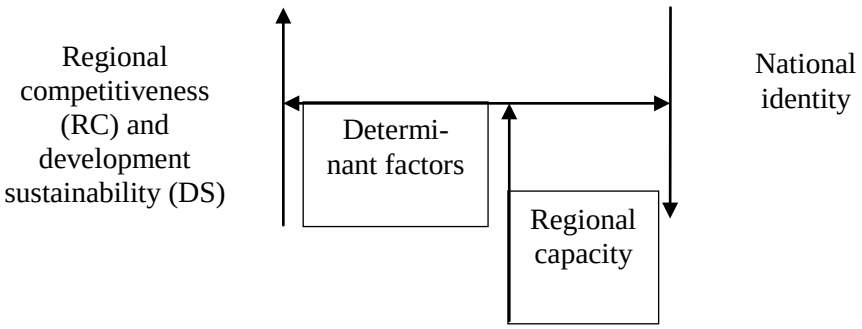


Figure 1. Regional competitiveness and development sustainability in the context of national identity and regional capacity: a functional model.

Data source: Figure developed by the authors.

A common expression of similarities and differences of members of socio-territorial group is considered to be a one of features characterizing the national identity: "members of one separate group are similar only by those aspects by which they differ from others who are not members of this group. Members of the Group dress similarly, eat and speak the same language; by all these aspects they differ from others who dress, eat and speak differently." (Smith, 1997). However, within the framework of resources-assets-capital approach, economic conditions of RC and DS are considered as region's ability to attract and to use/activate some and various recourses; it means that regional agents should dress, eat, speak, think and act differently; by increasing the RC and ensuring DS, it inescapably lowers or "discharges" the national identity of regional agents. It means that the same factors which increase the RC and ensure the DS, at the same time lower the national identity of region's residents. In this case the particular region has to find such an optimal post or economic condition of RC and DS, which would ensure the residents a sufficient level of regional development, at the same time not allowing their national identity to lower so critically that the existence of a national state could be endangered within the dimension of residents' belonging or identity. It should be taken into consideration that the factors promoting RC/DS (namely, ability "to dress, eat, speak and think differently"), which at the same time lower the national/regional identity, if they once

are increased, they cannot be decreased by objective considerations, ie., it is impossible to take away ability of regional agents to dress, eat, speak and think in a different manner if they have already learned it.

Application of resource-assets-capital approach is met in different social researches of sociology, psychology, economics and other social sciences, for instance, while studying the social and economical usage of morasses in Africa (Maclean et al., 2003), the catholic doctrine as resources of development of business ethics (McCann, 1997), activation of human soul resources for fight with hardnesses (Thibault, 2010) and many other, sometimes discovering untraditional , even amazing resources, which can be and are being used to benefit; they definitely are or could be attracted and used by Latvian regions as well. There are some attempts to accommodate the concept of social capital to resource-assets-capital approach, defying the social capital as resources included within the social networks, which are available and applicable (Pelše, 2007; Huber, 2009; Kaufmane, 2011).

According to the previously mentioned methodological guidelines, in addition to their own and other authors' previous works regarding regional competitiveness and development sustainability (Коседовски, 2002; Меньшиков, 2002; Škapars, Šumilo , 2006; Boroņenko, 2007, 2009), the authors have added the resource-assets-capital approach, which allows to clarify, and what is more important – to measure – the economical determinants of RC and DS. The main idea of this Article is the following: economical determinants of RC and DS are, firstly, the existence of particular resources within the region and secondly, ability to exploit them successfully by changing into the regional capital. This solution which is based upon thought of "resources-assets-capital", is useful not only for the region in general but also for every its agent – enterprise, household, individual, who also has some resources, and the most important task of the regional agent is to transform these resources into the capital, ie., to effectively exploit them; however the main task of a scientist is to help the regional agents to determine their resources and to find effective, profitable ways or technologies for their application[1].

The Article is divided into three parts. The fist one offers a concept developed by the authors for application of resources-assets-capital approach in order to study the economic determinants of RC and DS. This study is based both upon authors' previous works and concepts and ideas of other scientists.

The second part considers some examples of how many external resources – natural, human political – are there in Latvian regions and to what degree they are activated and capitalized at the present moment, ie., how effectively they are used in order to promote RC and DS.

[1] As a paradigm case of how there was found a way for effective exploitation of resources for a whole region is the Egyptian city Sharm el-Sheikh. There has always been the sun and the sea, but only some 50 years ago after the last war with Israel, Egyptians transformed these resources into regional and national capital, developing Sharm el-Sheikh as a health resort (according to suggestions of the former enemies).

The last part of the Article analyses processes of activation and capitalization of resources being at Latvian regions' disposal in relation to the example of studies regarding the sapropels resources of Latgale region lakes. Consequently, there are developed proposals for usage of social technologies in order to transform the resources available in Latvian regions into assets and further – into regional capital.

1. Application of Resources-Assets-Capital Approach to Research of Economic Determinants of RC and DS

Supplementing the concept of regional competitiveness with time dimension, the essence of the concept "development sustainability of a region" can be understood from both theoretical and empirical aspects. Theoretically, DS of a region is such a feature of development which means that the satisfaction of today's needs does not endanger the possibility of further generations to satisfy their needs. It has three dimensions – economic, social and environmental. It means that the economic development is taking place when we considerately deal with the resources of our planet and worry about preserving the biological diversity on Earth. Sustainable development promotes the general welfare of society and gives people a chance to live in healthy environment, implementing one's potential and skills. However, for empirical reasons the authors offer to call the ability to preserve or promote competitiveness during several years as development sustainability of a region. The authors consider that such stability or development of national/regional competitiveness index is indicative of the fact that once reached competitiveness is based upon balanced and permanent exploitation of resources.

In order to conquer the competition within today's circumstances of globalization, a region has to have highly dedicated innovative production resources which could not be duplicated by other regions (Портер, 2000). However, in order to make the competitiveness of this region permanent, ie., to reach its DS, the region has to be able to effectively use its resources to the utmost. Are the world's most competitive regions (to which the previously mentioned thought of M.Porter do apply) able to maintain the sustainability of their development? To answer this question we should focus on global competitiveness reports in order to compare the competitiveness indices of included countries regarding years 2005 and 2012. The findings are reflected within the table below.

