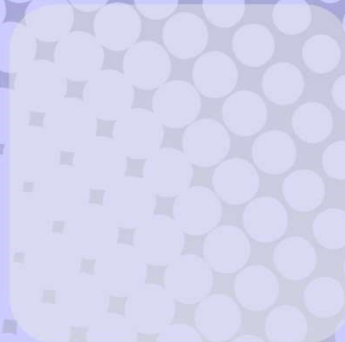


# DEUROPE



Central European Journal of Regional Development  
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# **DETUROPE**

**THE CENTRAL EUROPEAN JOURNAL OF REGIONAL  
DEVELOPMENT AND TOURISM**

Volume 11, Issue 2

**2019**

**DETUROPE** – the Central European Journal of Regional Development and Tourism is an international online open-access scientific journal publishing results of theoretical and applied research in the fields of regional and rural development and tourism. The articles published in this journal pass through a double-blinded peer reviewing process.

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**Published by** the Regional Science Association of Subotica, Serbia in co-operation with the University of South Bohemia, Faculty of Economics and University of Pannonia, Georgikon Faculty, Kesthely, Hungary.

**Address of the contact information:** DETUROPE. Regionális Tudományi Társaság Szabadka/Društvo za Regionalne Nauke, Corvin Mátyás/Matije Korvina 9. 24000 Szabadka/Subotica, Serbia, deturope@gmail.com

**ISSN 1821-2506**

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## **EVALUATION OF SERVICE QUALITY BASED ON RURAL HOUSEHOLDS' VISITORS – SERBIAN CASE STUDY**

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**Cite this article:** Gajić, T., Vujko, A., Tretiakova, T.N., Petrović, M.D., Radovanović, M., Vuković, D. (2019). Evaluation of Service Quality Based on Rural Households' Visitors – Serbian Case Study. *Deturope*, 11(2), 4-21.

### **Abstract**

The unfavorable economic and political situation that has lasted since the end of the 20th century has implications for tourism and economic development of Serbia. In today's conditions of the extremely complex economic situation, the quality of business operations is seen as a significant long-term factor of stabilization in the market and providing a firm position among its competitors. Rural tourism in Serbia should contribute to the preservation of the rural environment, demographic condition, and cultural heritage, but also to the economic placing of Serbia in a better market position in the region. The aim of this study is to focusing on perception of importance and quality of services in rural tourism households and based on the analyzed data it attempts to confirm certain assumptions relating to the quality of provided services. The authors conducted their research survey on 164 respondents in 15 municipalities in Serbian countryside.

Keywords: evaluation, rural tourism, quality, Serbia

### **INTRODUCTION**

Serbia has a quality and diverse basis for the successful development of rural tourism, extreme natural and social values, rich cultural and historical heritage and favorable geographic and traffic position. Rural tourism in Serbia should contribute to the development of environment, but also to economically motivate the local population to remain in the countryside. Many studies focus on rural tourism and its impact on economic development. Rural tourism is associated with notions of rusticity and authenticity, which greatly depend on natural environment, arts, heritage and tradition of agrarian societies (Bouchon & Rawat, 2016). Empirical studies have grown in profusion during the past ten years and have focused on the causality relationship between rural tourism and economic growth (Brida & Pulina, 2010).

Rural tourism and diversification of economic activities in the countryside are an important, integral part of sustainable development (Vujko, Petrović, Dragosavac, & Gajić, 2016; Vujko & Gajić, 2014a; Petrović, Blešić, Vujko, & Gajić, 2017). The future development of rural tourism is reflected in possession of a large number of untouched natural resources and scenic rural communities that offer beauty, peace, and tranquility (Bouchon & Rawat, 2016). Korsching & Allen (2004) indicated that many rural communities are struggling to maintain their economic and social vigor; fewer still are experiencing any type of growth or development. Increasing quality importance in rural tourism is determined mainly by increased competition, customer requirements and complexity of products and processes made in order to achieve them (Chris, Susan, Hamin, & Albert, 2017). When the country fell into bad economic and political situation, the entire economic and social system collapsed, which is slowly coming out and it carries such a state (Vujko & Gajić, 2014b). Renovation of traditional rural households, as well as improvement of rural tourism is supported by the Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia, but also the local population. Likewise, the quality of provided services is a current topic in the world.

The authors argue that research with others, since goods and services are increasingly becoming commoditized, businesses should provide meaningful experiences to their customers in order to add value to their offerings (Berry, Carbone, & Haeckel., 2002). According to some research, the attitude of tourists on the quality of tourist services in rural tourism gets a greater importance. Rural tourism is closely linked with the quality of services provided and the evidence is as much the price of human labor (Bouchon & Rawat, 2016). One of the main factors that positively affecting the success of tourism destinations is the quality of tourism services and many countries are adopting a policy of quality service in order to consolidate themselves as an alternative in these highly competitive markets (Go & Govers, 2000). The authors in this research, guided by certain hypotheses, pointed to the current status of rural areas in Serbia and the existing level of service quality, using a variety of statistical, quantitative and qualitative methods, and research carried out by other institutions. The survey was conducted in 15 municipalities of the country (the municipalities of Vojvodina, Southeast and Southwest Serbia), among 164 respondents belonging to the category of tourists.

In line with the aim of research there are the following hypotheses:

H1. Rural tourism in Serbia is not satisfactory compared to the total tourist development measured by the accomplished number of nights spent by tourists.

H1a. There is significant income from tourism and investment in all regions of the state of Serbia for the development of rural tourism.

H1b. There is a statistically significant difference in the development of rural tourism in Serbia and the region.

H2. Satisfaction of tourists' content and quality of the tourist offer of rural households in Serbia is an indicator of the development of rural tourism.

H2a. There was a statistically significant difference between the attitudes of visitors of rural households in relation to the scale of importance (expectations) and the perception of the elements of quality accommodation offer, in the direction to exceed the expectations of visitors to their perception.

## **THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT**

### **Rural tourism – experiences and data from the global and Serbian situation**

According to Wood (2002), rural tourism supports various activities that are based on natural and cultural values of the local community enabling original experiences for the tourists during their stay. Smith and Eadington (1992) consider rural tourism as part of alternative practices that include 'forms of tourism that are consistent with natural, social and community values and which allow both hosts and guests to enjoy positive and worthwhile interaction and shared experiences. Many studies indicate segments that include rural tourism, and often states that this form of tourism includes a wide range of attractions and activities that usually take place in non-agricultural or urban settings (Lane, 1994; Frochot, 2005). Tourism in rural areas affects the socioeconomic revitalization, the diversification strategy of the industry is justified by tourism, environmental and economic reasons.

Hall (2004) points out in his research that rural tourism and in both developed and developing countries often serves to stimulate regional economic activity. Long (1998) proposes that rural areas are perceived as for tourists and places of safety surrounded by open spaces and natural beauty places where everyone is treated with respect and kindness. According to Idelhadj, Mateos, and García (2012), rural tourism is part of the economy and contributes to the economic development of the country and additional benefit increases. In principal, rural tourism destinations essentially have distinct characteristics: wide-open spaces, low levels of tourism development, and opportunities for visitors to directly experience agricultural and/or natural environments (Snieska, 2014; Demirović, Košić, Surd, Žunić, & Syromiatnikova, 2017). According to the statistical analysis of the competent authorities of the European Commission, the European Union EU-27 can be described by the following indicators in 2013: 12 million farms, 172 million hectares of agricultural land, 25 million people

are employed in agricultural production. On average, one farm has 14.3 hectares of agricultural land and earns 25,450 euros of profit a year. The unsynchronized and uncoordinated development of offer, incompatible with other entities, formed the incomplete and insufficiently differentiated offer of rural tourism in Serbia (Petrović et al., 2017b). Regarding the specialized literature in the tourism domain, it was written much about the relationship between tourism and development, despite the increasing social and economic significance and the use of tourism as a development strategy in developing countries (Titu, 2016). Rural areas comprise 85% of Serbia and about 43% of the total population live there. As for the participation of the rural population in the total population of Serbia the situation is as follows: in Vojvodina there is about 44.62% of the rural population, Central Serbia 42.40%, the area of Belgrade 18.9%, 55.4% in other areas. According to the scope and structure of available farmland, Serbia is among the European countries with favorable land resources, since it has 0.7 ha of agricultural land, or 0.45 ha of arable land per capita.

At the same time, the ratio of surface area of arable land and permanent crops according to the area of meadows and pastures (71:29%) is among the more favorable compared to other European countries. The aim of this paper is to explore the possibility of achieving high quality in order for Serbia to reach the European quality standards and joined the European Association of rural countries, bearing in mind that this association has an annual income of 13 billion euros from rural supply and up to 17 billion euros from the sale of souvenirs. Compared with data from 2006, when there were 140 households in 44 villages, with 750 beds, in 2014 the figure increased significantly, and the turnover in rural tourism in 119 villages, 164 households and 1,628 beds. On average, in the framework of rural tourism in Serbia there are 408,580 overnight stays, or about 6.2% of the total number of overnight stays in Serbia. Domestic visitors account for almost 90% of all visitors in rural tourism in Serbia. The results from the 2011 Census show that the demographic trends in Serbia, especially in its rural areas are increasingly unfavorable. In the period from 2002 to 2011 there was a decline of the rural population to 311,139 inhabitants (10.9%).

### **Quality and consumer satisfaction**

The interest in the quality of provided services is increasing from year to year, and studies have shown that service quality is a prerequisite for success and survival in today's competitive environment (Ghobadian, Speller, & Jones, 1994). The most typical way of measuring service quality is the Servqual scale and the five dimensions (reliability, responsiveness, assurance, empathy, tangibles (Baumann, Burton, Elliott, & Kehr, 2004). That the quality of service and



customer satisfaction are becoming imperative in any successful show and their research in this area (Narayan, Rajendren, Sai, & Gopalan, 2014; Rajaratnam, Munikrishnan, Sharif, & Nair, 2014; Lo, Songan, Mohamad, & Yeo, 2011; Moutino, Albayrak, T., & Caber, 2012; Moreira & Campos, 2010), as providing high quality service and ensuring tourist satisfaction are recognized as important factors influencing the success of the tourism industries (Chen, Lee, Chen, & Huang, 2011). In addition to evaluating service quality, assessing tourists' satisfaction with destination is important because it influences the choice of destination, the decision to return (Brown & Churchill, 1993). Earlier studies indicate a positive reaction of consumers and their satisfaction with the quality service they receive (Lo, Songan, Mohamad, & Yeo, 2011; Chen, Lee, Chen, & Huang, 2011). However, some studies (Hernández-Maestro, Muñoz-Gallego, & Requejo, 2007) found no significant relationship between service quality and tourist satisfaction. Chang points out customers' perceptions of experience quality (Chen, Lee, Chen, & Huang, 2011) or identified and measured dimensions (Kim, Knutson, & Beck 2011). So far, researchers have mainly studied perceived service quality and customer satisfaction (Olsson, Friman, Pareigis, & Edvardsson 2012). An assessment of tourists' satisfaction of the rural destinations visited can assist rural tourism players to have a better understanding of tourists' perceptions and focus their efforts to enhance tourists' positive experiences in the rural destinations (Rozman, Potocnik, Pazek, Borec, Majkovic, & Bohanec, 2009).

## METHODOLOGY

### Sources of data and methodology of research

The first survey-based research regarding the level of development of rural tourism in Serbia was taken from the Ministry of Agriculture, Forestry and Water Management, the rural development sector. The second part of the research is related to the quality of services in rural areas of Serbia, estimated by the tourist consumers. The research was carried out by the authors of the survey in 15 rural municipalities in Serbia. Descriptive statistical analysis was applied to calculate the average score on the issues and determinants of quality. This method was applied to calculate the arithmetic mean, mode, median and standard deviation. The basic formula for calculating the arithmetic mean as follows:

$$M = \frac{\sum X}{N}$$

where M represents the arithmetic mean, collapsed to the sum of results from first to last, and N number of results. Standard deviation shows a high degree of deviation of the individual

values of characteristics from the arithmetic mean and always a positive value or zero. The standard deviation can be described as the square root of the average of the sum of squared deviations. Mod (or dominant value) is the value of characteristics that are most common in the numerical series, or label that has the highest frequency. Numerical series may have one or more modes, and if all of the same frequency, the series has no modus. Median (or central value) is a value in the range of results, sorted by size, is located right in the middle. T-test for independent samples was used to compare mean values of the results and determine the statistical significance of their differences. The independent samples are those samples following the measurements which are not correlated.

### Description of the sample survey

*Study 1. Determining the current state of development of rural tourism in Serbia and position in the region - a comparative analysis with direct competitors in the region*

The research methodology is based upon surveys of the Ministry of Agriculture, Forestry and Water Management, Rural Development Sector. The recent data, which are newer than those presented in the work of the year 2014, are not available and they were not surveyed. Two surveys were conducted. The first survey was conducted on a sample of 248 rural tourism households that provide accommodation for tourists, distributed in 166 villages in 19 municipalities. The other survey refers to other service providers and other operators in rural tourism. The survey covered a total of 163 buildings, of which there are 21 household, 75 restaurants of various types, 43 commercial companies and 24 facilities that provide other services such as galleries, museums, agencies and the like. The aim is to indicate the current state of development of rural tourism in Serbia, Lower Danube region, South Banat, Central Serbia, Eastern Serbia.

**Table 1** Actual number of overnight stays in rural areas in Serbia (% share compared to the total number from 2007 to 2016).

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
21.71%	20.54%	20.85%	20.31%	21.45%	22.42%	20.83%	21.32%	20.66%	20.02%

Source: Author's calculations based on statistical data of the Republic Institute for Statistics.

The average number of domestic tourists per year (per household) is 422, while there are on average 66 foreign tourists. The most visited regions are Western and Central part of Serbia. Based on Table 1 one can see that there are no large fluctuations in the change of the number

of nights in the recent years. The data can be confirmed by the main hypothesis H1, where the authors started from the premise that the development of rural tourism is very low compared to the total tourist development of the state (on average slightly above 20%).

**Table 2** Revenue generated from the provision of accommodation, food and sales of domestic products.

<i>Region Serbia</i>	<i>East Serbia</i>	<i>Central Serbia</i>	<i>Danube region</i>	<i>Southern Banat region</i>
<i>Generated revenue from accommodation, meals and sale of domestic products (EURO)</i>	EUR 93,200	EUR 329,000	EUR 904,000	EUR 153,000

Source: Ministry of Agriculture, Forestry and Water Management, Republic of Serbia, Rural Development Sector.

The revenue from rural tourism in Serbia is presented in Table 2. The highest revenues are achieved in the Danube region with 904,000 EUR from the provision of accommodation, food and sales of domestic products. The amount of realized funds for encouraging rural tourism and diversifying economic activities in rural areas tends to increase during the period from 2014 to 2016. The total amount of realized revenues in the period was 91,580,215 dinars (Table 3). The number of beneficiaries of funds increased, with 22 users in 2006 and 110 users in 2008. The total number of beneficiaries for the period 2014 – 2016 is 173. The highest number of beneficiaries of the funds are individuals – registered farmers (total 141), followed by citizens' associations (23), legal entities – entrepreneurs (7) and cooperatives (2).

**Table 3** Distribution of funds by region

Region	Western	Vojvodina	Central	EASTERN	BELGRADE	SOUTHERN	Kosovo	TOTAL
2006	8.867.538	5.989.547	7.158.205	813.011	4.998.814	0	0	27.827.116
2007	16.797.960	2.601.986	1.090.870	5.560.631	0	977.238	0	27.028.686
2008	23.932.657	3.572.737	3.286.540	4.968.632	280.347	400.000	283.500	36.724.413
TOTAL	49.598.155	12.164.271	11.535.615	11.324.275	5.279.161	1.377.238	283.500	91,580,215
%	54.2	13.3	12.6	12.4	5.8	1.5	0.3	100

Source: Ministry of Agriculture, Forestry and Water Management, Republic Serbia, Rural Development Sector.

As for investments in rural tourism, it is practically reduced to investment in public infrastructure, which primarily has a social character, and then the significance of the development of tourism. This analysis shows that the development of rural tourism depends on the overall socio-economic development. The total income of rural tourism generated by tourist rural households and other supporting entities is small, or in terms of individual subject is not insignificant. Hypothesis **H1a** is refuted by the data indicating that the revenues are generated, but not to a significant extent to encourage further economic and economic development.

**Table 4** The position of Serbia in the region

<i>Region</i>	<i>Serbia</i>	<i>Croatia</i>	<i>Slovenia</i>
<b><i>Size of rural areas (% of total territory)</i></b>	85%	90%	90%
<b><i>Rural population (% of total population)</i></b>	48%	44%	57%
<b><i>Population in rural areas (population/km<sup>2</sup>)</i></b>	84%	79%	87%
<b><i>The average unemployment rate in rural areas</i></b>	21%	18%	9%
<b><i>Number of households with the tourist offer</i></b>	300	400	600
<b><i>The average number of nights per year</i></b>	150.000	220.000	300.000
<b><i>Average retention of tourists (days)</i></b>	2.8	2.8	3.7
<b><i>The total accommodation capacity (number of beds)</i></b>	8.000	8.900	6.000
<b><i>Average capacity utilization</i></b>	40%	57%	70%
<b><i>Average revenue per household (euro/year)</i></b>	2.500	5.000	10.000

Source: Author's calculations based on research.

The comparative analysis of economic indicators (Table 4) can lead to the conclusion that all three countries have a percentage of rural territories of equal size but of different degrees of development. Rural population percentage is highest in Slovenia with 57% of the total population, followed by Serbia with 48%, and then by Croatia with 44%. Also, the population in rural areas is the largest in Slovenia (Petrović, Gelbman, Demirović, Gajić, & Vuković 2017c) and the lowest in Croatia. The average number of overnight stays annually is also the largest in Slovenia, and the utilization of capacity in the region is also at a higher level. The position of Serbia in the region among the closest and most similar competitors across all geographic, commercial and economic parameters are at the lowest level. However, when it comes to the hypothesis **H1b**, we can say that there are differences in development in the region, but it is not significant in all segments. The actual number of nights is significantly lower, while the other parameters are approximate to the states in the region. Slovenia has a much smaller number of beds in relation to Serbia, but the higher utilization.