Table 1

Average Competitiveness Indices of Countries Included into the Global Competitiveness Report, Divided According to Country's Stages of Development and their Changes within Years 2005-2012.
Grades from 1 (minimum) to 7 (maximum), n = 114 countries

Country's Stage of Development	Average Competitiveness Index *(*according to Global Competitiveness Index*)* from 1 (min) to 7 (max)		Difference in Competitiveness Index, years 2012/2005
	Year 2012	Year 2005	
Factor-driven stage* (lowest)	3.68	3.41	+0.27
Transition stage	4.11	3.85	+0.26
Efficiency-driven stage** (Average)	4.27	4.08	+0.19
Transition stage	4.44	4.49	-0.05
Innovation-driven stage*** (Highest)	5.05	5.18	-0.13

* Stage of development where the motive force of development is the extensive exploitation of traditional production resources (work, land, capital) (Pakistan, India, Bangladesh, Kenya, Vietnam etc.)

** Stage of development, where the motive force of development is the productivity of exploited resources (Jordan, Romania, Serbia, Ukraine, South Africa etc.)

*** Stage of development, where the motive force of development is innovation (Australia, USA, UK, Finland, Switzerland etc.)

Data source: data summarized by the authors according to Lopez-Claros et al., 2006; Schwab, 2012.

As it is shown in the Table 1, states -"leaders" are not able to maintain their positions of competitiveness, and countries which are in the stage of innovations and transition, have not shown the sustainability of their development within seven years. However, the countries which are in the lowest stages of development demonstrate the development of their competitiveness, ie., DS. For instance, the competitiveness score of Finland in 2012/200 decreased from 5.73 to 5.55 (according to the scale from 1 to 7, where 7 is the highest score of competitiveness), Latvian – from 4.46 to 4.35, however, the Turkish competitiveness score increased from 3.94 to 4.45, Pakistani – from 3.51 to 3.52, Brazilian – from 4.08 to 4.40 etc. The results of this comparison make us doubt regarding the correctness of M. Porter's idea, because hardly everything that ensures regional competitiveness nowadays at the same time also ensures regional development sustainability. The following table reflecting the findings of correlation analysis is also indicative of this.

Table 2

Correlation between Countries' Ranking According to Competitiveness Index of 2012 and their Development Sustainability (index changes in 2012/2005), Kendall's Coefficient, n = 114 countries

Correlated variables	Indices of Correlation Analysis	Country's ranking according to Competitiveness Index in 2012	Country's Development Sustainability (Index changes in 2012-2005)
Country's ranking according to Competitiveness Index in 2012	Kendall's coefficient of correlation	1.000	-0.206(**)
	Importance	-	0.001
	Number of countries	114	114
Country's Development Sustainability (Index changes in 2012-2005)	Kendall's coefficient of correlation	-0.206(**)	.000
	Importance	0.001	-
	Number of countries	114	114

** The correlation is significant at probability of 99%.

Data source: correlation analysis performed by the authors according to Lopez-Claros et al., 2006; Schwab, 2012.

While analyzing the correlation between rankings of countries according to the Competitiveness Index of 2012 and their DS (Index changes in 2012/2005), there was noticed a very interesting and even surprising regularity – the higher is country's competitiveness index (which corresponds to the country's highest competitiveness, because the 1st place takes the most competitive country), the lowest is its development sustainability. It turned out that exactly in countries with lower level of competitiveness, which for the present moment are in the lowest stages of development, there has been noticed DS. However, today it is more difficult for the more competitive countries to ensure DS. It may be indicative of the fact that they have reached this high level of competitiveness as a result of unbalanced and excessive usage of resources.

M. Porter emphasizes that the new economical theory shall clarify why the internationally-competitive agents choose particular regions as a place of their physical location. Exactly these are the regions which create and support such an environment within their territory which allows agents to succeed on the global scale. Functioning agents can work out and implement their development strategy in these regions; most efficient processes of production and concentrated skilled manpower are localized there (Портер, 2000). In addition, the new economical theory shall also determine why the world's most competitive countries, which are also at the stage of innovations, start to lose their competitiveness, while at the same time the traditionally less

competitive countries increase their competitiveness equally fast. First attempts of the new economic theory to answer this question were made in the seventies of the twentieth century when the first report of the Club of Rome "The Limits to Growth" was published (Meadows et al., 1972), later also the second report, which used the resource approach and developed the concept of "organic growth", considering that every region of the world as a separate cell of the living organism of the world with resources of different quiddity and own function, which have to be fulfilled instead of aspiration for universal quantitative indices of development (Mesarovic, Pestel, 1974). However within the framework of this report the authors do not look into analysis of regional development concepts, but they confine themselves to determination of weak, but statistically significant tendency - today's regional competitiveness and their development sustainability are connected by the feedback, which could mean that the most developed countries have already reached their "limit to growth".

To return to the application of resources-assets-capital approach to research the economic determinants of RC and DS, it should be mentioned that effective usage of resources needs not only the physical presence of "external resources" within the region and their effective utilization in the environment, but also the ability of regional agents to "activate" and "capitalize" them – so called "internal resources" (Гиллер, 2006). Thereby according to the point of view of resources-assets-capital approach, the policy of regional competitiveness and development sustainability has the following interconnected targets:

1) increase of physical amount of regional resources, ie., "external resources";
2) increase of regional agents' "internal resources", ie., capacity;
3) development and implementation of interconnection mechanisms, ie., exploitation technologies of "external resources" (both the engineering technologies and social technologies) "external resources" and "internal resources", ensuring the effective environment for resource exploitation.

The authors consider the last target to be the most important element of RC and DS, which shall be concentrated on by the institutions being responsible for the regional development.

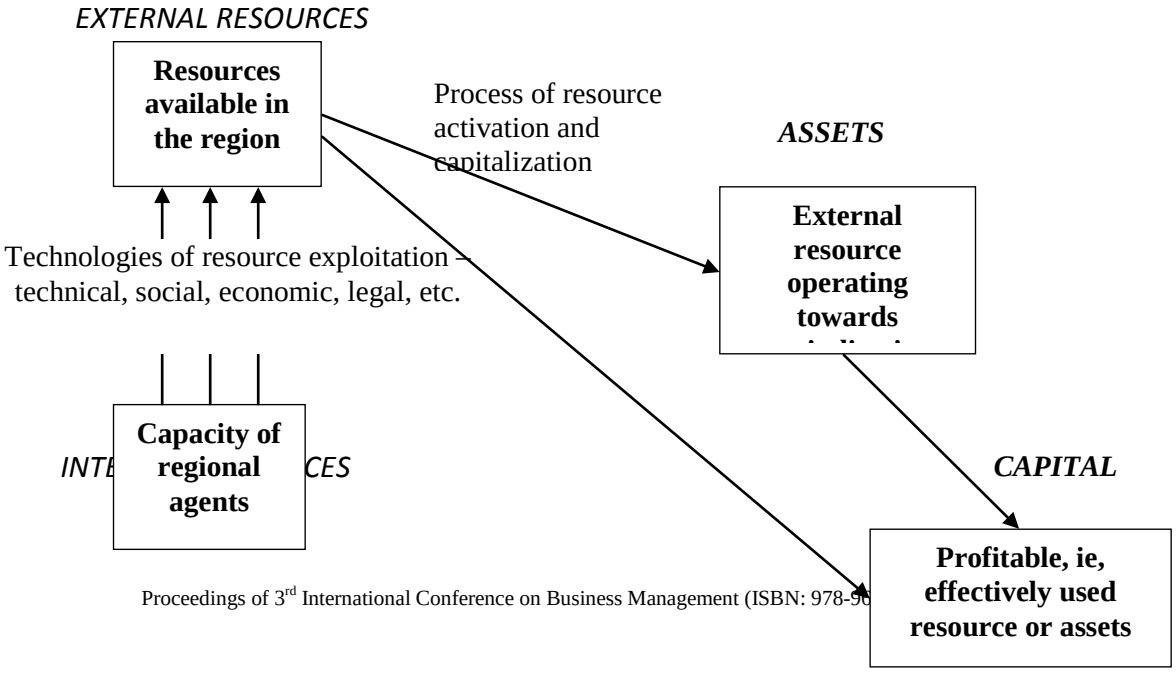


Figure 2. Model of activation and capitalization process of regional resources. Data source: chart worked out by the authors according to the ideas built upon ideas of J.Giller (Гиллер, 2006).

The authors add the following empirical interpretation to the concepts of the research performed within the framework of this Article (see Figure 2):

1) external resource – material (money, estate properties, raw materials etc.) or nonmaterial (time, confidence, rights etc.) subject which is available in a region;
2) internal resource – ability of regional agents to deal with external resource for its activation and further capitalization, for instance, inhabitants' ability to exercise their political rights in order to affect government's decisions vital for regional;
3) assets – external resources operating towards capitalization, for instance, a professional engaged by the labour market or exploited deposit of mineral resources;
4) capital – socio-economically profitable, ie., effectively exploited asset or resource, for instance, an employed professional which attracts investments for the functioning business of his region as a result of his work;
5) technology of resource exploitation – algorithm of influence of internal resources on external resources, as a result they become activated (resource activation technology) and then capitalized (resource capitalization technology), for example, an algorithm of particular activities, enabling inhabitants of the region to actually exercise their political rights in order to influence regionally important decisions of the government;
6) resource activation – transformation of external resources into assets due to internal resources, applying the technology of resource activation, for instance, the algorithm of particular activities, allowing the regional industrialists to begin the output at the deposit of mineral resources which was passive until that moment;
7) resource capitalization – transformation of external resource into capital by due to internal resources, applying technology of resource capitalization, for example, an algorithm of particular activities, allowing professional engaged by the labour market not only to work, ie., to be active, but also to attract investments for a functioning regional business as a result of his/her work.

Additional attention should be paid to the process of resource capitalization, sidestepping the stage of resource activation, which the authors would call low-profit capitalization of resources; this is often used by underdeveloped regions, when they

sell their resources abroad as raw materials, where by the use of innovative technologies, they are activated and then capitalized with much more profitableness.

The authors suppose that exactly the weak or uncoordinated development of effective exploitation technologies – technical, political, social, legal, ethical, economic, linguistic etc. - of available and potential resources impedes the process of resource activation and capitalization most of all. This is a real scope for researchers of social sciences and administrative specialists, because sometimes people living in a particular region do not accept and do not use some technically outstanding technology for its conflict with regional traditions or because it is economically disadvantageous.

2. Resources of Latvian Regions, Degree of their Activation and Capitalization

In order to achieve preferences of competitiveness and long-term development, all regions of Latvia have potential for various resources – natural, human, managerial and other, which in accordance with resources-assets-capital approach can be exploited and transformed into regional assets (activated) and consequently – into capital (capitalized). Although the transition within these two stages of resource modification – from resources to assets and from assets to capital – can be impeded or motivated by various factors, when dealing with empirical material, usually it is difficult or even impossible to divide resource activation from resource

capitalization, therefore usually we have to deal with resource exploitation which is methodologically closely related to its activation.

The analysis of potentials of regional resources usually starts by analysing natural resources – land, mineral resources, water, etc. The aim of this part of the Article is to reflect the amount of some resources of Latvian regions and the degree of their exploitation according to the available statistics. The data regarding the availability and exploitation of such Latvian natural resources as mineral resources is provided by the Register of Latvian Mineral Deposits. Within the framework of this research, there was used information regarding building raw materials (see Table 3) – regarding the number of deposits in every region and the degree of their exploitation.