#### *Study 2. Service quality in rural tourism in Serbia*

The authors carried out the survey in Serbia in the rural areas of Vojvodina, Southeast and Southwest Serbia, in the period from May to December 2016. There was the total of 15 municipalities with 164 respondents: Subotica, Sombor, Novi Sad, Irig, Pancevo, Valjevo, Kosjeric, Gornji Milanovac, Knić, Čajetina, Majdanpek, Negotin, Knjaževac, Pirot and Dimitrovgrad in three tourism clusters: Vojvodina, Western Serbia, Eastern Serbia (all clusters have been defined by the National Tourism Development Strategy of the Republic of Serbia).

The survey questionnaire contains a total of 45 questions. The seven closed questions refer to the socio-demographic characteristics of visitors of rural households, while the two

questions, which are also closed, relate to the matter of informing tourists of rural households. The remaining 36 questions relate to the ranking of different positions according to the criteria of importance and satisfaction of tourists. In order to measure the attitudes of tourists, a five-point Likert scale of importance has been used. The paper presents the data factor analysis of relevance and satisfaction of seven subscales. For the assessment of relevance of the gap between importance and satisfaction of the factors of quality of tourists, the t-test for dependent samples is used.

**Table 5** Structure of respondents by gender and age

STRUCTURE	GENDER STRUCTURE		AGE STRUCTURE					
	Male	Female	<21	12-30	31-40	41-50	51-60	>60
<b>TOTAL 164</b>								
<b>FREQUENCY</b>	70	94	3	82	50	17	6	6
<b>PERCENT</b>	42.7%	57.3%	1.8%	50.0%	30.5%	10.4%	3.7%	3.7%

Source: Author's calculations based on research.

Based on the analysis of the structure (Table 5) of the respondents the dominating number of the respondents are students with the share of 42.1%. The respondents whose primary business is tourism accounts for 26.2%, while the lowest share of the respondents is those who work in in the sector of agriculture – 3%, and crafts – 6.1%, whereas there are 22.6% of the respondents working in other sectors. As for the level of earnings there is the following situation: only 2% of respondents had more than 2,000 euros of monthly salary, followed by 2.6% of the respondents with the salary ranging from 1000 to 2000 euros, then 20.9% earning from 600-1000 euros, and finally 16.3% with the salary from 400 to 600 euros. With earnings of 200-400 euros per month there was 30.1%, and below 200 euros a month there was 28.1% of them.

## RESULTS AND DISCUSSION

### Forming subscales - the results of the factor analysis

The factor analysis, with using the method of extraction - Analysis of the main components (PCA), has determined one-dimensional and factorial validity of each of the factors. According to the high value of Cronbach's Alpha Reliability Coefficient, a high degree of reliability of items for each of the factors can be established (Table 6).

**Table 6** Basic psychometric characteristics of the instruments and key for calculating scores / factors

	<i>Subscales</i>	<i>Items</i>	<i>Cronbach's Alpha</i>	<i>N items</i>
<b>Importance</b>	Personal responsibility	v1-v7	.784	7
	Accompanying offer	v8-v11	.566	4
	Relations with tourists	v12-v17	.751	6
	Basic requirements	v18-v22	.757	5
	The material elements	v23-v28	.678	6
	Security	v29-v32	.712	4
	Empathy	v33-v36	.718	4
<b>Satisfaction</b>	Personal responsibility	z1-z7	.885	7
	Accompanying offer	z8-z11	.647	4
	Relations with tourists	z12-z17	.721	6
	Basic requirements	z18-z22	.845	5
	The material elements	z23-z28	.683	6
	Security	z29-z32	.718	4
	Empathy	z33-z36	.746	4

Source: Author's calculations based on research.

The analysis of descriptive indicators for scores on the dimensions of importance and satisfaction has been conducted. The analysis shows that the distribution of the weight of a normal distribution of scores, or scores are slightly negative asymmetrical. The respondents tend to positively evaluate all dimensions. Dimensions of importance tend to group around the average value, and satisfaction kurtosis, which means that their results are uniformly dispersed. According to the descriptive indicators, we conclude that the factor of personal liability estimated highest marks in terms of importance and aspects of satisfaction by tourists (means were 31.33 and 29.94 respectively).

The second and third most important factors are material elements and relations with tourists, while in terms of satisfaction these factors are in reverse order (Table 6). The lowest score was recorded by a factor of safety on both scales. The results of the descriptive analysis of the importance of the evaluated quality indicators are presented in the Table 7 and include average value score tourists (M), standard deviation (SD), median (Me), inter-quarter range (Q), mod (Mod) and the number of respondents (N). The values of arithmetic mean in a sample of tourists range from 2.87 to 4.73. The lowest arithmetic average of the approximate assessment is 3, while the highest arithmetic mean is the closest to score 5.

Thus, it can be concluded that the tourists gave estimates for the importance of defined quality indicators from 3 to 5 (high expectations). This conclusion is proven by the Mod value, since in 87% of the items the highest median score 5 is given. The analysis showed that in 67% of the questions the highest score was given, which corresponds to the previously derived conclusion. In addition, since these values are very approximate, we can say that it is a

symmetrical distribution of frequencies, whose standard deviation is relatively large, and in the range of 0.57 to 1.29.

**Table 7** Descriptive statistics for issues relating to the importance of quality of service indicators under evaluation

	M	SD	Me	Q	Mod	N
<i>Home team meets every requirement in a fair and timely manner.</i>	4.54	0.7	5	1	5	164
<i>The host knows his/her job, he/she is good at it, performs flawlessly.</i>	4.52	0.72	5	1	5	164
<i>The host comes out to meet the guests to help them solve the problem.</i>	4.63	0.59	5	1	5	162
<i>The host is always concerned with the requirements of the customer.</i>	4.39	0.8	5	1	5	162
<i>When a problem occurs, the host quick accesses to its solution.</i>	4.48	0.72	5	1	5	163
<i>The host meets the requirements without delay.</i>	4.35	0.77	5	1	5	164
<i>In the household there is always present someone who is ready to take care of the requirements.</i>	4.46	0.82	5	1	5	164
<i>Our host provides quality meals.</i>	4.62	0.7	5	1	5	164
<i>The host has the role of tour guide and provide us with information.</i>	3.99	1.08	4	2	5	164
<i>Our host provides domestic and traditionally prepared meals.</i>	4.42	0.84	5	1	5	163
<i>In the household there is a possibility of including a guest in the domestic activities (collection of fruit, sightseeing domestic animals, preparing brandy, food).</i>	3.72	1.24	4	2	5	162
<i>Household members know the traditions, customs and history of their city.</i>	4.34	0.94	5	1	5	164
<i>Household members are engaged in activities that make our stay more complete (souvenirs made of natural materials, weaving workshops or connection, etc.).</i>	3.61	1.16	4	2	4	162
<i>Household members give us good advice and suggestions regarding activities that make our stay complete.</i>	4.1	0.96	4	1	4	164
<i>Household members are providing us with interesting information about the local food.</i>	4.05	0.97	4	2	5	164
<i>Household members treat us with kindness and warmth.</i>	4.73	0.57	5	0	5	164
<i>Household members are friendly toward us.</i>	4.7	0.57	5	0	5	164
<i>Furniture and household furnishings are well preserved.</i>	4.24	0.78	4	1	5	163
<i>The room in which we were placed (rooms) is comfortable.</i>	4.49	0.72	5	1	5	163
<i>Common areas in households (corridors, kitchen, dining room, lobby ...) are well preserved.</i>	4.5	0.72	5	1	5	163
<i>Marketing household is authentic.</i>	4.09	0.95	4	1	5	164
<i>The cost of housing in accordance with the quality.</i>	4.51	0.72	5	1	5	162
<i>The interior of the household (furniture, ceilings, lighting, flooring, etc.) is cozy, homely and authentic.</i>	4.39	0.78	5	1	5	164
<i>Exterior households (facade, garden, courtyard) is attractive and in line with the rural environment.</i>	4.36	0.8	5	1	5	163
<i>The host was dressed in traditional costume.</i>	2.87	1.23	3	2	3	163
<i>The rooms in which we are placed are clean.</i>	4.72	0.61	5	0	5	163
<i>The whole household is clean.</i>	4.68	0.68	5	0	5	157
<i>Additional space (the yard, garden, terrace, barbecue) is clean.</i>	4.55	0.68	5	1	5	162
<i>Security measures have been taken (e.g. A safe deposit box of money, etc.).</i>	3.53	1.24	4	2	4	161
	<b>M</b>	<b>SD</b>	<b>Me</b>	<b>Q</b>	<b>Mod</b>	<b>N</b>
<i>The hosts take care of the safety of guests.</i>	4.52	0.73	5	1	5	164
<i>Each part of the household is marked with the symbol.</i>	3.59	1.29	4	2	5	160
<i>Access road to the household was marked with the signs.</i>	4.24	1	5	1	5	161
<i>The hosts speak a foreign language.</i>	3.78	1.22	4	2	5	161
<i>The hosts are trying to ensure that the guests are well understood.</i>	4.4	0.83	5	1	5	160
<i>The hosts take care of the customer, taking into account his personal desires and needs.</i>	4.43	0.78	5	1	5	164
<i>If you have a group of guests, the host has an individual approach to each.</i>	4.07	0.96	4	1	5	164

Source: Author's calculations based on research

The analysis of these parameters leads to the conclusion that tourists give the primary importance to the following items: friendliness, clean rooms, hospitality of hosts, problem solving, good meals, clean additional space, meeting the demands of tourists properly and in a timely manner, the host knows his/her job, he/she is good at it and performs it flawlessly, the hosts care about the safety of guests and price of housing in accordance with the quality. On

the other hand, tourists in rural areas of Serbia assessed the following items as the least important: the host is dressed in traditional costume, safety measures (safe), each part of the household was marked with the sign, household members are engaged in activities (souvenirs made of natural materials, workshops weaving or embroidery), the possibility of including the guest in domestic activities (collection of fruit, sightseeing domestic animals, participation in the preparation of brandy, wine, local food), knowledge of a foreign language and the host has the role of tour guide and provides information on services.

**Table 8** Descriptive statistics for the questions relating to the satisfaction of the assessed indicator of quality services

	<i>M</i>	<i>SD</i>	<i>Me</i>	<i>Q</i>	<i>Mod</i>	<i>N</i>
<i>Home team meets every requirement in a fair and timely manner.</i>	4.38	0.74	5	1	5	164
<i>The host knows his/her job, he/she is good at it, performs flawlessly.</i>	4.28	0.8	4	1	5	164
<i>The host comes out to meet the guests to help them solve the problem.</i>	4.42	0.77	5	1	5	163
<i>The host is always concerned with the requirements of the customer.</i>	4.22	0.84	4	1	5	161
<i>When a problem occurs, the host quick accesses to its solution.</i>	4.26	0.84	4	1	5	164
<i>The host meets the requirements without delay.</i>	4.15	0.8	4	1	4	164
<i>In the household there is always present someone who is ready to take care of the requirements.</i>	4.24	0.82	4	1	5	164
<i>Our host provides quality meals.</i>	4.39	0.86	5	1	5	163
<i>The host has the role of tour guide and provide us with information.</i>	3.95	0.98	4	2	4	164
<i>Our host provides domestic and traditionally prepared meals.</i>	4.4	0.89	5	1	5	162
<i>In the household there is a possibility of including a guest in the domestic activities (collection of fruit, sightseeing domestic animals, preparing brandy, food).</i>	3.65	1.19	4	2	4	161
<i>Household members know the traditions, customs and history of their city.</i>	4.17	0.9	4	1	5	163
<i>Household members are engaged in activities that make our stay more complete (souvenirs made of natural materials, weaving workshops or connection ...).</i>	3.45	1.1	3	1	3	161
<i>Household members give us good advice and suggestions regarding activities that make our stay complete.</i>	4.04	0.88	4	2	4	164
<i>Household members are providing us with interesting information about the local food.</i>	4.06	0.94	4	2	5	164
<i>Household members treat us with kindness and warmth.</i>	<b>M</b>	<b>SD</b>	<b>Me</b>	<b>Q</b>	<b>Mod</b>	<b>N</b>
<i>Household members are friendly toward us.</i>	4.62	0.66	5	1	5	164
<i>Furniture and household furnishings are well preserved.</i>	4.62	0.69	5	1	5	164
<i>The room in which we were placed (rooms) is comfortable.</i>	4.01	0.89	4	2	4	163
<i>Common areas in households (corridors, kitchen, dining room, lobby ...) are well preserved.</i>	4.13	0.9	4	1	5	163
<i>Marketing household is authentic.</i>	4.14	0.90	4	1	5	163
<i>The cost of housing in accordance with the quality.</i>	3.71	1.1	4	2	5	161
<i>The interior of the household (furniture, ceilings, lighting, flooring, etc.) is cozy, homely and authentic.</i>	4.1	0.93	4	1	5	162
<i>Exterior households (facade, garden, courtyard) is attractive and in line with the rural environment.</i>	4.16	0.88	4	1	5	164
<i>The host was dressed in traditional costume.</i>	4.07	0.98	4	2	5	163
<i>The rooms in which we are placed are clean.</i>	2.77	1.2	3	2	3	161
<i>The whole household is clean.</i>	4.45	0.77	5	1	5	162
<i>Additional space (the yard, garden, terrace, barbecue) is clean.</i>	4.4	0.82	5	1	5	156
<i>Security measures have been taken (e.g. A safe deposit box of money, etc.).</i>	4.27	0.8	4	1	5	160
	3.09	1.26	3	2	3	162
<i>The hosts take care of the safety of guests.</i>	4.18	0.9	4	1	5	163
<i>Each part of the household is marked with the symbol.</i>	3.36	1.12	3	1	3	158
<i>Access road to the household was marked with the signs.</i>	3.63	1.21	4	2	5	164
<i>The hosts speak a foreign language.</i>	3.34	1.22	3	1	3	158
<i>The hosts are trying to ensure that the guests are well understood.</i>	4.21	0.86	4	1	5	162
<i>The hosts take care of the customer, taking into account his personal desires and needs.</i>	4.33	0.76	4	1	5	164
<i>If you have a group of guests, the host has an individual approach to each.</i>	3.98	0.96	4	2	4	162

Source: Author's calculations based on research



The arithmetic means of items relating to the satisfaction (Table 8) with the indicators of quality of services ranges from 2.77 to 4.62. The lowest value of the arithmetic mean is 3, whereas the highest assessment is 5. According to the analysis mode, it can be concluded that 68% of respondents gave the highest rating for the items, while 16% of the items obtained scores 4 and 3. If we compare it with the importance (Table 7) of analysis, where 87% of the items received the highest rating, we observe that there is a mismatch between expectations and actual tourist satisfaction. The analysis shows that the median 22% of the items received a rating of 5, and score 4 was given to 63% of the items. It is the unsymmetrical distribution of the variance in the range from 0.66 to 1.26. According to the parameters of descriptive statistics, the evaluation of satisfaction of tourists with every item was defined in the questionnaire. According to this assessment, the tourists were given the highest ratings for the following items according to the criteria of personal satisfaction: kindness, hospitality, clean rooms, problem solving, traditional cuisine, good meals, clean household. Based on the above, the hypothesis H2 is accepted, which indicates that the tourists' satisfaction with the content and quality of the tourism offer of rural households in Serbia is an indicator of the development of rural tourism. Thus, dissatisfaction with the elements of the tourist offer is in line with the low level of development of this form of tourism.

The Table 9 provides an overview of the analysis of descriptive indicators for scores on the dimensions of importance and satisfaction. The analysis shows that the distribution of the scores has a tendency to a normal distribution of scores, but the scores are slightly negatively asymmetrical. The respondents tend to positively evaluate all dimensions. Dimensions of importance tend to group around the mean value and satisfaction kurtosis, which means that their results are uniformly dispersed.

**Table 9** Descriptive indicators for scores on the quality aspects of the tourism offer

	<i>Subscale</i>	<i>M</i>	<i>SD</i>	<i>Me</i>	<i>Q</i>	<i>Min</i>	<i>Max</i>	<i>s</i>	<i>K</i>	<i>N</i>
<b>Importance</b>	Personal responsibility	31.33	3.45	32	6	21.00	35.00	-0.79	-0.16	164
	Accompanying offer	16.74	2.61	17	3.97	8.00	20.00	-0.99	0.89	164
	Relations with tourists	25.53	3.56	26	4.75	13.00	30.00	-0.98	0.90	164
	Basic requirements	21.81	2.82	22	4	12.00	25.31	-0.81	0.15	164
	The material elements	25.59	3.05	26	4	17.00	30.30	-0.78	0.03	164
	Security	15.90	3.14	16	4.75	6.00	20.00	-0.69	0.03	164
<b>Satisfaction</b>	Empathy	16.79	2.90	17	4	6.00	20.00	-1.04	0.89	164
	Personal responsibility	29.94	4.33	30.5	6	17.00	35.00	-0.78	-0.04	164
	Accompanying offer	16.28	2.78	17	5	9.00	20.00	-0.55	-0.50	164
	Relations with tourists	24.98	3.43	25.5	5	16.00	30.22	-0.53	-0.36	164
	Basic requirements	20.11	3.74	20	5	9.00	25.65	-0.56	-0.33	164
	The material elements	24.17	3.46	25	5	14.00	30.29	-0.61	-0.09	164
	Security	14.25	3.34	14	5	4.00	20.00	-0.26	-0.39	164
	Empathy	15.51	3.02	16	5	7.00	20.00	-0.34	-0.64	164

Source: Author's calculations based on research.

The factor of Personal responsibility is given the highest marks in terms of importance and satisfaction aspects by the tourists who visit the rural areas of Serbia (means were 31.33 and 29.94 respectively). The second and third most important factors are Material elements and Relations with tourists, while the terms of satisfaction of these factors are in reverse order. The lowest score was recorded by a factor of safety on both scales.

In order to test the significance of the gap between importance and satisfaction ratings by factors of quality of tourist offer is applied t-test for paired samples. For all differences of scores, importance is higher than satisfaction, which is shown in the table with the positive difference between the arithmetic mean of the samples (Table 10).

**Table 10** The significance of the gap between importance and satisfaction scores determined by t-test for paired samples

<i>Importance – satisfaction</i>	<i>Descriptive indicators</i>		<i>t-test for depend samples</i>			<i>Correlation measurements</i>	
	<b>Difference M</b>	<b>SD (difference)</b>	<b>t</b>	<b>df</b>	<b>p</b>	<b>r</b>	<b>p</b>
<i>Personal responsibility</i>	1.40	3.86	4.63	163.00	0.00**	.527	.000
<i>Accompanying offer</i>	0.37	2.52	1.86	163.00	0.07	.566	.000
<i>Relations with tourists</i>	0.55	3.52	2.00	163.00	0.05*	.490	.000
<i>Basic requirements</i>	1.69	3.95	5.49	163.00	0.00**	.299	.000
<i>The material elements</i>	1.43	3.59	5.08	163.00	0.00**	.396	.000
<i>Security</i>	1.65	3.55	5.94	163.00	0.00*	.400	.000
<i>Empathy</i>	1.28	3.34	4.89	163.00	0.00*	.364	.000

Source: Author's calculations based on research. Note: \* p<0.05; \*\* when p<0.01

According to the t-test, accompanying offer has no statistical significance on the security level of 1%. The smallest difference in arithmetic means has a factor Relations with tourists which indicates that the expectations of the tourists were approximate to satisfaction they get in their relations with their hosts. Large differences have been observed in the factors of Safety, Material elements, Personal liability, whereas the highest difference was for the factor Basic requirements (Table 10).

This statistical result shows that tourists who visit the area of rural tourism in Serbia are dissatisfied with furniture, space and cost of accommodation. Because the hosts in Serbia have limited investment opportunities due to the crisis in the country, such reaction of tourists is expected. The results of t-test for dependent samples showed that the quality of service and accommodation in rural tourist areas of Serbia is not satisfactory, because there are significant differences in satisfaction scores achieved according to the expectations of tourists, in the direction that the expectations were significantly higher. The hypothesis **H2a**: There was a statistically significant difference between the attitudes of visitors of rural households in relation to the scale of importance (expectations) and the perception of the elements of quality

accommodation offer, in the direction that the expectations of visitors surpass their perception is proved.

## CONCLUSION

Rural tourism is a growing tourism industry in many parts of the world, but mainly in developed countries, and has substantially expanded since the 1970s, both in terms of demand and of supply (Lane, 2009; Lee & Nam, 2005). On the supply side, underpinning this general support for rural tourism is the assumption that it provides a number of potential benefits to rural areas (Hall, Mitchell, & Roberts, 2003; Roberts & Hall, 2001). The task of the research was to determine the level of development of rural tourism in Serbia and quality of the services. In order to rank the position of Serbia for more precisely and more valid analysis, rural tourism in Serbia is compared with Croatian and Slovenian rural tourism since these European countries are the most similar to the demographic and geographic structure of Serbia. Comparative analysis included a comparison of both the basic economic indicators and the legal, organizational and other indicators that pointed to underdevelopment of the Serbian rural tourism in relation to these two countries (**H1b**). The results of comparative analysis showed a serious problem of depopulation of villages in Serbia, poorly developed municipal infrastructure and low productivity of rural economy. Hypothesis **H1a** that there are significant revenues from tourism in Serbia is refuted, because the development of tourism (**H1**), i.e. the number of overnights in rural tourism of Serbia, is at a low level.

Therefore, this analysis focuses on the surveys on satisfaction and expectations of tourists in certain rural areas in Serbia. The analysis of the data obtained in descriptive statistics leads to the conclusion that the tourists have given the highest scores for the following items according to the criteria of personal satisfaction: kindness and warmth of the hosts, clean rooms, the host comes out to meet the guests and help them solve the problem, the host provides domestic and traditionally prepared meals, complete household is clean, host provides good meals. Based on the above, the hypothesis **H2** is accepted, which says that the tourist satisfaction with the content and quality of the tourism offer of rural households in Serbia is an indicator of the development of rural tourism. Thus, dissatisfaction with the elements of the tourist offer is in line with the low level of development of this form of tourism. The results of t-test for dependent samples showed that the quality of service and accommodation is not satisfactory, because there are significant differences in satisfaction scores achieved according to the expectations of tourists, in the direction that the expectations were significantly higher. The authors of the research proved the hypothesis that there is a mismatch between expectations and actual

satisfaction of tourists who visit the rural areas of Serbia (**H2a**). The conclusion is not surprising because they match the similar findings in other scientific studies (Chang & Horng, 2010; Getz & Page, 1997; Wang & Qu, 2006). The deviation tourist satisfaction from their expectations suggests that the quality of services in rural regions of Serbia is not sufficient to meet the requirements of demand. The development of rural areas in Serbia is faced with a number of limiting factors (Petrović et al., 2017b), among which the following may be distinguished: scarce knowledge about new approaches to development of the rural economy; the lack of an institutional framework (especially legislation), which would provide a coordinating role of the state and greater involvement of local authorities in the integrated rural development; underdeveloped infrastructure; inadequate diversification of activities; dominance of sectoral policies, etc.

According to the identified obstacles to the development of rural tourism in Serbia it is possible to extract guidelines for future development and in the following way: finding mechanisms to prevent depopulation of villages and rural areas in the development concept of tourism (strengthening infrastructure, raising the attractiveness of the region, the enrichment of tourist facilities, diversification of rural economy), standardization and uniformity in the sector of rural tourism (e.g. categorization), more and better integration of agriculture and tourism in the planning documents and in practice, greater participation of the owners of rural households, as well as education and awareness of local people about the possibilities of rural tourism (continuing education), preserving the original rural environment, finding better solutions for the protection of cultural monuments in villages and building which nourishes the values of traditional architecture, building better economic incentive policy that would help accelerate the development of rural tourism and overcoming legal restrictions and changes to the legal norms that hinder people in business within the rural tourist household.

#### Acknowledgements

The research was supported by Ministry of Education, Science and Technological Development, Republic of Serbia (Grant III 47007) and by the Act 211 Government of the Russian Federation, contract No. 02.A03.21.0011.

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## **TRAVELLING TO MUNICIPAL MARKETS: AN APPROACH TO CHEESE ON OFFER**

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**Cite this article:** Fusté-Forné, F. (2019). Travelling to municipal markets: an approach to cheese on offer. *Deturope*, 11(2), 22-29.

### **Abstract**

Markets are increasingly considered as gastronomy tourism attractions, food – and its origin – becoming a meaningful souvenir for visitors and tourists. Within this context, this research note aims to analyse the origin of cheeses delivered in city markets. To achieve it, the Spanish municipal market of Valencia was studied, where a total of 267 cheeses were classified according to their provenance. Findings show a similar presence of local, national and international cheeses. The originality of this study lies on the implications that the origin of food may have for cultural, gastronomy and cheese tourism practices.

Keywords: food tourism, gastronomy, local markets, Spain, supply chain.

### **INTRODUCTION, CONTEXT AND AIM OF THE STUDY**

Cultural, economic and tourist importance of food tourism practices meant an increase of food and tourism based research in recent years (see, for example, Chen & Huang, 2016; Ellis, Park, Kim, & Yeoman, 2018). Food tourism is understood as a type of tourism where visitors get immersed into the identity of a local culture through its gastronomy (see Bèssiere & Tière, 2013; Sidali, Kastenzholz, & Bianchi, 2015; Sims, 2009). This is particularly applied to special interest tourisms, or niche tourisms, such as cheese tourism. Linkages between cheese and tourism have been studied in countries like Brazil (França, 2012), Costa Rica (Blanco & Gómez, 2010; Boukris 2013), Canada (Dumas, Menvielle, Perreault, & Pettigrew, 2006), Italy (Cantarelli, 2001), France (Delfosse, 2017), Mexico (Thomé, Vizcarra & Espinoza, 2015), New Zealand (Fusté-Forné, 2016a), or Spain (Fusté-Forné, 2015; Fusté-Forné, 2016b). In particular, cheese tourists aim to discover food cultures through cheese. Cheese tourism involves visits to areas of cheese making and milk production. Also, visits to food markets are among the different possibilities offered by food tourism practices (Everett, 2016; Hall, Sharples, Mitchell, Macionis, & Cambourne, 2003; Hall & Sharples, 2008).

Here, Spain is a country that acknowledges a large and long tradition in milk production and cheese making. Local producers of cheese – with more than twenty Protected Designations of Origin –, and events surrounding this product are abundant and present all over the country. In this sense, food markets are a vital antecedent of a selling point where local produce – namely cheese – and tourism perform together. While markets have evolved from local venues to tourist landmarks, they still represent an avenue to experience local senses of place (Britton, 1991). Also, recent studies deal with markets as relevant spaces for tourism experiences (Crespí-Vallbona & Domínguez, 2015; Dimitrovski & Crespí-Vallbona, 2017; García Henche, 2017; Hall, 2016; Medina, 2008). This research note approaches local produce in markets as one of these host-guest encounters. In particular, the objective of this study is to analyse the origin of cheeses delivered in Spanish municipal markets.

Products' provenance is a key marker of cultural identities, whose place meaning is showcased in markets. Within the linkages between food and tourism, this research argues that food – and particularly cheese – travels through tourism as people and cultures do. Also, the attachments to gastronomy – as it is a foundational cultural aspect – can be experienced in markets. The diversity of products currently available at retail points shows strong evidence on the influence that global food processes have on food identities, and how culinary cosmopolitanism may shape both resident and tourist ways of life – departing from the origin of the products they consume. In line with this, recent research has particularly reviewed the importance of food supply chains in tourism industry (Roy, Hall & Ballantine, 2016; 2017; Smith & Xiao, 2008).

## **STUDY METHOD**

This research aims to study the offer of cheese in municipal markets. In order to achieve this purpose, one of the most important markets in Spain was examined. Located in Valencia, eastern Spain on the Mediterranean coast, the municipal market of Valencia is the most important Spanish market with regards to fresh produce, and one of the biggest in Europe. In particular, the market counts on up to 27 food stands that sell cheese. To carry out the research, 14 of them were randomly selected in situ by the researcher. Data collection field work was conducted during the month of May, 2018. A total of 267 cheese types were classified according to their provenance. As displayed in Tab. 1 below, local (Valencia's region), national (Spain), and international cheeses were identified.



## RESULTS

Results of this study primarily show the dominance of local and national produce – representing an aggregate of two-thirds of the study sample.

**Table 1** Provenance of cheese delivered in the municipal market of Valencia, Spain

Origin	Local	National	International	Total
N	76	101	90	267
%	28,5%	37,8%	33,7%	100,0%

Source: Own source

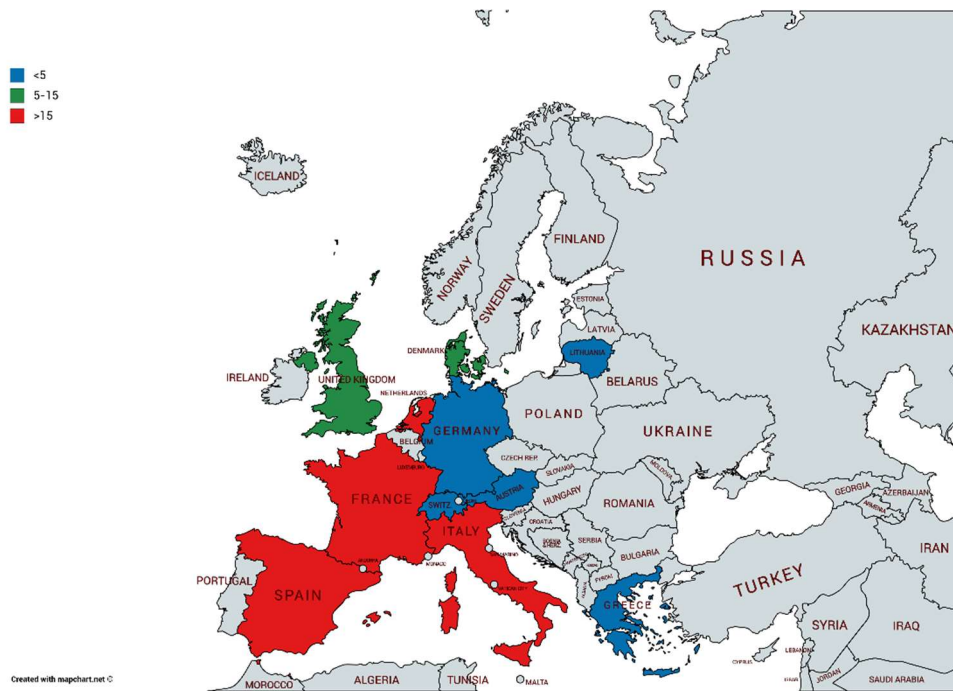
Fig. 1 and Fig. 2 provide a detailed distribution of cheeses' origin. Fig. 1 shows the provenance of cheeses in the context of Spanish regions. Later, in Fig. 2 are highlighted the European countries from where the cheeses available in Valencia's market are originated.

**Figure 1** Spanish geographical origins of cheese delivered in the municipal market of Valencia, Spain



Source: Own source from <http://mapchart.net>

**Figure 2** European geographical origins of cheese delivered in the municipal market of Valencia, Spain



Source: Own source from <http://mapchart.net>

Data shows that almost a third of the products have a local origin. Those cheeses that convey the Valencia sense of place are, for example, artisanal cheeses like pistachios or servilleta cheeses (Fig. 3). Also, national products have a significant weight (almost 4 out of 10 cheeses come from the Spanish territory). Here, there are many Spanish cheeses with Protected Designations of Origin – Manchego or Zamorano cheeses are predominant within the Spanish cheesescapes, together with Galician cheeses such as *Queso Tetilla* (Figure 4). In addition, cheeses from international markets represent a remarkable weight – one-third of the sample, higher than local produce. However, all international cheeses studied were originated in European countries. In particular, these include cheeses like Italian *Gorgonzola*, Swiss *Gruyère*, Danish *Havarti*, Dutch *Gouda*, French Alps cheeses or English blue cheeses (see for example Fig. 4).

From the results of this research it is possible to further analyse to what extent local markets as an amalgam of foods are a means of proximity and place identity communication. Also, this note may lead to the study of city markets' potential as spaces of authenticity – and what type of authenticity –, cultural diversity, and gastronomy heterogeneity in the context of food (tourism) practices in urban contexts.

Markets, as spaces of social and cultural exchange, have nowadays strengthened as tourist landmarks. And cheese may perform inside as a specific tourist attraction. Cheese as a product opens a wide range of local-global attractiveness for food tourists and food tourism. With a

significant place attachment role, cheeses easily move from local to global spheres. But what type of cheese is reaching into home kitchens, and what type of cheese is delivered both to residents and tourists in markets? This research draws a picture of it through a specific case of a Spanish market.

**Figure 3** Local cheeses delivered in the municipal market of Valencia, Spain



Source: Own source

**Figure 4** Non-local cheeses delivered in the municipal market of Valencia, Spain



Source: Own source

## CONCLUDING REMARK

This research note contributes to the understanding of food in cities, and the role that food plays in daily habits of both locals and tourists, which is particularly relevant for food tourism planners and managers. Thus, this research provides a new approach to the understanding of foods' mobility and products' delivery from a supply perspective. Further research could focus on the reasons why buyers – both local customers and visitors – prefer one cheese to another and what are the implications for issues like food and wine pairing (see, for example, Harrington & Seo, 2015).

Moreover, upcoming multidisciplinary research should also deep on whether or not markets play a significant regional economic impact. From the assumption that artisans and sellers are able to turn cheese – or other products – into a powerful tourist resource that conveys a specific identity, it is also important to further scrutinize the meanings attached to the *from farm to fork* processes – as supported in this paper, local globalized food supplied to a global localized demand.

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## **BIOGAS ENERGY – A CHANCE FOR AGRICULTURE AND RURAL DEVELOPMENT? INSIGHT FROM THE POST-COMMUNIST CENTRAL EUROPE**

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**Cite this article:** Chodkowska-Miszczuk, J., Kulla, M., Novotný, L. (2019). Biogas energy – a chance for agriculture and rural development? Insight from the post-communist Central Europe. *Deturope*, 11(2), 30-53.

### **Abstract**

Biogas production has recently expanded across the post-communist Central European countries. This paper addresses the role of biogas plants based on agricultural resources (agri-food waste and agricultural crops) as a new factor of rural development in Poland and Slovakia, and so it contributes to the comprehensive research on effects of agricultural biogas energy production. The analysis is based on a set of quantitative and qualitative methods, and the results are thoroughly illustrated by two case studies of agricultural biogas plants representing specific features and circumstances of biogas plants in both countries. The results reveal mutual conditionality between operating plants and agricultural structures. The study also provides insight into the impact of agricultural biogas plants operation to the rural development including stabilization of agricultural production thanks to improvement of its multifunctionality and points to the differences between two kinds of biogas plants regarding their ownership and national legal specifics.

Keywords: multifunctional agriculture, biogas energy, rural development, Poland, Slovakia.

### **INTRODUCTION**

Number of Agricultural Biogas Plants (ABPs) operating in post-communist Central European countries (CECs) has increased considerably over the last decade. This reflects efforts of European Union (EU) to diversify its energy sources in favor of the renewable energy sources (RES). Corresponding legal framework and financial support models were adopted by individual EU countries but rapid development of agricultural biogas energy production led some of them to adopt legal changes to curb it (Chodkowska-Miszczuk, Kulla and Novotný,

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2017, Chodkowska-Miszczuk, Biegańska, Środa-Murawska, Grzelak-Kostulska, & Rogatka, 2016).

Agriculture in majority of CECs has been coping with fundamental conversion since the post-communist transformation. Many farms bankrupted and many still have to fight for survival. The role of agriculture in national economies decreased, but it is still significant economic activity and remains decisive particularly in rural areas. In order to utilize economic potential of rural areas effectively, projects aimed at the functional diversification of agriculture were developed which is in line with the trends and proposals from Western countries (cf. Wilson, 2007, Renting et al. 2009). To develop multifunctional agriculture, many projects focus on utilization of agricultural products to generate renewable energy in ABPs. Beside contribution to agriculture and rural economies development, a positive environmental impact of ABPs operation is emphasized (cf. Auer et al. 2017).

An ABP is a project with significant impact on the spatial, social and economic conditions of a given area (Ostrowska, 2012). The spatial and economic aspects of biogas production stimulated recent research in the post-communist CECs (Budzianowski, 2012, Curkowski, 2012, Rusňák, Pepich and Muráňová, 2013, Martinát, Dvořák, Klusáček et al., 2013, Martinát, Dvořák, Frantál et al., 2013, Chodkowska-Miszczuk and Szymańska, 2013, Chodkowska-Miszczuk, 2014, Szymańska and Lewandowska, 2015, Van der Horst et al., 2018) but only marginal attention has been paid to the role of ABPs as a stimulus for transformation of agriculture and rural economies. Moreover, due to specific features of the post-communist CECs (Kats, 1991, Buzar, 2007) it is not possible to apply a knowledge from Western Europe fully to this region. This, together with rapidly increased number of ABPs, persisting problems of conversion of agriculture and transformation of rural areas, underlines a need for further research in these countries.