Table 3

Exploitation of Deposits of Mineral Resources in Latvian Planning Regions, Deposits of Building Raw Materials, Year 2011

Types of building raw materials	Rīga Region		Kurzeme Region		Latgale Region		Vidzeme Region		Zemgale Region	
	Number of deposits	Exploitation %	Number of deposits	Exploitation %	Number of deposits	Exploitation %	Number of deposits	Exploitation %	Number of deposits	Exploitation %
Rock gypsum	13	9%	No deposit		No deposit		3	0%	2	0%
Limestone	No deposit		13	8%	No deposit		No deposit		3	0%
Freshwater limestone	20	0%	26	0%	62	0%	24	0%	7	14%
Moss stone	1	0%	1	0%	No deposit		2	0%	1	100%
Dolomite	48	19%	8	0%	31	10%	21	19%	47	13%
Boulders	No deposit		1	0%	1	0%	No deposit		1	0%
Sand	326	24%	387	23%	442	22%	311	20%	282	27%
Sand-gravel	199	29%	356	24%	355	23%	233	22%	183	26%
Clay	19	5%	63	3%	42	98%	34	6%	72	6%
Quartz sand	4	0%	4	0%	No deposit		14	14%	1	0%
Aleirite	8	38%	3	33%	No deposit		2	50%	4	75%
Doab	7	43%	6	67%	2	0%	1	0%	1	0%
Sandy loam	6	33%	3	33%	1	0%	2	50%	4	25%
Total/on average	649	24%	871	21%	936	19%	647	19%	608	23%

Data source: Latvian Environment, Geology, and Meteorology Agency " (LEGMA), 2011.

According to the Table 3, the average level of exploitation of available mineral resources varies from 19% in Latgale and Vidzeme planning regions to 24% in Rīga planning region. It is indicative of very low resource activation of available mineral resources, not to mention the degree of capitalization at all. Natural resources which are one of the resources of Latvian RC and DS, are left unexploited at the amount of almost 80%; and this is not only the problem of traditionally underdeveloped Latvian regions – all Latvian regions exploit mineral resources insufficiently.

In addition, the issue of non-exploitation of mineral resources, ie., non-transformation of natural resources into assets and then – into capital of Latvian regions, has various nuances, which could be not understood by outsiders of geology; however, from the economical point of view, this situation could have two possible explanations: whether Latvian regions do not exploit their natural resources in full or there is no appropriate system of registration of these Latvian resources.

When studying this issue deeper, it turns out that one of the barriers of exploitation of deposits of mineral resources could be the not aligned legislation regarding the sphere of environment. The Saeima of the Republic of Latvia just on 17 June, 2010 passed the draw law "Amendments of the "Law on Subterranean Depths"", which was "opened" for almost a year (Bierande, 2010). These amendments specify the exploitation techniques of the subterranean depths, determined time-limits of exploitation, as well as there are merged and facilitated competition terms for entrepreneurs, and terms of licensing and authorization receiving for landholders and municipalities. From the other side, there are also not so positive news to landowners – since there are deleted regulations from the "Law On Land Use and Land Survey" regarding indemnification of losses of landowners, such regulations are also deleted in the "Law On Subterranean Depths". Landowners will not receive any compensation regarding survey of plots, although the landowners have to inform public authorities about any survey. A general research on the situation by the method of analysis of documents and experts' published opinions, allowed to make a conclusion that within this legislative and administrative environment both the entrepreneurs and municipalities of Latvian regions do not have motivation to exploit and capitalize their national resources, as well as the foreign and internal investors lack stimulus to invest into trial and exploitation of deposits of mineral resources.

Another significant resource for the RC and DS is an agricultural parcel. In this case the main index analyzed by the context of resources-assets-capital approach, is the specific weight of the exploited agricultural parcels (AP) within Latvian regions.

Table 4

Exploitation of Agricultural Parcels within the Statistical Regions of Latvia, Year 2010

Territories	Agricultural parcel, Thousands of ha	Exploited agricultural parcel	
		Thousands of ha	%
Pieriga Region	241,6	226,9	93.9
Vidzeme Region	414,1	381,4	92.1
Kurzeme Region	366,7	348,6	95.1
Zemgale Region	414,3	391,1	94.4
Latgale Region	497,1	448,3	90.2
LATVIA	1933,8	1796,3	92.9

Data source: authors' calculation according to the Central Statistical Bureau of the Republic of Latvia, 2010.

According to the data reflected within the Table 4, in 2010 on average 7.1% of Latvian AP was not exploited, and this rate varies from 4.9% in Kurzeme Region to 9.8% in Latgale Region. These seemingly insignificant numbers, at the same time the active debates in the mass media, conferences, researches and on the 13th July, 2010 adopted regulations No.635 "Procedure of survey and determination of area of uncultivated agricultural parcel and providing of information on it" by the Cabinet of Ministers, and the tax increased to 3% for the uncultivated and unused agricultural parcel make us think that the issue regarding exploitation of AP resources within Latvian regions is very urgent and there is an active search for solutions. Comparing Latvia with other European countries, the informative part of the document "Land Policy Guidelines 2008–2014" has the following statement: "If the ineffective land exploitation and surplus is considered as a problem in Latvia, other European countries speak about the lack of available land" (The Cabinet of Ministers of the Republic of Latvia, 2008).

From 1 September, 2010 till 1 November, 2010 the Rural Support Service has performed surveys regarding all Latvian agricultural parcels. Results of this survey showed that almost 15% or 370 thousands hectares of agricultural parcels are unexploited, but 20% of them are completely overgrown (Lasmanis, 2010).

Scientific researches performed in Latvia regarding the exploited land resources are indicative of the fact that the area of unexploited agricultural parcel has sharply increased by beginning and development of the agrarian reform. In 1994 the unexploited area of agricultural parcels exceeded 0.5 million hectares, but in 2002 reached almost the amount of million hectares (Dobele, 2004). 36% of the total amount of Latvian agricultural parcel is used for cornfields and plantations, but together with extensively used meadows and pastures – 50% of total area of agricultural parcels. The rest area – more than million hectares – is overgrown by weeds and not valuable bushes, the part of which is burnt in spring (Dobele, 2004).