Therefore, the aim of this paper is to assess the role of ABPs as a new factor of agriculture transformation and rural development in the post-communist CECs. In order to identify regularities and differences under various conditions, the research is spatially focused on Poland and Slovakia as the countries representing common features of modern historical development of the post-communist CECs.

The study employs a set of quantitative and qualitative methods complemented by in-depth research in two ABPs chosen to confront indicated results with experiences from two entities with different business links to agriculture, the acquisition of substrates, and utilization of final products.



## THEORETICAL BACKGROUND

Global energy consumption is growing rapidly and the society cannot rely fully on the fossil fuels anymore. Renewable energy sources (RES) are perceived as favorable option to provide greater diversification of energy sources (cf. deLlano-Paz et al., 2015), and make their spatial distribution more even. This also contributes to sustainable development and can be beneficial for local economy, communities as well as the power sector (Wolfe, 2008, Ackermann, Andersson and Söder, 2011, Chodkowska-Miszczuk, 2014).

In relation to the future of agriculture and rural development, the concept of the multifunctional agriculture has become frequently addressed by scholars and even policy makers since the early 2000s. As a concept, it was first used at the Earth Summit in Rio de Janeiro in 1992 (cf. Jean-Vasile 2013). In general, multifunctional agriculture refers to the agricultural activities beyond traditional function of agriculture – producing food, fiber and feed for animal production. Such activities and functions may include renewable natural resources management, landscape and biodiversity conservation and contribution to the social and economic viability of rural areas (Renting et al. 2009). Rural areas and agriculture are integrally connected, and relation between them is bidirectional: change within one causes the transformations within the other. Hence, an effective and long-term development of rural areas requires the diversification of agriculture and its multifunctional development. New economic activities based on agricultural resources contribute to the creation of new/additional sources of income not only for farmers, but also for all inhabitants of rural areas (Van Ploeg et al., 2000). Némethová (2010) emphasizes multifunctional agriculture as a chance to overcome problematic post-socialist transformation of agriculture in CECs by the example of agricultural region in southwestern Slovakia. Thus, energy production from agricultural biogas is worth examining also as a phenomenon contributing to multifunctionality of agriculture.

ABPs operate usually in rural areas and produce energy (electricity and heat) based on agricultural biogas produced by anaerobic digestion from agricultural energy crops and/or agri-food production waste. Hence, agricultural biogas is a RES, which utilizes resources available in rural areas, and so production of agricultural biogas energy supports decentralized energy production as well as development of agriculture (Chodkowska-Miszczuk and Szymańska, 2013, Martinát, Dvořák, Klusáček et al., 2013, Martinát, Dvořák, Frantál et al., 2013, Wirth et al., 2013, Yang and Chen, 2014). Among all RES installations, energy production by ABPs is the most predictable, as it is not influenced by fluctuations of natural conditions as much as wind or hydro plants (Bluemling, Mol and Tu, 2013).

Besides positive effects, some scholars emphasize also negative aspects of ABPs operation (Schulz and Eder, 2004, Gaduš and Giertl, 2010, Auer et al. 2017). Among the positives are obtaining clean and renewable energy, processing the organic residues, contribution to the

reduction of the methane gas emissions resulting from livestock farming and also to the reduction of the overall cradle-to-gate emissions of agricultural products by replacing synthetic inorganic fertilizer, support of economic development and employment, increase of the competitiveness of agricultural sector. The negative view on the ABPs includes visual harm of locality's character, worsening the local population's quality of life (by smell, dirt), pushing down the real estate prices, discouraging tourists from visiting the area, ethical issues related to non-nutrition agriculture as well as negative impacts of possible too extensive maize-monoculture cultivation areas (Lunnan, 1997, Converse, 2007, Nonhebel, 2007). As a solution, some scholars (Sims et al., 2006, Boehmel, Lewandowski and Claupein, 2008, Bożym et al., 2015) propose to limit the structure of substrates to agricultural and food wastes, or in case of energy crops cultivated specially for biogas production to focus on the crops with the highest energy efficiency in order to reduce the spatial requirements for cultivation of these crops.

The economies of the post-communist CECs have long been experiencing domination of one energy source, high energy intensity of national economies, centralization of the national energy markets, and energy dependence from Russia (Buzar, 2007), what largely persists even nowadays. Another structural economic feature is agriculture formed under the influence of the communist regime. During this period, private farms were confiscated (almost all in Slovakia and part in Poland) and large-scale state owned farms (mainly agricultural cooperatives) established, which retained until the early 1990s.

Because of centrally planned economy, including agriculture, Poland and Slovakia are similar when considering the agricultural production effects, but they are extremely different when considering forms of the agricultural land ownership. In Slovakia, large previously state-owned and later privatized agricultural estates dominate, while there is a mix of large agricultural estates and relatively small private farms in Poland (Bański, 2008). Consequently, ABPs are established as an integral part of the large farming enterprise (typical for Slovakia) or/and as a separate entity which operation is based on cooperation with local stakeholders, including small farmers (typical for Poland).

Energy production in ABPs is regulated by national and international legislation on RES which have determining impact on development of energy from agricultural biogas production at national levels (cf. Auer et al., 2017, Chodkowska-Miszczuk, Kulla and Novotný, 2017). The Directive of the European Parliament and the Council no. 2009/28 /WE (Directive 2009/28/EC) cover the EU energy policies aiming to regulate a proportion of energy produced from RES in each member country. It determines the mandatory national goal for each EU country in order to achieve desired proportion of energy from RES in the final consumption in the EU until 2020. These goals are 15% for Poland and 14% for Slovakia.

The onset of agricultural biogas plants in the EU dates back to the mid-1980s. First biogas plants, including micro-scale installations (up to 100 kW), were established in Germany, Denmark and Austria (Fischer and Krieg, 2001). These countries are still among the leaders in agricultural biogas energy production (cf. Chodkowska-Miszczuk, Kulla and Novotný, 2017). Because Germany is traditional and currently the largest agricultural biogas energy producer, we chose it as a reference case for comparisons with development in Poland and Slovakia.

In Germany, the number of plants was increasing by more than thousand a year in the period 2009-2011. However, beside increase in the number of ABPs, their structure changed in favor of large installations what led to increase of average installed capacity from less than 0.085 MW in 2001 (Weiland, 2003) to almost 0.4 MW in 2010 (Budzianowski and Chasiak, 2011). It also led to increase in consumption of energy crops as substrates for biogas production at the expense of agricultural waste (mainly liquid manure). The cultivation of energy crops reached up one fifth of the arable land in Germany. Therefore, the biogas energy production contributed to development of multifunctional agriculture but also became perceived controversial. During the 1990s, the biogas energy was rather very welcomed agricultural by-product, but the utilization of crop acreage exclusively for energy generation started to compete with land used for food production in the 2000s (cf. Auer et al. 2017). Subsequently, the changes in the Renewable Energy Act EEG 2012 that promoted smaller installation based on agricultural waste led to dramatic slowdown in the development of German biogas energy market (Torrijos, 2016, Auer et al. 2017).

The beginning of energy production from agricultural biogas in CECs dates back two decades later. The first ABP in Slovakia launched operation in 2005 (in Hurbanovo southwestern Slovakia), but considerable development of agricultural biogas energy production started as late as the Law on the promotion of RES (Act No. 309/2009 Coll.) and National Action Plan for RES (National Action Plan for RES, 2010) were adopted in 2009 and 2010 respectively and provided rich feed in tariffs to producers. It was at the same time as the rapid growth took place in Germany. However, business uncertainty given by the policy on determining the feed in tariffs for energy from RES may be a major obstacle in further development of ABPs (Chodkowska-Miszczuk, Kulla and Novotný, 2017). High tariffs from the early stage of the support system have later decreased significantly, what led to a slowdown in the growth of the agricultural biogas energy production, and even to decommissioning of some ABPs (tab. 1).

In Poland, the first ABP started operation also in 2005 (in Pawłówko, northern Poland, Pomorskie region). As in the other CECs, energy policies have transformed over the years. The Act on RES was adopted in 2015 (Act No. 478/2015 Coll.) which includes change of support for energy production from RES to the new one including auction system. This makes energy

producers uncertain about revenues from energy sales and the return on investments (Chodkowska-Miszczuk, Kulla and Novotný, 2017). The development by the end of observation indicates that after years of rapid growth (2010-2016), new energy policies led to slowdown in the growth of ABP number.

**Table 1** Development of agricultural biogas plants numbers in Poland and Slovakia in 2005-2017

indicator	year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
number of ABPs	Poland	1	1	1	3	7	8	16	28	42	58	78	94	96
	Slovakia	3	5	5	5	6	16	30	43	66	76	76	75	74
installed capacity (MW)	Poland	N/A	N/A	N/A	N/A	N/A	N/A	12	29	46	65	82	99	102
	Slovakia	N/A	N/A	N/A	2	4	9	19	41	65	78	91	93	91
gross electricity generation (GWh)	Poland	N/A	N/A	N/A	N/A	N/A	N/A	73	142	228	355	429	524	608
	Slovakia	N/A	N/A	N/A	15	22	32	113	190	313	479	541	576	594

Source: Curkowski (2012), RONI (2015, 2016, 2017), NCAS (2018), SOSR (2008-2017)

Unlike Germany, Slovakia, Poland and other post-socialist CECs (cf. Van der Horst et al., 2018) do not have experience with small installations. After the adoption of the relevant legislation in these countries, relatively large ABPs launched operation (cf. Chodkowska-Miszczuk, Kulla and Novotný, 2017) what can act as an unprecedented stimulus to changes in agriculture.

## DATA AND METHODS

The research is methodologically based on a multi-stage procedure using both quantitative and qualitative methods. During the first phase, work centered on the desk research and comparative studies. It involved review and evaluation of official documents including EU and national legal frameworks, and analysis of the availability of reliable and comparable data on the agriculture and the energy sector, particularly energy production based on agricultural input substrates in Poland and Slovakia.

Statistical data on agriculture and biogas sector were acquired from the following authorities: The Agricultural Market Agency in Poland (AMA), National Centre for Agriculture Support (NCAS) in Poland, Energy Regulatory Office in Poland (ERO), the Local Data Bank from the Central Statistical Office in Poland (LDB CSO), the official European Funds Portal (EFP), Statistical Office of the Slovak Republic (SOSR), Regulatory Office for Network Industries in Slovakia (RONI), and Eurostat.

The selection and harmonization of data was followed by a statistical evaluation of the number and spatial distribution of ABPs development in chronological relations to legislative changes, the structure of agriculture, and changes in the production volume of the most

important agricultural substrates of both plant and livestock nature (maize for silage or pig breeding). In order to identify existing relations between the analyzed variables, the correlation coefficient was used (in accordance with the principle of 5% probability of error, the significance level is  $p < 0.05$ ). Choropleth and diagram maps were generated for the spatial assessment and visual interpretation of the results.

The case study method was employed in the following phase of research to face results indicated by statistical analysis with experiences from chosen ABPs and local communities, and to obtain more thorough understanding of the studied processes, relations and their dynamics (cf. Miles et al., 1994). As certain differences in the average farm size, prevailing ownership of biogas stations, and the resulting dominant relations between biogas stations and agricultural enterprises were identified between Poland and Slovakia, the case studies were selected to reflect these features as much as possible. The case studies research consisted of semi-structured face-to-face interviews with the managers of both ABPs and other stakeholders, representatives of local authorities, and local leaders. A total of 11 interviews (five in Slovakia and six in Poland) were conducted with assumption that the respondents represent the different spheres of social and economic life. Each interview took between one and two hours and interviewees are anonymized on purpose. At the respondent's consent, interviews were recorded and transcribed later. For objectification of results, the interviews were made in 2015 first and then repeated in 2018 again. Despite the four-year gap, information obtained by interviews are consistent. There were no significant changes recorded in respondents' views and opinions. Both ABPs chosen for in-depth research are featured by a high level of innovation. Biogas plant in Buczek, Poland (Fig. 1) provides perspective of an ABP operating as a separate business entity, so the energy production is dependent on supplies by external contractors. Biogas plant in Rozhanovce, Slovakia operates within a large agricultural enterprise, which provides the supply of substrates and utilization of by-products. The interviews were focused mainly on the period and circumstances of launching the ABP operation, supply and structure of substrates, the spatial extent of territory from which the substrates originate, the ways of use of produced energy (electricity and heat) and digestate, contacts with local authorities, local people, local surroundings, and the impact to structural changes in agriculture and perception of multifunctional agriculture.

The final stage of the analysis was a survey conducted among local communities from the both municipalities where the analyzed ABPs are located. The aim of this survey was to achieve the inhabitants' opinion on the importance of biogas plants in the rural development. The survey consisted of sets of closed-ended questions (a form of a matrix). Open-ended questions were also added to the questionnaire, but their number was purposefully limited. Due to the purpose of this study, several issues addressed in the survey were selected for the analysis, i.e.,

knowledge of ABPs, interaction between ABPs and local entities, and perception of biogas plants. The survey was carried out between September 2017 and May 2018, in Poland and Slovakia (Tab. 2).

**Table 2** Socio-demographic characteristics of respondents

	Gender		Age (years)					Educational attainment			
	F	M	18-24	25-34	35-44	45-64	65≥	Primary	Vocational	Secondary	Tertiary
Poland	61%	39%	5%	17%	18%	56%	5%	5%	20%	35%	40%
Slovakia	67%	33%	3%	10%	51%	22%	13%	6%	19%	45%	30%

Source: own study, N=150

## RESULTS AND DISCUSSION

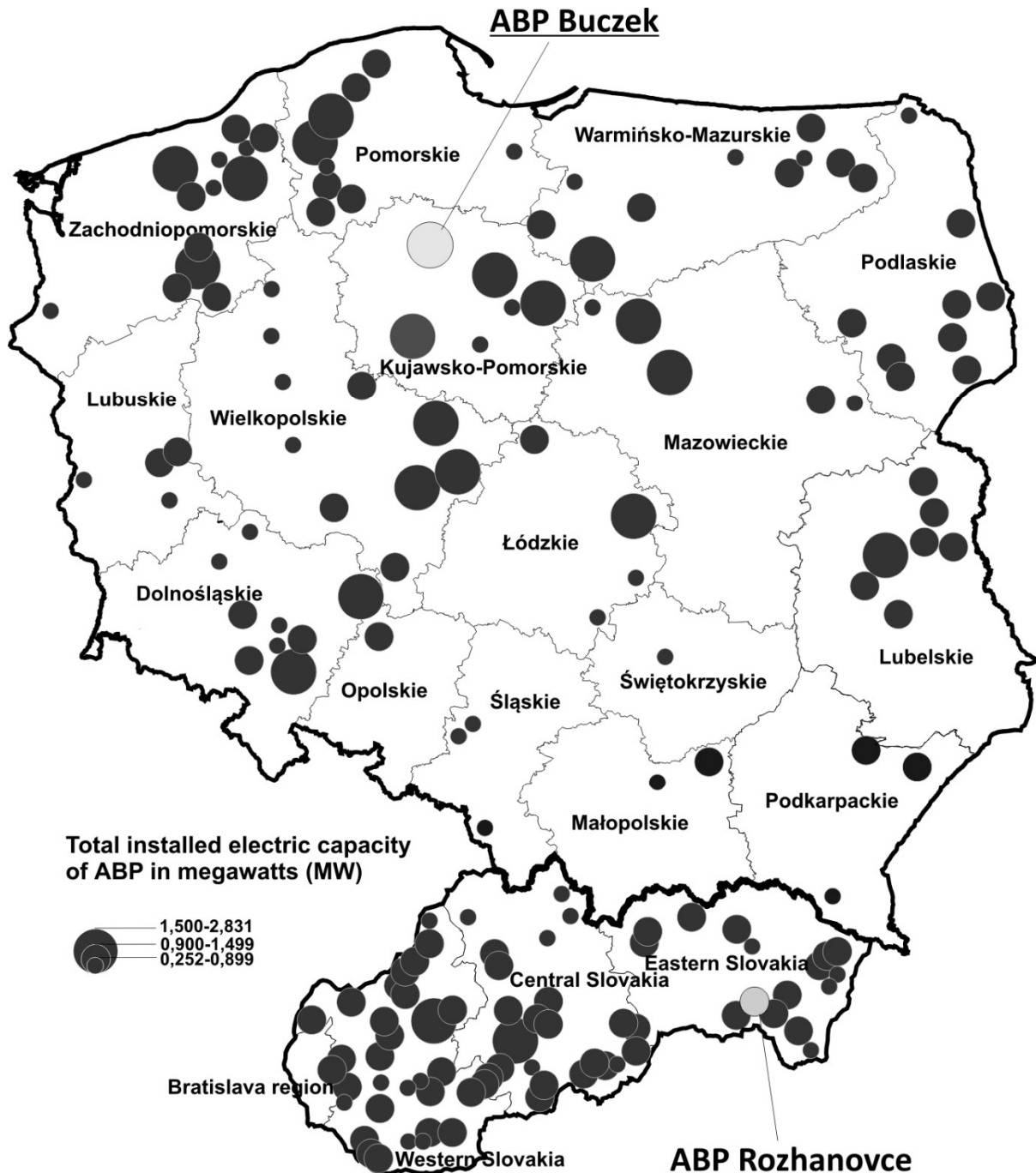
### Size structure of farms and focus of agricultural production in relation with spatial distribution of agricultural biogas energy production

Poland and Slovakia are similar when considering the agricultural production effects but extremely different in forms of the agricultural land ownership structure. In Poland, small forms, particularly family farms prevail, while in Slovakia large forms dominate, based mainly on previously state owned and later privatized agricultural cooperatives. The average farm size in Slovakia is 77.5 ha what makes it the third largest among 28 EU countries. In Poland it is 9.6 ha what ranks it among the smallest (LDB CSO, 2015). This arises from different socialist policies related to the ownership structure of agricultural land in both countries (Bański, 2008). Based on data from Eurostat (2008-2017), greater total installed capacity of ABPs in Poland is recorded in the regions (NUTS 2) with considerable share of larger farms with an area of 10 – 15 ha ( $r=0.56$ ,  $p<0.05$ ), and over 15 ha ( $r=0.67$ ,  $p<0.05$ ). The positive correlation indicates that the ABPs' operators prefer small number of large contractors to a large number of small contractors (i.e. local farmers). This assertion is also confirmed by one of the farmers from Buczek who emphasizes that the main contractor of the Buczek ABP plant is the large farm, which receives almost 75% of the produced organic fertilizer.