A.Dobele suggests the following solution for solving of this problem: landowners in collaboration with the regional departments of Rural Support Service should fully invest the financial support of European Union and national financial support for launching of new functions of land exploitation, for instance, recreation needs or individual building. However, for the present moment some of the landowners have no capacity to activate and capitalize their land resources, the others are in catastrophic lack of agricultural parcels for expanding the activity; at the same time the activity of Rural Support Service seems to have the character of monitoring and surcharging instead of supporting institution. In this case it seems logic to repeal these constraints starting from the 1st May, 2011, allowing foreigners to purchase land in Latvia. This could be one of the solutions for more effective exploitation of Latvian land resources. However even now "agriculturists are worried about the fact that in half-a-year time when foreigners will have no constraints for purchasing of land, Latvian fields, meadows and forests will be bought up by foreigners and Latvian agriculturists will be constrained to rent land from them" (Šteinfelde, 2010). Although it seems to be a quite adequate and effective economic solution, because Latvian agriculturalists lack capacity to fully manage the land; the resistance or Latvian inhabitants towards it could be explained by the point of view of national identity: they will have to rent the native land form foreigners and Latvian agriculturalists will not be the owners of native land.

Another resource of Latvian regions which is analyzed within the framework of this research is the human resources. These are resources which definitely could make a capitalized, ie., material contribution into the increase of RC and DS in Latvia, producing goods and services of internal products. One of the latest reports developed by the Advanced Social and Political Research Institute of the University of Latvia regarding the national development in Latvia even within the title include the statement "my gold is my nation" (Zobena, 2007). Although this statement is followed by a question mark, staggering whether it really is true in Latvia. Table 5 summarizes some statistical data on exploitation effectiveness of human resources in Latvian regions. The authors have calculated the data of Central Statistical Bureau of the Republic of Latvia regarding the economical activity of inhabitants, determining the percentage of employed inhabitants within the working population; it reflects the degree of exploitation of productive human resources, not calculating it from all population as the Central Statistical Bureau of the Republic of Latvia does when calculates the level of economic activity of the population.

Table 5

Exploitation Efficiency of Human Resources within the Labour Market of Latvian Statistical Regions 2007 - 2011

Exploitation Indices of Human Resources	Year 2007	Year 2008	Year 2009	Year 2010	Year 2011
Rīga Region					

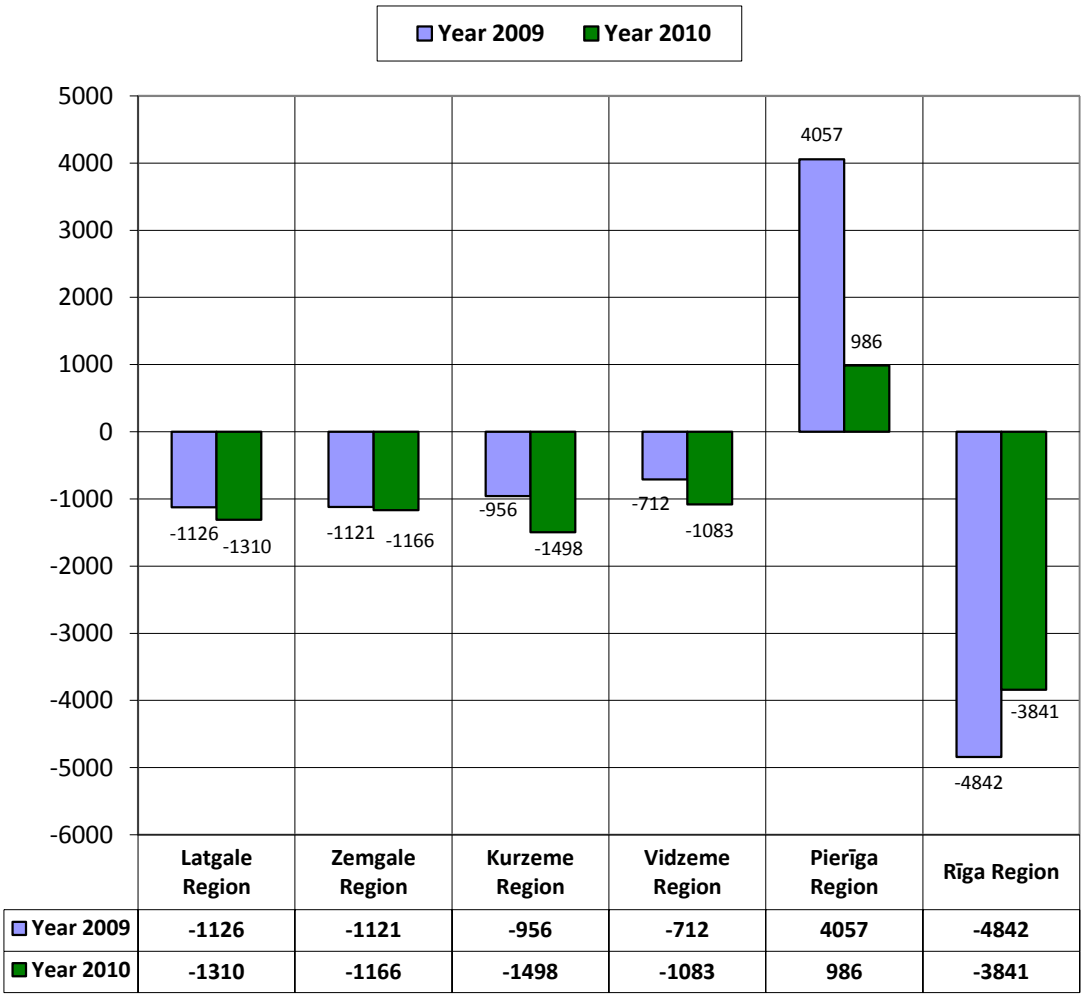
Working population, thousands of persons	391,5	391,5	387,0	379,6	374,5
Employed persons, % of working population	94.1	91.8	82.4	78.5	83.7
Pieriga region					
Working population, thousands of persons	190,5	197,2	195,8	198,4	196,6
Employed persons, % of working population	95.0	94.0	84.6	82.9	86.2
Kurzeme Region					
Working population, thousands of persons	147,6	147,6	145,8	145,1	142,2
Employed persons, % of working population	94.5	93.3	85.0	84.5	85.6
Latgale Region					
Working population, thousands of persons	169,4	174,8	168,6	161,1	160,5
Employed persons, % of working population	91.8	91.4	82.4	81.3	82.1
Vidzeme Region					
Working population, thousands of persons	109,5	112,3	112,0	109,9	110,1

Employed persons, % of working population	93.2	90.7	80.1	85.2	88.0
Zemgale Region					
Working population, thousands of persons	138,1	144,2	143,5	139,8	141,4
Employed persons, % of working population	93.3	92.0	80.3	78.1	82.1

Data source: authors' calculation according to the Central Statistical Bureau of the Republic of Latvia, 2010.