Based on the interviews with managers of ABPs it is possible to summarize that suitable location with adequate accessibility of substrates is among the key factors determining a successful ABP operation. The most important sources of substrates for agricultural biogas production in Poland take the form of organic waste from animal production and agri-food processing, including raw materials from pig husbandry. In Poland, these kinds of agricultural activities are characteristic primarily for the northern, western and central regions of the country where large-area farms are located, established primarily on the premises of the former State

Agricultural Farms. The largest numbers of ABPs in Poland are located in these regions (Fig. 1). On the other hand, utilization of livestock farming waste for energy purposes is insignificant in Slovakia (Martinát et al., 2013a).

**Figure 1** Spatial distribution of ABPs and their output in Poland and in Slovakia in 2017; Own compilation based on data from NCAS (2018) and RONI (2017)



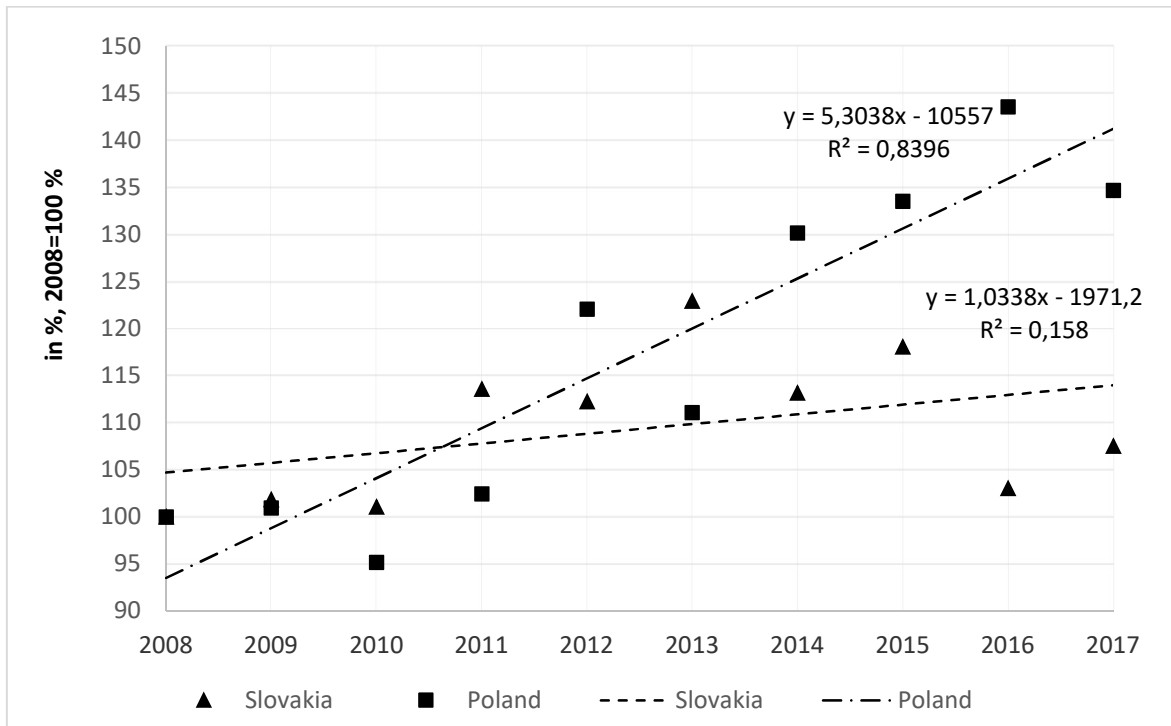
Besides the waste from agricultural production, energy crops are another important source of biogas. Results of analysis by Martinát et al. (2013a) showed the maize for silage is the most important substrate for agricultural biogas energy production in Slovakia.

Analysis of data from SOSR (2008-2017) revealed the most significant increase of the spatial extent of maize for silage cultivation since 2008 in the districts located in Western Slovakia and southern part of Central Slovakia, where majority of ABPs in the country is located (Fig. 1). This indicates certain spatial correlation between areas with increased maize production (fig. 3) and localities where the ABPs are operating. However, since higher statistical units (NUTS 2) in Slovakia do not reflect natural conditions and include areas with significantly different character of agriculture (i.e., pastoralism in the mountains, large farms in lowlands), it is not possible to express such development statistically at the level of these units. In Poland, maize accounts only for 12.4% (2017) of all substrates for biogas production. Over the last few years, there has been a few percent decrease in the share of maize, in favor of the share of waste from the agri-food industry. In 2008-2017, the area of green maize cultivation increased approximately one and half times, and as the linear regression equation indicates, this trend tends to continue (Fig. 2) despite recent decrease in the proportion of maize as a substrate for biogas production. Generally, greater increase in green maize area in Poland was recorded in the regions characterized by a higher share of large farms with an area of 10 – 15 ha ( $r=0.64$ ,  $p<0.05$ ).

The remaining almost 87% (2017) of substrates in Poland constitutes the waste from agri-food production. The highest proportion belongs to liquid manure (24% of all substrates from waste from agri-food production).

Before the maize for silage became utilized as an energy crop for ABPs in both countries, it was predominantly cultivated as a feed for pig husbandry. However, pig husbandry has undergone considerable recession (Fig. 4) what led to the continuous decrease in the demand for maize. This can explain why the acreage of maize for silage stabilized and even decreased by the end of period of observation (Fig. 2) which is characterized by recession of both the ABPs development (Tab. 1) and pig husbandry (Fig. 4). Without ABPs development, the acreage of maize for silage could decrease over whole period of observation in Slovakia.



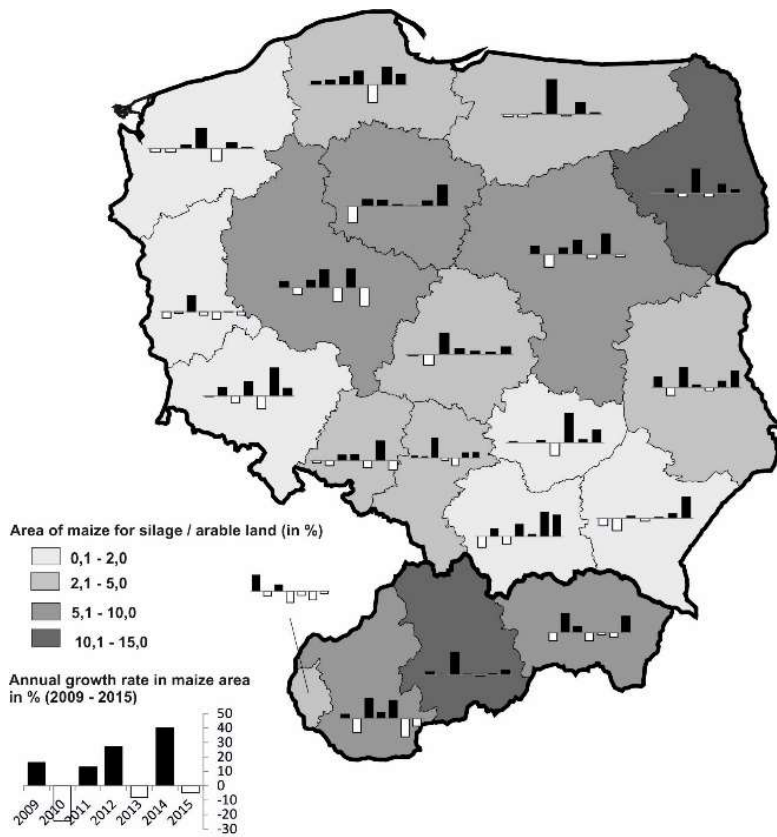
**Figure 2** Changes in the area of maize for silage in Poland and Slovakia, 2008=100

Source: (LDB CSO, 2015, Eurostat, 2018, SOSR, 2008-2017)

In Slovakia, the maize silage constitutes about 80% of all substrates for generation of biogas (Martinát et al., 2013a). Both, the manager of the Rozhanovce ABP and the manager of the farm operating it agree that good-quality maize is the best substrate for biogas production. The manager of the farm continues: “the way how the EU policies were implemented law and the adjustment of agricultural payments in Slovakia are responsible for maize being used in biogas plants; we use maize in the plant because other products do not yield expected financial effects, they are not economically viable”. He concludes, “The most effective symbiosis is maize and manure”. Nevertheless, beside maize and manure also other substrates are utilized, i.e. sugar beet leaves (in places where sugar refineries are located) or oil-seed rape (Fáber, 2012).

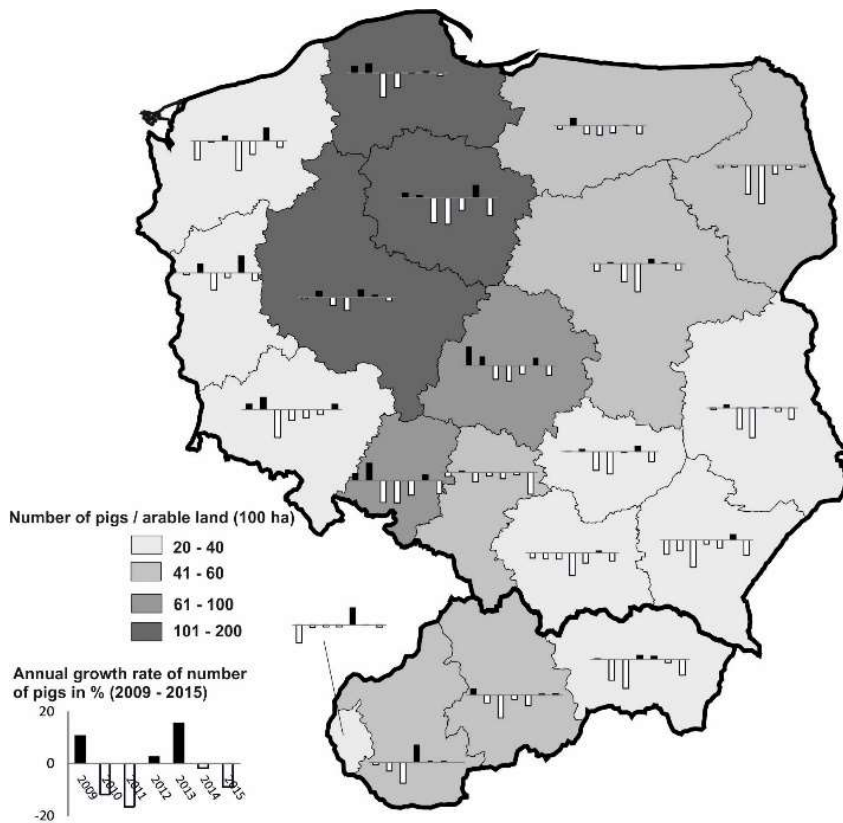
Effectiveness of maize for silage with addition of liquid manure as a substrate for agricultural biogas production (as confirmed by the manager of the Rozhanovce farm) may be a reason why the acreage of maize for silage recorded increase in majority of years and regions (Fig. 3) regardless if it is a traditional crop in a given region or not. In contrary, utilization of pig manure as a substrate has not become stimulus for pig husbandry development at the nation-wide scale. It recorded decline in majority of regions and years (Fig. 4). However, the decline was the lowest in the western and northern region of Poland, where it is utilized for agricultural biogas energy production the most. This indicates that at regional scale the agricultural energy production has potential to stimulate pig husbandry positively.

**Figure 3** Development of maize for silage cultivation in Poland and Slovakia (2009-2015)



Source: LDB CSO (2015), SO SR (2008-2015)

**Figure 4** Development of the pig production intensity in Poland and Slovakia (2009-2015)



Source: LDB CSO (2015), SO SR (2008-2015)

## **Effects of ABPs operation to agriculture and rural development**

Differences in the forms and the ownership structure of agriculture in Poland and Slovakia allow for an analysis of the functioning of two essentially different types of ABPs: separate business entity (Buczec in Poland) and ABP run by agricultural entity itself (Rozhanovce in Slovakia). The establishment of agricultural biogas plants in Poland takes place in two different ways. On the one hand, biogas entities are being set up within the framework of already existing business organisms. Biogas investments are carried out at the stage of modernization of companies from the agri-food industry, including large-area farms after the liquidation of State Agricultural Farms. On the other hand, agricultural biogas plants are created as separate economic entities, functioning from the very beginning as independent, new enterprises in the environment of individual, relatively smaller farms and other entities with an established position in local systems. The operation of biogas plants functioning as separate economic entities leads to the growing importance of organic waste from agri-food production in the structure of substrates for the production of agricultural biogas as more easily obtainable raw materials in financial and organizational terms. However, the efficient functioning of this type of biogas plants requires deepening and broadening cooperation with local entities and becoming embedded in the local structure (Chodkowska-Miszczuk, 2019).

The ABP in Buczec, located in Kujawsko-Pomorskie region (Fig. 1), belongs to the holding company Eteron Group with headquarters in the city of Poznań. It launched operation in 2014 with total installed electric capacity 1.8 MW. Since the beginning of operation, the biogas production was based on the waste from agri-food production and silage from maize, but over the time, the proportion of these substrates changed in favor of the agri-food waste, due to changes in legislative and financial support in Poland (cf. Chodkowska-Miszczuk et al., 2017). In fact, the utilisation of this waste for biogas production became a significant source of income for the biogas enterprise. This is because ABP utilizes the waste that cannot be used in other ways (organic sediments, post-slaughter waste, etc.) and factories producing it have to pay for its disposal. It also means that legislative and financial support changes contributed to the decrease in the direct impact of the ABP's operation on agriculture on the input side, but did not affect the impact on output side, and hence the distribution and sale of organic fertilizer among local farmers.

Biogas plant in Rozhanovce is situated in the Eastern Slovakia, about 15 km from the city of Košice. The operation launched in 2011. The plant with the output of 1.0 MW is run by the agricultural business entity AT ABOV s.r.o (the subsidiary corporation of AGROTRADE

GROUP Rožňava) and operates within premises of a former socialist agricultural cooperation currently owned by AT ABOV. The silage from maize is the dominant substrate.

According to the field research conducted in Rozhanovce, installed capacity of 1.0 MW of energy requires 500 ha of maize to cover full operation. Before the biogas energy production launched, the acreage of maize in the relatively large farm was 150 ha, what constituted 8% of its total arable land. Currently, the area of maize cultivation increased more than threefold to 500 ha and the maize covers 27% of arable land. In contrast to the ABP Buczek, there is no need for green maize supplies from external subjects in the Rozhanovce ABP because the agricultural company is self-sufficient.

This confirms considerable contribution of the ABP operation to the multifunctionality of local agriculture but it raises the question of ethics of cultivating energy crops instead of these for food production. Surprisingly, even the manager of the AT ABOV perceives this issue sensitively and he confirms local population also perceives it sensitively. However, he explained that the investment to ABP based on energy crops was the only way the AT ABOV found to protect the entire farm from bankruptcy. Due to set up of financial support for agriculture in Slovakia, the production of energy crops and their further transformation into agricultural biogas energy provides enough profit to keep running whole farm with other activities that are not profitable or even lead to loss. Therefore, thanks to cultivation and processing of crops to production of agricultural bioenergy, they are able to cultivate also food crops and keep animal husbandry, keep the employment in the agriculture and so to *“...keep agriculture alive, keep local people in touch with agricultural works. Because once the agricultural working habits and the relationship of community to farming are lost, it will be hardly possible to revive agriculture, and the rural areas will lose their basic function.”*

It shows that even without knowing or using the term multifunctional agriculture, the manager of AT ABOV see this concept as a chance to keep agriculture viable and contribute to rural economy. AT ABOV did not need to hire new employees for ABP operation, they took advantage of the original labor force that went through courses and trainings to qualify for work in the ABP. Therefore, the ABP itself directly did not increase the employment, but indirectly helped to prevent bulk redundancies. The Eteron Group had to hire new employees to launch and operate the ABP in Buczek. Because of the reoriented structure of substrates for agricultural biogas production in Buczek in favor of the agri-food waste, the number of employees doubled (during the first stage of functioning of this biogas plant the number of employees was about 4 people), which is not negligible in rural communities. Both ABPs are employing local people as well as people from surrounding cities and towns, and so through the multifunctional

agriculture they contribute to rural economic development. The supply of new jobs in rural areas can be considered both quantitatively and qualitatively. The quality aspect is extremely important, because every new job has a positive impact on the quality of life of the inhabitants, contributes to improving the self-esteem of the local community and social cohesion (Chodkowska-Miszczuk et al., 2019).

Regarding the sustainability of ABP as a contribution to rural development and multifunctional agriculture, the interviews confirmed the advantage of predictability of energy production from biogas (cf. Bluemling, Mol and Tu, 2013). In this context, the manager of AT ABOV operating the ABP plant in Rozhanovce emphasizes: *“The biogas plant helps us to plan. It is predictable.”* The Buczek ABP manager appreciates also that *„the biogas plant is the most efficient of all RES installations, close to 100%”* which results from the predictability and almost 100% utilization of substrates and by-products.

The hourly average output is 1.6 MW from the ABP Buczek and 1.0 MW from the ABP in Rozhanovce. Electricity generated by both examined ABPs is fed into the national electricity distribution networks. Therefore, the main output of ABPs is not directly beneficial for the rural development, but there is a great potential to utilize the heat this way. However, this is still at the design stage in majority of ABPs in post-socialist CECs, due to infrastructural and administrative barriers. Therefore, the thermal energy produced in majority of ABPs is used only for heating of own premises or smaller industrial or storages properties adjacent to ABPs, rarely also greenhouse complexes such as in Kameničany in Western Slovakia (NWT 2018). Despite certain projects and existing interest from ABPs operators as well as local institutions and organizations in Buczek and Rozhanovce, infrastructural and administrative constraints hinder distribution of heat to external consumers. The local community also perceives that the use of heat from the ABPs can be beneficial. A local leader from Buczek mentions that *“[the biogas plant] could be placed a little closer to the blocks [of flats] in order to use the heat.”* In addition, the representative of the Rozhanovce municipal office states: *“Heat can be used at any moment. We have an idea to heat the school, for example, but who will finance the infrastructure? We are ready to grab a chance if there will be appropriate call for the projects funded by EU.”*

Also the local community sees the opportunity to use ecological, cheap and locally generated heat and so to participate not only in the costs of functioning of biogas plants located in their area, but also in their profits. This is best reflected in the stance of the representative of the Rozhanovce municipal office: *“If this idea connected with heat distribution was implemented,*

*then we would have an argument for community: we tolerate the stench because we have cheap heat.”*

Another asset of ABPs for rural areas and local farmers is in the possibility of acquiring a digestate, a biogas by-product, which is relatively cheap, environmentally friendly, and efficient organic fertilizer (Kowalczyk-Juśko, 2011, Auer et al., 2017). The digestate is successfully utilized by the farm in Rozhanovce with the same owner as the ABP. The ABP in Buczek cannot utilize the digestate itself because its operator does not own any agricultural land, but based on agreement by the Ministry of Agriculture and Rural Development in Poland (MARD), it distributes the digestate to the local farmers. One of the local leader concludes: *„It [ABP plant] most certainly cooperates (...) with the local farmers, surely, because the digestate is transported to the fields as fertilizer and I think the farmers take it gladly. Because I can see they are taking it”*. According to the residents, this distribution had a negative impact on their quality of life. There was an increase in road traffic, odor discomfort and other effects. *“The removal of the digestate causes inconvenience and this is kind of the main problem I see with the construction and exploitation of such installations”*. Therefore, the production and utilization of digestate is another possible to ABPs' contribution to multifunctional agriculture and subsequently the rural development, albeit perceived ambiguously by local community. In the case of the biogas plant in Buczek, the fertilizer is becoming more and more well-known and valued by local farmers. The biogas plant makes the product available free of charge and ensures its transport (within a radius of up to 15 km from the biogas plant). Transport costs are the only charges paid by farmers.

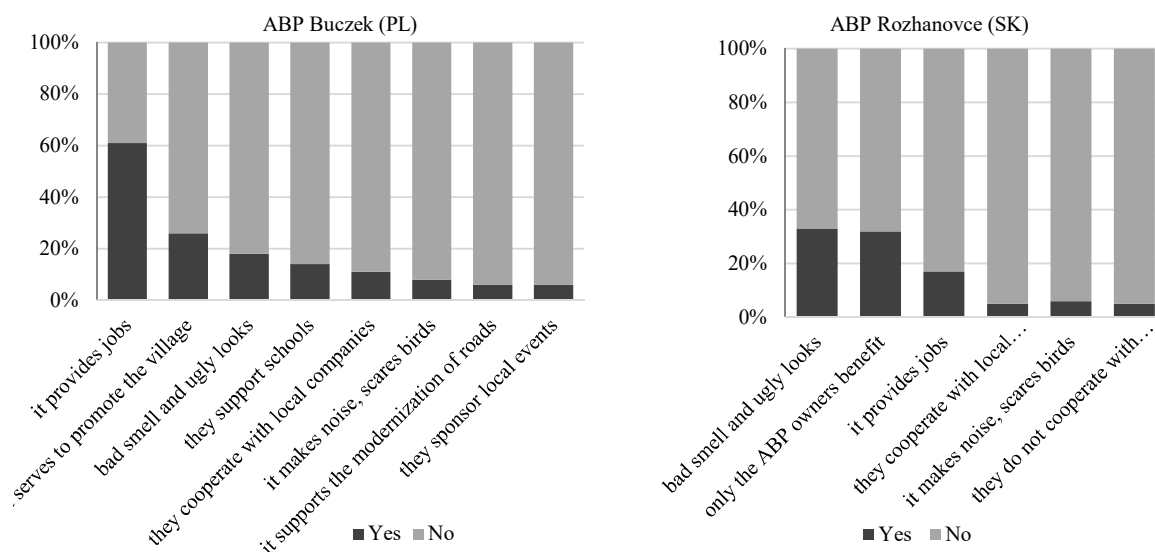
Biogas plants operating in a given area, as innovative energy enterprises, initiate a number of actions aimed at becoming integrated into local socio-economic structures. Even if the biogas plant is integrally connected with an existing agricultural enterprise (farm), it endeavors to expand the range of entities with which it cooperates in the supply chain. Biogas entrepreneurs look for new partners, especially at the local level. Due to the convergence of industries, important cooperation is carried out with farmers – suppliers of substrates and recipients of organic fertilizer.

### **The significance of biogas plants in the opinion of rural inhabitants**

Both analyzed biogas plants play significant role in local economy, and are recognized by the local communities. The question: “Do you know the biogas plant?” was referred to by almost 75% of respondents: “Yes, I have heard of it”. The recognizing is higher among middle-aged inhabitants, while proportion of positive responses is lower among younger people and

pensioners. Especially in suburban municipality of Rozhanovce, the proportion of these who know about the local ABP is low among newcomers who reside in municipality less than five years. It can mean that they just did not recognize it because it already operated before their arrival, and also many of them as suburbanizers reside the municipality but are not tied with it. They do not pay attention to local affairs because they do majority of activities in the nearby city and come to municipality only to stay overnight. For both localities also applies that the higher educational attainment the larger proportion of those who recognize the operation of ABP in local community. However, there are no statistically significant differences among categories by age, gender or education regarding positive or negative perception of the ABPs' operation. Majority of inhabitants are aware of the fact that biogas plants cooperate with local entities, both from private sphere (farmers, services) as well as the public one (local authorities), however, the proportion of these who do not have enough information is also the largest among the newcomers. The example of such a cooperation activity with the local community are meetings organized by the manager of the biogas plant in Buczek regarding the possibility of purchasing fertilizer, its quality, but also active participation in local events significant for a particular local community. As far as a biogas plant operating within an agricultural enterprise is concerned, numerous responses appeared that prove the lack of knowledge referring to ABP: *I have no idea, I don't know anything, etc.*

Taking into consideration opinions of inhabitants on the significance of ABPs in the local economy one ought to pay attention to the structure of the response to the issue: "*What do you think about the biogas plant?*" When it comes to a biogas plant operating as a separate subject the most responses were for the option: "*It is good it is here, it provides jobs*". The following one was the opinion on the role of a biogas plant in the promotion of the village. The third in the order by number of respondents was negative opinion referring to the unpleasant smell and unattractive look of the biogas plant. However, negative opinion dominated in Rozhanovce, where a biogas plant operates within an agriculture enterprise. The most frequent responses were "*It smells and looks ugly*" or "*Only the owners benefit from it*". The opinion claiming that: "*It is good it is there, it provides jobs*" was on the third position. In both analyzed cases, negative perception is mainly associated with the distribution and soil application of organic fertilizer as well as excessive traffic near the biogas plant (Fig. 5).

**Figure 5** The distribution of the answer to the question: „What do you think about the ABP?”

Source: own study based on the survey results (N=150)

Taking into account the further efficient coexistence of the ABPs in the local environment one ought to undertake certain activities aiming at strengthening the links with local communities. As the respondents point out: "*What is the most important is the fact that inhabitants should be informed about activities taken*". The inhabitants are willing to get to know the rules of how a biogas plant operates, as well as the results of its functioning (both advantages and disadvantages). It is also important to make it possible for inhabitants to participate in profits of the enterprise, not only bear the expenses of its existence. Thus, there are numerous demands of the respondents on the issue of taking advantage of (cheaper) energy, including the heat created by biogas plants, as well as the necessity of participation on the side of biogas plants owners in modernization of local technical facilities exploited in economic activities.

## CONCLUSIONS

The research results presented in this paper pointed at the agricultural biogas plants (ABPs) in Poland and Slovakia as a new phenomenon affecting the agriculture and rural development in post-socialist Central European countries (CECs) in various aspects. The focus of the EU countries to increase proportion of energy generated from RES stimulated rapid development of biogas energy production in the CECs. Despite simultaneous development of technologies, agricultural biogas energy production still depends on the state support, as it is more expensive than conventional energy production, and so its development is determined by the national legal and financial support. However, the research shows that ABPs operation contributes to the development of multifunctional agriculture and provides stimuli for rural economic



development, what is often an overlooked aspect of return of the state support back to the national budgets.

Mutual conditionality was confirmed between operating ABPs and regional agricultural structures. Intensity of agricultural production is among the factors determining location of APB the most. In the same time, ABPs operation considerably affects the use of arable land. Since the agricultural biogas energy production experienced rapid growth, areas of maize cultivation for energy production grew significantly at the expense of crops for food production. This applies particularly in the regions where the large farms dominate in agricultural spatial structure as a consequence of collectivization under socialism.

The growth of areas of maize for silage cultivation raises concerns about too excessive focus of agriculture on non-nutrition monocultures and it is perceived as moral and ecological danger. This can be a challenge for state legislations, following the example of Germany, to support more the construction of small ABPs (up to 500 kW), which would predominantly process naturally produced agricultural waste. However, the recent development in Poland illustrated by the case of the Buczek plant shows that a well-designed support system can motivate ABPs operators so increase proportion of agri-food waste in the structure of input substrates at the expense of energy crops even without changing the ABPs' size structure.

Spatial structure of agriculture affects also character of ABPs as business entities. Average size of a farm in Poland is among the smallest and in Slovakia among the largest in the EU. This allows large Slovak agricultural companies to run ABPs within their premises, acquiring biogas from substrates produced by the companies themselves as well as utilizing digestate – the biogas by-product as a very efficient and environmentally friendly organic fertilizer directly at their own arable land. This is only rarely possible in Poland, where small farms dominate. Majority of ABPs operates as a separate (non-agricultural) business entity forced to establish relationships with agricultural suppliers and buyers of the by-products. Agriculture in Poland has underwent post-socialist transformation relatively successfully, but many agricultural companies in Slovakia bankrupted after privatization and many other still fight for survival. Thus, biogas energy production is perceived as a suitable way to diversify business activities within agricultural companies and thanks to development of multifunctional agriculture to stabilize their operation and financial situation.

These facts directly underline the significance of ABPs not only as a factor influencing the changes in agriculture but also as an important element of rural development generally. Along with a positive impact on a more even distribution of energy sources, ABPs directly provide

new job opportunities, or at least help to maintain existing jobs in rural areas. This is very important local development stimulus, since during the post-socialist transformation, employment in agriculture was reduced considerably and rural areas generally suffer from a shortage of jobs.

Possible resentment among the local population arising from new element in rural area can be overcome by sponsorship of local institutions, civic associations and various social and cultural events. All this happens in both kinds of ABPs, but to a much less extent in ABP as integral part of a large agricultural company. Nevertheless, both kinds of ABPs also have untapped potential to support the development of the rural areas. Energy produced is distributed into national distribution networks but heat produced in cogeneration is only used for own premises. Infrastructural and administrative constraints hinder distribution of heat to external consumers, although it could be cheaper and more ecological heating than currently used conventional heating options.

ABPs are a relatively new phenomenon in CECs. Much more research will be needed to understand their role and impact on national economies, redistribution of energy production, environmental impact and other aspects of their operation. This paper provides important evidence and fills the gap in the knowledge on the impact of ABPs operation on multifunctional agriculture and rural development, which are aspects very often overlooked in the related research.

#### **Acknowledgments**

We would like to express our gratitude to the all respondents of our survey for providing information and opinions, and supporting data and materials necessary for this research. This work was supported by the National Science Centre, Poland, Project no. 2016/21/D/HS4/00714: Biogas enterprises from the perspective of the embeddedness concept and Slovak Research Grant Agency (VEGA) under the grant 1/0395/17: Centripetal and centrifugal processes in transformation of regional system in Slovakia.

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## **EDUCATION LANGUAGE CHOICE OF HUNGARIAN ETHNIC DIASPORA COMMUNITIES IN VOJVODINA (SERBIA)**

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**Cite this article:** Trombitás, T., Szügyi, E. (2019). Education Language Choice of Hungarian Ethnic Diaspora Communities in Vojvodina (Serbia). *Deturope*, 11(2), 54-74.

### **Abstract**

Since one's surroundings and environment affect the extent to which one uses native language, first language use has declined and the native language use of the Hungarian minority living in ethnic diaspora communities also takes place of secondary importance in everyday situations. Native language cultivation is important, but it is also important to master the official language. Parents living in ethnic diaspora communities take these factors into consideration when choosing the education language for their children. The aim of the research is to identify, using "soft methods", the individual perspectives, motivations, and factors ("underlying background contents") according to which students and parents belonging to the Hungarian ethnic diaspora choose education language. The main question we pose in our work is what are the individual, familial, cultural and micro-community-related backgrounds in the education choices of Hungarian parents. We interviewed 42 students, parents, and educators of either Hungarian or interethnic backgrounds from ethnic diaspora communities in Vojvodina. According to the results, the native language use of students of the ethnic diaspora studying in the majority (official) language is in decline. The language of school and education has become Serbian, and the Hungarian language is mostly limited to use within the family or has lost its significance within the home completely; thus, it has been pushed to the background and is limited to a more "confined area" (such as communication with grandparents).

Keywords: ethnic (internal) diaspora, education, cultural and language diversity, interethnic relations, attitude

### **INTRODUCTION**

It can be stated that languages in contact with each other interact and have an effect on each other, and this is more prevalent in heterogeneous ethnic communities, where the majority language has a stronger effect on the language use of ethnic minorities than vice-versa (Andrić, 2003).

In interethnic environments, members of a language minority are used to two- or multi-language use, as both single-language or multi-language families, along with any family that speaks a different language from the one spoken in that environment, uses more than one language. First language use has declined and the native language use of members of the

Hungarian minority living in ethnic diaspora communities also takes place of secondary importance in everyday situations. Use of the native language is important but it is also essential to master the official language since the ethnic environment demands that the individual use the language of his or her environment (Takács, 2008). Parents living in ethnic diaspora communities take these factors into consideration when choosing the education language for their children since education language plays an important role in questions of childhood and upbringing.

As a consequence of their distribution in the region, Hungarians living in ethnic diaspora communities have a unique position, as unique social-cultural values form within a community due to the co-existence of individuals of different ethnic, religious, linguistic and cultural backgrounds, in light of the effects they have to each other. This heterogeneous cultural environment raises many questions regarding education and language use.

Our work examines and interprets, the opinions and attitudes of parents, students, and educators living in ethnic diaspora communities in Vojvodina, regarding language choice in elementary school education, within the framework of a human geography study.

### **Statement of the topic and the problem**

Many people have multiple national commitments and live in multiple nation states (Banks, 2004). Choosing a school and the education language for a child from a linguistic and cultural minority is a complex task, as parents making the choice for their children must face a number of dilemmas (Szügyi, 2012). One of these issues is about the language of education, because at school since education language influences the child's choices in education later on. This topic is quite controversial, as education language choice is a heavily debated issue both for laymen and experts as well (Árendás, 2012).

It has become the practice of parents in Hungarian ethnic diaspora communities to choose - for various reasons - the majority (Serbian) language school for their children, despite the fact that Hungarian education is available for them (Joó Horti, Mengyán Pletikoszity, Csernik, & Badis, 2014). Approximately, 20 percent of elementary students of a Hungarian minority background studies in Serbian (Djurdjev, Kicošev, & Vuksanović, 2003); moreover, in certain isolated Hungarian ethnic diaspora communities, more than 50 percent of Hungarian minority students study in Serbian.<sup>2</sup>

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<sup>2</sup>Strategy for Education Development 2010-2016, Hungarian National Council



The issues related to the coexistence of groups with different cultural and linguistic backgrounds have long been in the forefront of human geography. The relevance of the topic is justified by the fact that transitological changes related to the transition have brought minorities and minority-related topics into the foreground of research. A part of the research examines the effects of the 1989-1990 period on education, educators, and social groups participating in education (including minorities) (Kozma, & Tózsér, 2016). Furthermore, nowadays there is a greater social and scientific interest in questions about ethnicity and its local processes, focusing on the topic of social diversity (Kovács, 2017; Balizs, 2015). Nevertheless, thanks to the changes in recent years, the results and theoretical approaches of other social sciences are gaining ground in social geography (Boros, 2008). Besides, according to Hagget (2006), those geographers who want to understand the cultural diversity of the world cannot disregard the studying of languages.

### **The aims and questions of the research**

The general aim of the research was to identify the individual perspectives, motivations, and factors (“underlying background contents”) of students and parents - belonging to the Hungarian ethnic diaspora - of choosing an education language. Furthermore, we also considered it very important to uncover the educators’ opinions about the difficulties of choosing education language for the students.

The main question is the following: what are the individual, familial, cultural and micro-community-related background factors of the education choices of Hungarian parents in Hungarian ethnic diaspora communities. Further questions developed from this, such as: What dilemmas must students and parents face by choosing an education language? How do individuals living in interethnic families define their position on language education choice?

Our research does not aim to take position with or against either majority or minority language education. In each case, the choice of education language is a subjective one, since every family has a unique position, background and circumstances, and their decisions and choices must be fully respected.

## **THEORETICAL BACKGROUND**

In the majority of Europe’s ethnically heterogeneous countries the most often generally propagated language politics is bilingualism. Bilingualism applies to most of humanity as knowing a language different from one’s mother tongue broadens one’s horizons, making one

more empathetic towards different cultures and identities. According to Grosjean (1982), bilingualism means using two (or more) languages regularly. An individual can be considered bilingual if, during the course of his or her everyday life, he or she needs and uses two (or more) languages (Grosjean, 1982).

Bilingualism is a natural and implicit phenomenon in heterogeneous, multifaceted ethnic and linguistic communities (Andrić, 2004; Balizs, & Bajmócy, 2015). It is a usual occurrence in many places and is also widely accepted that children can acquire two or even more languages without great effort (Petitto, Katerelos, Levy, & Gauna, 2001). Yet, a different line of reasoning also exists, according to which bilingual acquisition could have a negative effect on the development of the child (MacNamara, 1967).

According to Skutnabb-Kangas, for minority individuals, the failure to become bilingual could have fateful consequences. The author identifies three typical cases of unsuccessful bilingualism (Skutnabb-Kangas, 1981). In the first case, the individual remains unilingual and the native language remains dominant, thus limiting further education for the individual. In the second case, the perfectly acquired and mastered second language dominates and the individual forgets his or her native language or speaks it poorly. In this case, there is a good chance that this individual will become estranged from the ethnolinguistic group it belonged to previously - he or she may feel uprooted, and ethnic belonging may become problematic. In the third case, the individual speaks both languages poorly and the previously mentioned problems cumulate (Skutnabb-Kangas, 1981).