According to the data of 5-year period reflected within the Table 5, by the beginning of the economic crisis there was significantly reduced degree of activity of human resources; in 2009 it constituted 80.1% in Vidzeme Region and 85.0% in Kurzeme Region. Interesting is the fact that the situation regarding the exploitation of human resources in traditionally underdeveloped Latvian regions does not differ from the situation in Riga Region. Wherewith the revival of Latvian economy after the crisis, there is a positive tendency of the process of activation of human resources within the labour market of Latvian regions in 2011, and the leading region is Vidzeme Region by its 88% activation of working force (see Table 5).

However there is also a negative tendency according the activation of human resources within Latvian regions – their outflow or long-term migration. This is another way of losing resources, which becomes more urgent by every year (see Figure 3).



	Latgale Region	Zemgale Region	Kurzeme Region	Vidzeme Region	Pierīga Region	Rīga Region
Year 2009	-1126	-1121	-956	-712	4057	-4842
Year 2010	-1310	-1166	-1498	-1083	986	-3841

Figure 3. Long-term Migration of the Residents within Latvian Statistical Regions, Migration balance 2009 - 2010.

Data source: authors' calculation according to the Central Statistical Bureau of the Republic of Latvia, 2010b.

According to the data reflected within the Figure 3, migration balance 2009 within all Latvian regions was negative, except of Pieriga Region which is the only region attracting human resources even during the economical crisis (to what degree these resources are exploited by the labour market, reflects the Table 5).

Apart from traditionally studied natural, human and other resources, there are also resources which are usually overlooked by researchers, and proprietors of these resources, for instance, political resources, meaning rights to vote for a political force which corresponds to the interests of the voter. Voter turnout, ie., degree of exploitation of own political resource, of Municipal Elections 2005 and 2009 of Latvian planning regions is reflected in the Figure 4.

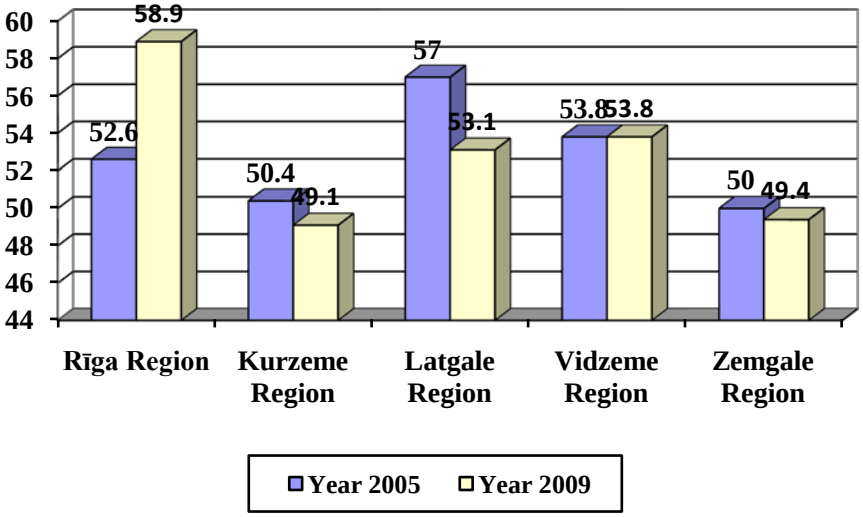


Figure 4. Voter turnout at Municipal Elections 2005 and 2009 at Latvian planning regions
Data source: The Sate Regional Development Agency, 2010.

According to the data available in Figure 4, residents of Latvian regions use their political resource inactively – 49-59% in 2009. Furthermore, if the exploitation of political resource in the Riga Region during five years has increased, then in other regions, especially Latgale Region, it has decreased.

Consequently, the statistical survey on some resources of Latvian regions, performed within the framework of this part of the Article, demonstrated that they are exploited incompletely. Furthermore, there is a range of resources not covered by statistics and Latvian society hardly comprehends them as resources of development sustainability, for instance, time resource, which is one of the mostly used resource of unemployed persons for their own development. According to the investigations of the Laboratory of Sociological Investigations of the Daugavpils University, residents of Latgale Region usually do not comprehend the time as resource which could be activated and capitalized (Gorbaceviča, Boroņenko, 2005; Boronenko, 2006).

3. Issues Regarding Activation and Capitalization of Sapropels Resources of Latgale Regional Lakes: the Case Study

Within this part of the Article the authors use the urgent and widely discussed issue (Drēziņš, 2010; Lācis, 2011; Latgales reģionālā televīzija, 2011; Петкевич, 2011) – challenges for exploitation of sapropels resources of lakes of Latgale Region - as an example of demonstrating the development condition of social technologies in Latvia in opposition to development of biotechnologies (example of Latgale Region).

Sapropels is an organic sediment of a lake, growing out of remains of water plants and aquatics dashing mineral particles into it (sand, clay, calcium carbonate and other compounds) (Lācis, 2011). In other words, this is a sludge, existing in majority of Latvian

lakes and more than one third of morasses; this sludge is suitable for agricultural, medical, recreation, cosmetology and other purposes. .

Deposits of sapropels are situated irregularly across the territory of Latvia. The majority of these deposits are located in the regions of elevated plain (especially Latgale highland). Most of all lakes with deposits of sapropels are in Krāslava, Rēzekne, Daugavpils, Madona and Ludza Districts (Lācis, 2011) – one of the mostly underdeveloped territories. Specialists consider that, for instance Ludza, in future could become a city which would produce the "black gold" of Latgale as a product of export – sapropels-fertilizer. An entrepreneur, who has started to extract sapropels, admits that this is a prospective business, because this substance will be sufficient in Latgale lakes for at least hundred years (Latgales reģionālā televīzija, 2011).