Many factors can play an influential role in education language choice in minority communities (Schneider, & Buckley, 2002; Malmberg, Andersson, & Bergsten, 2013; Papp, 2014). The choice can further be made more difficult whether the ethnic group whose individuals live in proximity to one another or if they are dispersed in smaller ethnic diaspora communities. Thus, we can examine education language choice from various perspectives (Papp, 2014; Ferenc, 2013). Taking pragmatic views into perspective, we can differentiate between symbolic (language and culture) and rational (school facilities) motivations. Furthermore, considering the minority community's distribution in the area, we can differentiate between the motivations of those living in close proximity to one-another and the motivations of those living in ethnic diaspora communities. We can also differentiate between the motivations of individuals (parent, student, teacher) who play a role in the decision-making process when choosing education language (Papp, 2014).

Previous studies on the theory of choosing education language at schools or choosing schools in general, grouped the explanations for the uniqueness of minority education on macro-,

mezzo- and micro levels (Papp, 2014). Under the macro level, those school choice motivations are meant which concern the education system as a whole, while mezzo means the factors that are closely connected to the school. Under the micro level, individual motivations are considered. This study is connected to the micro level described by this system, as it researches individual motivations behind education language choice.

When making this crucial decision, parents, students and educators (who in some cases must advise the parents) have to weigh and consider many factors, as this decision could have an effect on the child's life, and its development and relationships within the community and family. One of the main functions of education is cultural cultivation since through it, the accumulated knowledge, values and norms of society are passed on to the younger generations (Bourdieu, 1996).

### **The connection between social mobility and education language**

We would like to highlight three factors to demonstrate that choosing education language puts parents, students and teachers in a difficult position. They include the connection between social mobility and education language, the effect of the chosen education language on forming identity, and the ethnic background of the family (for example, partners of different ethnicities).

Minority parents who are about to make the choice of education language consider it an important question if their children will be more successful in life after studying in their native language or in majority (official) language. From the perspective of a minority, deciding on which school to choose does not only determine the language of instruction, but it also results in a language selection (Göncz, 2014; Priestly, 1994).

From the perspective of minorities, social mobility is closely connected to proper knowledge of the official language, as, if an individual of a minority background does not successfully acquire the official language, he or she will be limited in terms of gaining position in a career. The official language, as the language of assertion, has a defining role, which is why a number of minority parents consider official language education as the key to successful social and career assertion. Thus, in choosing the official language ("the language of authority"), we can observe the strive for social recognition. It is, therefore, worthwhile to examine the connections between social status and education language, since, in choice of education, the parents strive to help their children achieve their own social status or a level higher than their social status (Andor, & Liskó, 2000). For this reason, the question of education language choice is a difficult

one, since many parents believe that their children will have better opportunities if they begin their studies in the official language.

### **The effect of the chosen education language on identity forming**

The chosen school, the education language and the curriculum are determining factors of the identity development of the student, as language is a complex “phenomenon”, which is not simply a tool of mediation, but an integral part of personality or identity (Göncz, 2006). School choice will have an effect on the later development of the child’s identity since a class operating in a given education language also plays a role in identity forming (Árendás, 2012).

According to Attila Papp, the education choice for a child is formed consciously by the parents or are determined by environmental influence. These decisions have a social, public benefitting and economic relevance (Papp, 2013). From the perspective of the minority, decisions related to education language choice can be broader with further individual and unique perspectives, because it can result in language switching, as after a certain time, native language can lose its priority in use to the majority (official) language, and the language of the parents can become foreign for the children (Papp, 2013).

### **The ethnic background of the families**

Studying in one’s mother tongue is not obvious in every case, not even if laws allow education in minority languages, since a number of factors have to be taken into consideration in choosing a school, such as the family’s cultural/language attachments or the linguistic abilities of the child. An important role is played by the incorporation of ethnicity of the parental family, or the presence of ethnically mixed marriages, friendships or relatives. In an ethnic diaspora community, these factors are more significant. According to Bernstein (2002), the language development of a child is strongly influenced by the environment and the community in which he or she is raised (Bernstein, 2002). In diaspora regions, the number of two-language, interethnic marriages are on the rise, and in these cases, it is more difficult to decide which parent’s language the child will consider as his or her own. But in de Klerk’s (2001) study, the success or failure of “family language politics” in the case of mixed-ethnicity partners depends mostly on parental commitment and on maintaining the “cultural background” highly influenced by external factors, such as historical, social or political factors (de Klerk, 2001). Aside from this, the family as a micro-community has a unique dynamic force field, in which individual relationships form (Vajda, & Kósa, 2005).

From parental perspective, the choice of education language (language choice) can be tied to the prestige of languages; that is, to those “imagined or real ideas” that hold that one of the languages would allow more successful career opportunity for the child (Papp, 2013). In the case of parents with two or multiple ethnic, linguistic or cultural ties, a special situation emerges, especially because the parents often have different past experiences in education – one parent might have completed his or her studies in the minority language, while the other in the official language (Árendás, 2012). Choosing an education language is a very difficult decision in these cases since school enrolment is not a natural or automatic process, like the one that may appear in homogeneous ethnic families (Árendás, 2012). Previous research shows that in the case of mixed-ethnicity marriages, school choice most often results in majority education language (Dobos, 2011).

## DATA AND METHODS

### Research area

Autonomous Province of Vojvodina is located in the northern part of Serbia. Vojvodina, as border region offers an interesting case of study for questions of ethnicity and cultural. In the socio-cultural terms of Vojvodina, the region is a unique multicultural, multi-ethnic area, not only in Serbia but also in Europe, regards the ethnic and religious background of its population (Djurdjev et al., 2003; Kovačević, Zakić, & Bubalo-Zivković, 2010; Léphaft, Németh, & Reményi, 2014). One of the characteristics of the border regions is mixed ethnic population (Đerčan, Bubalo-Živković, Solarević, & Šabić, 2017; Szügyi, 2013). As in the course of history, as well as recent days, individuals with various backgrounds, religion and native languages live here, and more than twenty ethnic groups can be found (Hajdú, & Szügyi, 2015). Aside from the members of the majority nation (Serbians), Hungarians, Slovaks, Croatians, Montenegrins and Romanians also live here in greater numbers. Six languages are in official use in the region of Vojvodina, which reflects the region’s multi-ethnic and multilingual composition. Besides the Serbian language, these include Hungarian, Slovakian, Romanian, Rusyn and Croatian.

According to the 2011 census, 253,899 person claim Hungarian ethnicity in Serbia, of which 251,136 individuals live in Vojvodina.<sup>3</sup> In territory of Vojvodina 230,444 individuals consider Hungarian to be their mother tongue.<sup>4</sup> In comparison to the total population of the country, the

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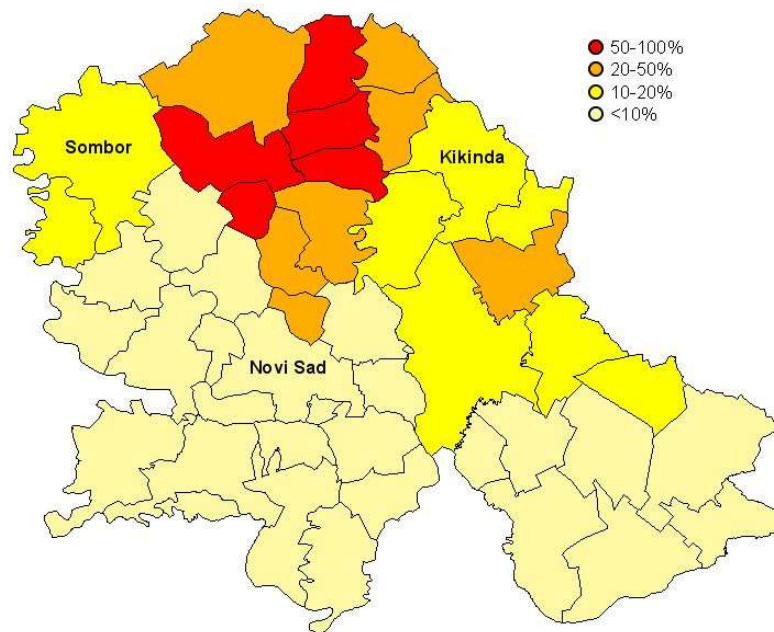
<sup>3</sup>Statistical Office of the Republic of Serbia (RZS), 2011

<sup>4</sup>The Republic of Serbia: The Third Periodical Report on the Implementation of the European Charter for Regional or Minority Languages in the Republic of Serbia, Belgrade, December 2014, 18 p.

Hungarian minority makes up 3.5 percent of the population, while amounting to 13 percent of the population of the region of Vojvodina (Kapitány, 2015). However, in comparison with the 2002 census data, the Hungarian population has decreased by 39,400 individuals by 2011.<sup>5</sup>

The Hungarian minority of Serbia lives mainly in municipalities in the northern part of Vojvodina, in areas close to the Hungarian border along the river Tisza (Kocsis et al., 2006). The most concentrated areas of ethnic Hungarians can be found in the north-eastern part of Bačka, on the right side of the Tisa, in the Horgoš – Bačka Topola – Bačko Gradište triangle (Kocsis, & Kocsis-Hodosi, 1998). Within Vojvodina, region of Bačka has the largest population of Hungarians, their number is significantly less in Banat area, while in Srem region are only a few isolated Hungarian communities (Fig. 1).

**Figure 1** The proportion of Hungarian nationality per municipality in the territory of Vojvodina (based on the 2011 census data)



Source: Edited by authors

### Research methodology

Research of ethnic diaspora communities, minorities, and minority education usually requires an interdisciplinary approach, as these topics concern the various disciplines of geography, history, demography, ethnography, culture, politics, law, etc. We applied an interdisciplinary approach to work out our research questions. Aside from relevant works within the field of

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<sup>5</sup>Statistical Office of the Republic of Serbia (RZS), 2011

geography, we used relevant results and research from the disciplines of linguistics, pedagogy, economics, history, and sociology to develop certain chapters. However, it should be noted that geography is suitable for interdisciplinarity and for approaching complex scientific questions (Mészáros, 2014; Kovács, 2017).

The data used in this work is collected from the database of the Statistical Office of the Republic of Serbia. During the collection of secondary data, we strove to process all available relevant literature of this topic at hand. Beyond this, other important sources (for example laws, statistical reports, strategic and development documents) were also used.

In conducting the empirical research, we used a qualitative (interview-based) method, which allowed the interviewed individuals to express their opinions more freely. We also interviewed students, parents, and teachers with Hungarian or mixed-ethnicity backgrounds, who are living in Hungarian ethnic diaspora communities. The research was conducted in the areas of Kikinda, Novi Sad, and Sombor municipalities, where both Hungarian and Serbian language primary school education existed at the time of the research— thus, students and their parents had a choice of choosing an education language.

Thanks to research scholarships<sup>6</sup> and grants<sup>7</sup>, in 2013-2014, we conducted interview-based research in three municipalities<sup>8</sup> considered to be diaspora townships. During this time, we interviewed elementary school teachers, students, and their parents about the reasons behind their education language choice. In total, 42 interviews were conducted in the three sample areas: 13 in Kikinda, 14 in Novi Sad, and 15 in Sombor. In the study, we used structured (students) and semi-structured interviews (parents, teachers), and in the case of interviews with teachers, we also asked questions about the teachers' own personal career and about the education of their own children. The methodology used in the empirical research is based on a method that was developed in a previous research, which was conducted in 2012 and 2013 in Vojvodina and in other regions in the Carpathian Basin.<sup>9</sup> Considering this research we applied

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<sup>6</sup>The research title was "Majority language school choice", which was supported by the 2012-2013 DOMUS tender of the Hungarian Academy of Sciences.

<sup>7</sup>The research in Novi Sad and Sombor were supported by the European Union and the State of Hungary, co-financed by the European Social Fund in the framework of TÁMOP-4.2.4.A/ 2-11/1-2012-0001 'National Excellence Program'

<sup>8</sup>A municipality (opština) is the lowest level governmental (administrative) unit in Serbia, which usually includes a larger township (city) and its agglomeration. The center of it is the seat of the municipality (Vujadinović et.al.,2016; Nagy, 2015).

<sup>9</sup>The researchentitled „Majority language school choice”, supportedby the scholarship of the Hungarian Academy of Sciences (Domus)

the developed topics, methodology, sampling and interview questions in our research in the selected municipalities.

In terms of the population of the examined sample areas, Novi Sad is the largest area, followed by Sombor and Kikinda. The selected areas are municipality seats; thus, the research was conducted in urbanized areas among urbanized population. However, it should be noted that the urban environment helps individuals in adapting to the dominant majority language, and the change of spoken language is a more common phenomenon in cities than it is in rural areas, where the minority language speakers live in more concentrated areas (Laponce, 1987).

Two important factors played a role in selecting the sample areas (municipality seats). The first criterion was the availability of both the Serbian and Hungarian education languages, while the second criterion was the geographic position of municipalities ("regional position"). In addition, for the purpose of the research, ethnic diaspora community meant a community with a minority population of less than 30 percent of the total population.

In accordance with the applied methodology, students of the upper elementary classes of Hungarian or interethnic backgrounds studying in Serbian language participated in the research. Interviews were also conducted with the students' parents and teachers. Some teachers interviewed in the Sombor sample area also worked in high schools beyond the elementary school.

Finding the interviews for the research began through personal connections, followed by the "snowball method", according to which the researcher gathers data from the population of interest and asks about other possibly interested individuals (Babbie, 2008). Thus, during the research, we were able to interview acquaintances of the original subjects they recommended. Firstly, we interviewed teachers, then, using their recommendations, we conducted interviews with students, who in turn helped us to contact their parents for further interviews. In the majority of the cases, we were able to reach the parents directly (through personal connections).

Two major difficulties were encountered during the research. It was difficult to find families whose members were connected to Hungarian roots, but their children were educated in Serbian language. Since there is no public statistical database from which "Hungarian-roots parents" choose Hungarian or Serbian language, therefore the sampling procedure was started through a personal contact network, and then I reached the subjects of the interview using the above mentioned "snowball" method. There was another problem that many of the parents refused the interview.

From the aspect of the research, I considered everyone to be Hungarian nationality who declared themselves as Hungarian. I would like to emphasize that it is not always easy to define



the issue of nationality for the people, who are living in diaspora areas. Several interviewees were uncertain in their nationality, there was noticeable a kind of intermediate or dual identity, because the parents came from mixed nationality marriages, or even now they live in mixed marriages.

The questions of the interview can be categorized into five larger categories. They concern the familial background, school pathway, characterization of school, social relationships, and the students' future plans. To adapt to the subjects' command of language and request, the interview was conducted in both Hungarian and Serbian. The research mainly mirrors the teachers' and parents' opinions and attitudes because we received the most information from these two group of subjects during our research.

### **The dilemma of defining “ethnic diaspora”**

The situation of diaspora extends to a wide range of population and historical predicaments (Clifford, 1994). To understand the concept of “ethnic (internal) diaspora”, the term “minority” has to be explained. The dichotomy of “majority-minority” in everyday use marks demographic proportions, according to which one group is larger than the other. The concepts of “majority” and “minority” are used to mark population proportions in our study. In the paper, “majority language” means the Serbian language, the official language, while “minority language” means the languages of minorities living in Serbia, the language of the Hungarian minority among them.

A number of researchers have considered methodological dilemmas of diaspora and raised multitude questions of categorization issues (Clifford, 1994; Brubaker, 2005). For this reason, it is very difficult to find a unified definition for general term of diaspora. In this study we used the term of ethnic (internal) diaspora. It is also hard to define the concept of ethnic (internal) diaspora, as the concept itself is multifaceted and complex, and no exact definition for the term (Bodó, 2010; Ilyés, 2007). This term is mostly used for the Hungarian communities, who are living in neighboring countries of Hungary, in Carpathian Basin, and they do not live in ethnic block.

From a methodological perspective, there is no precise definition about the size of the population that could be considered to be an internal diaspora in a township or a region, as opinions differ and vary according to country. When defining an internal diaspora community, it is important to take the absolute size of the Hungarian population into consideration, along with the size of the majority population(s), and the extent of the dispersal (distribution) in the area as well (Ilyés, 2007; Tátrai, 2017).

## **The characteristics of minority education in Vojvodina, focusing on the Hungarian minority**

Elementary education is compulsory and free in Serbia. It is divided into lower (1st to 4th) and upper (5th to 8th) grades. Elementary schools were established by the state, which also finances their operation. As far as founding laws are concerned, the recent changes that have had an effect on the Hungarian community include the fact that the Hungarian National Council has taken over the foundation rights to certain institutions and has received the right to treat some of them as institutions of special importance.

There are three fundamental legal documents about education in Serbia: The Law on Primary Education (2003/04)<sup>10</sup>, the Law on Secondary Education (2003 and 2005)<sup>11</sup>, and the Law on Post-Secondary Education (2005). According to changes in 2002, education has become decentralized, thus, education is now also under the Provincial Secretariat for Education and that of local governments.

According to the Law<sup>12</sup>, education can be uni- or bilingual. Education language in Serbia is primarily Serbian, but, under certain circumstances, national minorities can also have access to education in their own language (Filipović, J., Vučo, J., & Djurić, Lj., 2007).<sup>13</sup> Those who do not have access to public education in their mother tongue (Ukrainian, Macedonian, Bulgarian, Roma, Bunjevac) also have the right to nurture their native language. In the elementary schools of Vojvodina, education is offered in the following-mentioned six languages: Serbian, Hungarian, Slovakian, Romanian, Rusyn and Croatian, as well as bilingually – in Serbian and in one of the minority languages.<sup>14</sup> Native language classes, containing elements of one's ethnic culture, can also be chosen in Ukrainian and Roma languages.

When making arrangements for minority education, the number of students and the number of available educators are taken into consideration. If there are fifteen students who enrol, the institution is obligated to open a class in the minority language, while in the case of fewer applicants, classes can be opened with special permission in some schools. Education in a minority language is currently present in 539 elementary schools and 110 secondary schools in Vojvodina, however, the number of students studying in a minority language decreases every year (Szerbhorváth, 2015)

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<sup>10</sup>The Law on Primary Education ("Sl. Glasnik RS", br. 88/2017 i 27/2018)

<sup>11</sup>The Law on Secondary Education("Sl. Glasnik RS", br. 55/2013 i 101/2017)

<sup>12</sup>The Law on Primary Education

<sup>13</sup>The education law (7th paragraph) states that education language is Serbian, but minorities can study in their native language, in exception a lcases in Serbian. (Molnár Gábrity, I. 2008).