Information regarding the amount of available sapropels and possibilities for exploitation, allows to make sure of the socio-economical potentiality of this resource for the Latgale RC and DS – it is a product of export, extraction and processing of which will bring additional income, productive enterprises and working places for the region. The present situation of activation and capitalization of the sapropels resources is the following: the annual productiveness of the factory built in Latgale in 2009, constitute 18,000 tons of complete product per year. Capacity of this new factory, which was planned to be introduced by the end of 2010, is 40,000 tons of the product named "BioDeposit" per year. In addition to it, the global demand of the sapropels fertilizer constitutes approximately 500 million tons per annum. However, Latvian lakes contain 2.5 billion tons of sapropels colloid, which can be used to produce up to 5 billion tons of highly qualitative product (EHT Engineering, 2011).

Apart from the potentiality of the resource itself, there is also a process of its activation and capitalization; it is operated by resource exploitation technologies by the mean of internal resources of regional agents (see Figure 3).

According to the information provided by the specialist of State Geology Service Mr. A.Lācis, in 1990, geologists started systematic exploratory work of sapropels deposits in Latvian lakes. Today there are only some explored deposits where the industrial output of sapropels could be started (Lācis, 2011). Consequently, the geological technologies necessary for activation and capitalization of sapropels as a resource, are developed and approbated, but they are not widely implemented within Latvian regions; thus the industrial output of sapropels is impeded.

Biotechnology is one of resource exploitation technologies. Latvian company "EHT Engineering" Ltd. has developed, patented and approbated in Latvia a biotechnology by which it outputs the sapropels colloid from ecologically disadvantaged lakes and produces "BioDeposit", which can be widely used for both agricultural purposes as fertilizer and nutritive supplement (product line AGRO), and medical purposes as SPA and healthy products ("Elixir" and SPA product lines) (EHT Engineering, 2011). Consequently, there are patented biotechnologies in Latvia for activation and further capitalization of sapropels as a resource.

Further we will consider the economical technologies which are partially offered by the company “EHT Engineering” to its potential business partners. The company considers the process of activation and capitalization of sapropels resource in Latgale as construction of new factories with production capacity of 1 million tons per annum. It is possible if concluding franchise agreements on launching of completely finished factories, attracting significant investors, being able to invest approximately 50 million euro (EHT Engineering, 2011). It should be remarked, that such invertors still have to be found as well as authorization of lake owners shall be received. So the franchise agreement is only one chain of economic technology.

It can be established that for the successful activation and capitalization of sapropels resource in Latgale there are developed and probated geological and biological technologies, as well as some charts of economical technology. However, it is not enough for real resource transfer into regional asset and then into the capital. There is also a need for social technologies as it brightly shown within the findings of a journalist A.Drēziņš, published in “Latvijas Avīze” regarding the events concerning the Notra lake of Viļāni District, Latgale Region, from which it is planned to output the sapropels (Drēziņš, 2010). In this case, the old age pensioner X, living in Viļāni District, was visited by the businessman V.Podņebess and offered to purchase her land at an incredible price for the Latgale Region, revealing the reason of such a high price: the adjacent lake Notra, from which it is planned to output sapropels. Pensioner’s son Y did not want to sell this land, offering to develop this sapropels business together instead and to conclude agreement of land lease. Both men established a joint venture "Eleonotra Ltd.", asking Viļāni Council for permission to start the output of Lake Notra.

Then started a phase, proving that underdeveloped social technologies can impede implementation of all other technologies. The application of "Eleonotra Ltd." was reviewed and rejected in two meetings of Viļāni District Council. At first – mainly because of objections of deputy of self-municipality and chairman of the procurement committee, and then – due to the fact that there was another company "AS Lopkopības izmēģinājumu stacija Latgale" that applied for output of lake Notra; the previously mentioned deputy of self-municipality was the chief accountant of this company. V.Podņebess considers that she wants to get lease rights for exploitation of the lake which she could later be soldl to him: “She cannot do something else. She will not get the technology from "EHT Engineering Ltd.", in the same way I do not think that she will get money for output of sapropels accordingly some other technology” (Drēziņš, 2010). It is indicative of the fact that the regional agents of Latgale lack ability to collaborate for the behalf of regional competitiveness and development sustainability, because as a result of this resistance, the sapropels resources of Lake Notra are still standing inactivated and not capitalized.

Another paradigm case, reflecting the underdeveloped social technologies of activation and capitalization of sapropels resources, concerns Lake Gubišče of Daugavpils City. There is founded an initiative group under the guidance of former principal of Daugavpils Construction Vocational School A.Beinars, the purpose of which is to save the

Lake Gubišče by output of sapropels (Петкевич, 2011). The same company "ЕНТ Engineering Ltd." could sell processing technology of sapropels output, but there is still a problem to attract investors. Due to the fact that the Lake Gubišče is not a property of self-municipality, Daugavpils Municipality cannot attract and promote the money of EU funds for a private property. For the present moment Daugavpils initiative group is organizing meetings for residents and specialists, appealing to "save the Lake Gubišče" and to search for investors.

What does really impede to use the "black gold" of Latgale – sapropels – for the sake of its development sustainability? The authors consider that it is the underdevelopment of scientifically grounded social technologies; as a result regional natural resources are not activated and capitalized for the development of Latgale Region.

The authors consider that one of the most significant problems of development of Latvian social technologies is nonbeing of profession of social technologist in Latvia, wherewith also inaccessibility of social technology study programmes in faculties of social sciences of Latvian higher education institutions[2]. Study of Latvian standards of professions showed that there are such professions as environmental technologist, food and beverage technologist, wood processing technologist (State Education Content Centre, 2011), but there is no profession of a social technologist in Latvia. The authors consider that this could be explained by the fact that these social technologies in Latvia both are not sufficiently studied, nor even named and systematically recognized, although elsewhere in the world social technologies as well as all other technologies of the sciences, have the titles and studied fields of particular application. GIS *(geographic information system)* technology is an example, because it is applicable for administration of regional natural resources, allowing to transfer these scientific working outs into the real practice, where there mostly work non-scientists (Wright et el., 2009), Geospatial and Social Web technologies, used to count illnesses within the health care of regions with scanty financial resources (Cinnamon, Schuurman, 2010), as well as debate moderating *DoTalk* technology, used by Vidzeme Higher Education Institution (Vidzemes Augstskola, 2011).

Wherewith it is possible to adumbrate the following general consecutive algorithm of social technologies for activation and capitalization of sapropels resources of Latgale Region:

1) to ascertain and obtain the proper document regarding the particular lake's sapropels suitability for industrial output and processing (for instance, what concerns the Lake Gubišče in Daugavpils, the initiative group wants to find an investor and to concuss the municipality into building a factory, although the chemical composition of the sapropels of Lake Gubišče has not been analyzed, because at Soviet Times the large factories were making flow of sewages with heavy

[2] Despite the fact that since 1991 there is a Higher Education Institution of Social Technologies in Latvia, it still does not train social technologists, whereas realizes such study programs "Management of estate property", „Administrative and Enterprise economics' activity", „Law", „Interpreter – translator", „Management of small and medium-sized enterprises" (www.sta-edu.lv).

metal dashes into this lake, therefore there is doubt whether this sapropels could be exploited at all). It is possible to ascertain the quality of sapropels' chemical composition by using chemical laboratory of Daugavpils University and potential of its investigators (the importance of such transfer of knowledge was successfully fortified and approbated by Latvian social scientists within the framework of project "Investigative Potential of Higher Education Institutions for Promotion of Regional Development" (Tisenkopfs a.o., 2011), and in case if the sapropels turns out to be of a good quality, the regional department of natural resources;

2) to develop a business plan for the activation and capitalization of sapropels, in order to convince a potential investor that his money will produce a profit, instead of "saving the lake", because within the market economy the investor having a million euro is not particularly interested in rescue of some lake (it is wrong to think that there are no investors having such a great sum of money, because, for example, there is an investor having 8 million LVL for the renovation of concert hall "Dzintari" , because he is certain that this is an economically profitable project, not a "rescue of a concert hall"). The potential of economists-investigators, Master students, PhD students of Daugavpils University could be used;
3) to get the licence for output of sapropels and authorization of lake owners (the license could be acquired by the mentioned "EHT Engineering Ltd.", which has developed technologies of industrial output and processing of sapropels);
4) to offer the potential investor the business plan for sapropels' activation and capitalization, as well as all additional documents (analysis of sapropels' chemical content, licence, authorization of lake owners, etc.);
5) during all stages to collaborate and exchange experience with all three sapropels producing factories which are already functioning in Latvia, because they already have real experience of searching for investors and working within the circumstances of Latvian regions.

Still there is an open question: who shall organize and perform it? Ideally – a professional social technologist, using thorough and over the years obtained knowledge regarding stratification of Latvian society and ongoing social processes (Bela, Tisenkopfs, 2006; Rozenvalds, Ijabs, 2009; Tisenkopfs, 2010; Muižnieks, 2010). Due to the fact that Latvia does not train such professionals, any enterprising regional agent, intending to become a manager of a factory and thereby is interested in success of this process, is forming a highly specialized and qualitative working place, although he develops working places for many people and promotes RC and DS. However, according to the classical economic theory (Smith, 1970), he is motivated mainly by personal achievements – profit, place of work for his family members, future of his children, etc.

CONCLUSIONS

The analysis, performed by the authors, regarding the interconnection of terms "regional competitiveness' and "development sustainability of a region" within the context of national identity and regional capacity allowed to make a conclusion that the same factors which increase regional competitiveness and development sustainability at the same time lower the national identity of regional agents, and this is an irreversible process – consequently it should be taken into consideration that Latvian regions for increasing of their competitiveness and development sustainability will have "to pay" by lowered national identity of regional subjects. So the regional capacity has a regulating function, helping to find the optimal point at which the region reaches so high level of competitiveness which, ensuring residents' life quality, at the same time does not lower their national identity below the critical level.

However, the analysis of quantitative indices of competitiveness and development sustainability of countries, included into the Global Competitiveness Reports, enabled to reveal a statistically significant tendency, being indicative of the fact, that the world's most competitive countries, being at the stage of innovations, from 2005 to 2012 did not show development sustainability, gradually losing their positions in the global competitiveness reports. At the same time, the countries which are at the lowest stages of development and are fairly uncompetitive, proved their development sustainability, ie., increase of competitiveness indices during period of seven years. It makes social scientists to consider these countries more carefully as potentially more competitive regions of the world (mostly these are countries of Asia and Africa). For Latvia, which also has decreased its competitiveness position and did not present development sustainability, it could mean that the potential of these regions shall be actively used for own development by collaborating with these regions and studying their societies and economies.

For the study of conditions of Latvian RC and DS, the authors offer to use the resources-assets-capital approach. Its subjacent idea is the two main factors of regional sustainable development are, firstly, the existence of resources, secondly, ability of regional agents to use them effectively, ie., to activate – to introduce added values during the process of production, - and to capitalize them – to successfully achieve this added value of the resource. This approach methodologically combines the competitiveness and development sustainability of both the region and its functioning regional agents, as well as it allows to understand the situation in Latvian regions more deeply and systemically and to search for more effective and practical solutions, studying lack of resources and their exploitation skills and technologies at Latvian regions.

Findings of empirical research showed that there is a potential of various resources within the Latvian regions – natural, human, political and other resources, which are exploited insufficiently effectively, for instance, the exploitation level of mineral resources in different Latvian regions is at range from 19% to 24%, level of exploitation of agricultural parcel–

from 90.2% to 95.1%, level of exploitation of natural resources – from 82.1% to 88.0%, level of exploitation of voting rights at municipal elections - from 49.1% to 58.9%.

For studying Latvian regions and the low exploitation level, ie., the level of activation and capitalization, of their resources, the authors have used the case study, taking the potential of sapropels resources and exploitation in Latvian regions, especially Latgale region, as an object. The findings of this study showed that while there are no geological, biological and economic technologies of activation and capitalization of these resources, their implementation is impeded by the low level of development and application of social technologies of Latgale region.

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