<sup>14</sup>The Law on Primary Education

## RESULTS OF THE INTERVIEWS

The results show, that in all three of the sample areas the interviewed students usually use the Serbian language within their families for the most part, and Hungarian is used rarely or not at all. For this reason, the parents who participated in the research found it natural to enrol their child (ren) into classes where Serbian was the education language.<sup>15</sup> The interviewed parents disclosed that they did not really consider education language just enrolled their children in Serbian classes automatically.

In the following part of our research, we will outline three factors from the results of the empirical research, which were determining ones on the side of education in the Serbian language. They include the chance of later success, parental help in studying and the parent's own negative/positive experience(s).

### Chances of later success

Education language and school choice is one of the central themes in the society of a minority community, because they are hoping their choice leads to positive school advancement and a better job position. Individual choices related to education were decidedly influenced by perceived chances of later success in terms of career. This was the main reason for number of parents to enrol their children in majority language class. A kutatásba bevont szülők evidensnek tartották, hogy a gyermeküket szerb osztályba írták.<sup>16</sup> Parents involved in the research found it evident that their children were enrolled to Serbian class. It is also related that the interviewed children went to a Serbian kindergarden and had to already spoken Serbian, so the parents considered it correct if they children would go to a Serbian language class.

To the question of why Hungarian parents would enrol their children in Serbian class, in general the parents feel that if they live in Serbia, they would rather enrol their children in a Serbian language class, mostly due to hopes of later success. Many parents have disclosed that they had trouble adjusting to the Serbian education language in their own secondary school studies after finishing elementary school in Hungarian and they did not enrol in post-secondary studies because of this. Therefore, parents think that it is more beneficial for their child to encounter Serbian in elementary school so that they can achieve more in the future. Teachers meet and speak with many parents during the enrolment process. Therefore, according their experience, due to the effects of the Serbian environment, the parents believe that their children will be more successful if they study in Serbian since they will acquire the official language “perfectly”, which will be an advantage later on.

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<sup>15</sup>The opinion of the interviewer-researcher

<sup>16</sup>The opinion of the interviewer-researcher

*“...it’s mainly because of the environment that they think they will be more successful if they complete their education in Serbian” (interview excerpt, teacher-U2, Novi Sad, 2014).*

*“... if the child learns Serbian well and stays in the country, he will be successful.” (interview excerpt, parent-U12, Novi Sad, 2014).*

*“... because we were certain that she would study in Serbian, so she would have a wider choice [of further education and career choice]...” (interview excerpt, parent-Z15, Sombor, 2014)*

According to several opinions, it is vital that one should acquire the official language, as without it, it is much more difficult to be successful in further education, and in labour market. In some cases happened, that the parent discloses that after his child began his studies in Serbian in the first grade, the parent realized that he does not have a strong enough command of the Serbian language to help his child, despite the fact that the parent uses the Serbian language in work situations almost exclusively. According to the parent, he lacks the type of information that would have been acquired during one’s own education. Since the parent completed his studies in the Hungarian language, he felt it was difficult to help his own child in the child’s studies. Considering the parent’s own opinion, these difficulties can be compensated for by the fact that in the child’s further studies he will be more successful and the parent would like it if his son would be successful in his own hometown.

*“...I had thought I knew Serbian well, and when my son began first grade, I realised that I don’t really know Serbian because I only speak everyday Serbian, and I am missing a certain kind of knowledge. I will never learn grammar properly, I don’t even care about it, I never liked Hungarian grammar either. For this reason, I’d like it if he were more successful, and if he were successful here. Easier for him to have a break here, to choose between options.” (interview excerpt, parent-U13, Novi Sad, 2014)*

*“...you should speak the language of the country you are living in. No other minorities in our greater vicinity have as many rights as we do, we can still choose if we want to study in Hungarian until the end of high school. University is a question, of course, and it’s not just Hungarians who can choose. Of course, it could always be more.” (interview excerpt, parent-U13, Novi Sad, 2014)*

Similarly, a father from Sombor also chose Serbian as the education language for his child, with hope of later success. He also considers it very important to acquire the official language to the level of native language. The parent argued that many acquaintances emigrated to work abroad and their children are receiving education in German, the official language where they are.

*“If you leave to work abroad, as a minority there, you must know the official language. Everyone’s children attend German school, preschool.” (interview excerpt, parent-Z10, Sombor, 2014)*

### **Parental help in studying**

During the study in Novi Sad, an argument was presented that parents chose Serbian education language because they worried that they could not help their child in their studies in the Hungarian education language. Teachers also mentioned that parents of Hungarian ethnic background studied exclusively in Serbian after elementary school, speak Serbian at work, and they worry they cannot help their children during their studies in Hungarian. Teacher disclosed that Hungarian ethnicity family enrolled a child in Serbian language education, but the child could not adjust to it, so the parents re-enrolled him in a Hungarian class. However, a problem arose because both parents had completed their education in Serbian and they could not help their child study in Hungarian and therefore, they had to hire a tutor to help their child.

*“One of the boys from the school was enrolled in Serbian class, but he could not fit in, so the parent enrolled him in Hungarian class, but it’s difficult for the child, a tutor comes over, a private one, because the parents cannot hold the front, he can’t follow the lessons, they can’t help him. The father is an engineer, he attended school in Serbian, they speak Serbian at home, but their daughter was also enrolled in Serbian class.” (interview excerpt, teacher-U3, Novi Sad, 2014).*

Aside from the fact that parents “automatically” decided to enrol the child in a class with Serbian as the education language, fear also played a factor in the decision-making process as they thought if the child were enrolled in Hungarian class, the parent could not help with studying. Besides this, the biggest argument for Serbian education language enrolment was that the child would have better opportunities later on in choosing high schools or even universities.

*“The Serbian line is pretty strong here, parents don’t want to bother with the Hungarian. We don’t speak it that well anymore, I couldn’t help my daughter, there wouldn’t have been anyone to study with her at home.” (interview excerpt, parent-U14, Novi Sad, 2014).*

In several cases, fathers with “Hungarian roots” told us that family chose Serbian language education because fathers work a lot and spend little time at home, so they did not speak much Hungarian with their children. Mostly their wife was with the children in their early years at home and she spoke with them in Serbian language, thus, they acquired Serbian to a greater degree. As a consequence, the children were enrolled in a Serbian education language class, because they spoke Serbian better than Hungarian. In this case, the question examined in Zsuzsanna Árendás’s work is proven. According to her work, education and education choices can be connected to gender, as practicing and studying at home with the children is traditionally the mother’s task and is related to education language choice (Árendás, 2012).

*“... I work a lot, I’m not home much with the children. My wife only speaks Serbian and she’s at home with them more, and so the children learned Serbian better. If they were to attend Hungarian class, I couldn’t have helped them with studying because I’m not at home, and my*

*wife, as I've said, doesn't speak Hungarian, so we thought it is better to enrol them in a Serbian class...*" (interview excerpt, parent-K11, Kikinda, 2013).

### **The parents' experiences**

The parents' experiences acquired during their own education play a determining role in choosing the children's school and education language. During the research, some parents have completed their elementary and secondary studies in Hungarian language explained the reasons for which they thought Serbian education language was a better choice their child. They disclosed some reasons, which played a role in their decision. One of the reasons is that during their own education, especially during their secondary school/university years, the Serbian language posed a difficulty for them, which was a fate they wanted to spare their children from, by enrolling them in a class with Serbian as the education language. The other reason was their own family/friend experiences studying in the Serbian language which by their opinion, greatly influenced their positive experiences in life.

*"...for me, the choice was made a long time ago, that if I have children at all possibly, I wouldn't educate them in Hungarian if we stay here in Serbia. So for me, the first reason was me, what I experienced [the difficulties during my university years], in Hungarian, and after I didn't have as many choices, or I would've had to choose something I don't like, just to study in Hungarian or something I like, but in Serbian, and the difficulties were automatically doubled. The other fact is my younger brother. He finished elementary school in Hungarian but began secondary school in Serbian. When he had to choose a school, he decided to try in Serbian. He had studied some Serbian in school and spoke it in his environment, so he knew the everyday language, but the specialized terms were missing there too. So he completed his first year of secondary school getting twos and threes because of the language, mostly because of the language, but he completed it. As the years passed, he got better and, of course, he learned the language really well..."* (interview excerpt, parent U-12, Novi Sad, 2014).

The mother points out that after secondary (grammar) school, she could only continue her studies in Serbian, or she would have had to choose a university or college programme that was available only in Hungarian language, one that she was not interested in. This posed a great dilemma for her. In the end, she began her university studies in Serbian, which, in her opinion, was twice as difficult, due to her lack of Serbian knowledge. In her appraisal, she speaks the Serbian language well, as she even had ancestors of Serbian ethnicity, but despite this, her knowledge of Serbian is not excellent. She points out that she struggled a lot with the language in her university years, and she wanted to make sure his son will avoid this problem, so she enrolled him in a school with a Serbian education language. In this case, it is evident that the mother is not satisfied with her own education in Hungarian and so she "changed" the situation and chose to educate her child in the Serbian language.

*„... so I completed elementary and secondary school in Hungarian, and started university in Serbian, because there was only Hungarian in the Hungarian Language and Literature Department, and it was at university that I saw just how important it is to study Serbian in school because we live in Serbia, so we should know the language, and it could have been stressed a bit more. In both elementary and secondary school I had teachers who weren't really into the idea that children should learn the [Serbian] language, and since the lectures were in Serbian or in German, this wouldn't have been a problem, but since my German wasn't at the level that I could say everything in German, I chose Serbian instead, but the specialized terminology and such, when I went home, I was translating from Serbian to Hungarian, so that I could understand what I had to study and learn, well, it was difficult and I spent a lot of time doing this” (interview excerpt, parent U-12, Novi Sad, 2014).*

A parent raised in Temerin but nowadays living in Novi Sad also recall, that it was in part due to his own negative experiences in education that he chose Serbian as the education language for his child, to make it easier for him to be successful in his later life. The father pointed out that when he had to choose secondary school, he had not decided based on his interests, but rather on education language – which programmes were available in Hungarian. He has regretted this decision. Today, he believes he would choose to study something that interests him and he would not base his decision on education language. Furthermore, the interviewed father also discussed the difficulties of observing his own sister, who was studying in Serbian in secondary school. For these reasons, the father thought it wiser to educate his child in the Serbian education language from elementary school.

*“I chose the school I chose because I wanted to study in Hungarian, but I consider this a mistake now. It's a mistake because we really should choose what we like... for example, some who spoke Serbian worse than me chose to study in Serbian, but I didn't want to. They open Hungarian classes for the Hungarian students, I thought and went to such a class, where, I'm not going to say I wasted three years of my life, but almost. I didn't want to go to a Serbian class, I also saw my sister, who went to a Serbian secondary school, she struggled with it a lot, she struggled with Serbian...” (interview excerpt, parent-U13, Novi Sad, 2014).*

## CONCLUSION

As the theoretical background shows the ethnic diaspora students studying in the majority (official) language speak their native language less and less. Serbian has become the language of school and studying, thus the Hungarian language has been pushed to the background and is limited to a “confined area” (for example speaking with grandparents).

According to the practical implications, the students we interviewed come from Hungarian or interethnic families and consider Serbian, rather than Hungarian, as their mother tongue. The students (with one exception) claim to struggle with the Hungarian language. The majority of the students communicate in Serbian with their parents, grandparents, siblings and friends. For these students, with the exception of one boy, it did not pose any difficulty to begin their studies

in Serbian as the education language, since they use the Serbian language for everyday communication. The research shows, that in most cases, the chosen education language is aligned with the language in use in the family, so the interviewed students studying in Serbian did not experience difficulties in studying in the official language.

Based on the practical researches we can state that children speak the official language better than Hungarian. In these cases, the parents find it completely natural to educate their children in the Serbian language, furthermore, they would like to continue their education in Serbian as well. In the majority of these families, the process of transmittance of the Hungarian language has been interrupted and the Serbian language has become dominant. The language knowledge of the children would not made it possible to study in Hungarian, so insufficient language knowledge influences education language choice.

Based on empirical research, in most cases, individuals who decide on majority language education consider participation in minority language education to be a social disadvantage, an obstacle to later-life success. In the case of children from interethnic marriages, choosing education language is even more difficult, but most often there is an “adjusting” to the Serbian parent’s language and parents choose the Serbian education language for their children, especially in municipality seats, or urban areas. On the other hand, in Hungarian-majority village (rural) areas, children from mixed-ethnicity marriages are often enrolled in Hungarian schools, thus, within a town, the majority language of the area is connected to the ethnic proportion and influences the family’s education language choice. In the opinion of the majority of teachers, in the case of children from interethnic marriages, the fact that the children are raised in two cultures should be a benefit to the child – it should be an advantage.

Aside from the factors of school proximity and family traditions, parents choosing a school for their children took some factors influencing school choice into consideration. Due to the child’s “better” knowledge of the Serbian language, they thought it natural to choose Serbian as the education language (automatic); considering later-life success, they enrolled their children in classes with Serbian as the education language. Offering help while studying at home (doing homework) was also proven to be an important factor, along with the parents’ own negative experiences in making education-related choices.

#### **Acknowledgement**

The empirical research is supported by the DOMUS tender of the Hungarian Academy of Sciences and the European Union and the State of Hungary, co-financed by the European Social Fund in the framework of TÁMOP-4.2.4.A/2-11/1-2012-0001 ‘National Excellence Program’.



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## **THE NEGATIVE IMPACT OF TERRORISM ON TOURISM: NOT JUST A PROBLEM FOR DEVELOPING COUNTRIES?**

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**Cite this article:** Zeman, T., Urban, R. (2019). The Negative Impact of Terrorism on Tourism: Not Just a Problem for Developing Countries?. *Deturope*, 11(2), 75-91.

### **Abstract**

The negative impact of terrorist activity on international tourism has been repeatedly reported on from many studies in the past. However, the results of these studies are consistent only for developing countries with low political stability. In the case of developed countries with a stable political regime, the findings are contradictory, varying from studies that have registered a significant negative impact of terrorism on tourism to studies reporting no significant relationship between these variables. The aim of this paper is to present new information about the relationship between terrorism and tourism in developed countries. For this reason, monthly statistics of tourist arrivals and terrorist attacks in European Union member countries were utilized. The results indicate that terrorist attacks may damage tourism even in developed countries. This potential, however, concerns only the most serious terrorist attacks. Moreover, even in this case, the effect was only short-term, lasting two months after the attack. Crisis management procedures such as enforcement of security measures, government subsidies for the tourism sector during the recovery phase after the terrorist attacks or crisis signal detection are recommended to reduce the risk of a terrorist attack and its negative impact on tourism.

Keywords: sustainability, terrorism, tourism, economic growth, regional development, security, crisis management

### **INTRODUCTION**

Over the last few decades, the tourism industry has had to cope with rapid changes associated with globalization. These changes include the increase of dependence for developing countries on limited overseas markets, growth of transnational corporations in the tourism industry, the process of de-industrialization for popular international tourist destinations, the enhancement of labour mobility, the facilitation of the exchange of information, the emergence of new tourism markets, the increase of migration levels, the increase of the availability of air transport or easier access across borders (for details see Dwyer, 2015), the growing demands for tourist destinations resilience to natural and anthropogenic threats (e.g. Kincl & Oulehlová, 2018; Beňová, Hošková-Mayerová, & Navrátil, 2019), increased demands on logistics infrastructure (e.g. Foltin, Brunclik, Ondryhal, & Vogal, 2018), as well as the growing importance of

ecological sustainability issues (e.g. Houdek & Škodová-Parmová, 2006). These changes have a direct impact not only on the current level of tourism services worldwide, the social structure in target countries or the global environment. They also significantly determine the economic environment on both the side of supply and demand. As suggested by Dwyer (2015), tourists increasingly demand short holidays, unusual experiences and a high quality of services. Another important factor influencing tourists' decision is the tourists' perception of the risks associated with target destinations, even though the perception of risk by tourists is not uniform and significantly associated with their personality characteristics and benefits sought (Karl, 2018; Morakabati & Kapuscinski, 2016).

The beneficial effect of international tourism on the economic growth of target countries has been discussed extensively in previous years. The relationship between tourism and economic growth has been reliably evidenced by many studies, although there is no consensus on whether this relationship is unidirectional or bidirectional, for a comprehensive review see Gwenthure and Odhiambo (2017). Unfortunately, international tourism is highly vulnerable to the deterioration of the security situation in the target destination country. This may be caused by a variety of security threats, particularly natural disasters (Liu, 2014; Machado, 2012; Wu & Hayashi, 2014), epidemic (Kuo, Chang, Huang, Chen, & McAleer, 2009; Mao, Ding, & Lee, 2010; Rosselló, Santana-Gallego, & Awan, 2017), or political instability and wars (Al-Hamarneh, 2013; Alvarez & Campo, 2014; Causevic & Lynch, 2013; Saha & Yap, 2014; Vallejo, Hoskova-Mayerova, Krahulec, & Sarasola, 2017). As reported by many studies (Afonso-Rodríguez, 2017; Araña & León, 2008; Buigut, Braendle, & Sajeewani, 2017; Drakos & Kutan, 2003; Liu & Pratt, 2017; Llorca-Vivero, 2008; Raza & Jawaid, 2013), terrorism is one of the most serious security threats that is able to significantly harm international tourism.

Four types of terrorism-tourism relationship studies may be delimited:

- 1) Case or survey studies assessing most frequently impacts of individual terrorist attacks such as the September 11, 2001 attacks in the US (Araña & León, 2008; Goodrich, 2002; Korstanje & Clayton, 2012) or the attacks in Norway on July 22, 2011 (Wolff & Larsen, 2014). Korstanje & Clayton (Korstanje & Clayton, 2012) reported a 13.5 % decline in the number of US tourists to the Caribbean after September 11, 2001. A similar impact of these terrorist attacks on the tourism industry in the US was reported by Goodrich (2002). Araña and León (2008) compared the results of two separate surveys on tourist preferences, conducted before and after September 11, 2001 in Germany. They reported an overall decrease in willingness to pay for six destinations in surveys (Tunisia, Canary Islands, the Balearic Islands, Cyprus, Turkey and the Greek Islands) after September 11, 2001. Also interesting to note is that the

impact on individual destinations was markedly asymmetrical. Such destinations, where the Muslim population is the majority (Tunisia and Turkey), suffered a more severe negative impact on their attractiveness for tourists compared to the other destinations.

2) Cross-sectional studies comparing tourism and terrorism data from more countries, however, without considering time (Llorca-Vivero, 2008; Thompson, 2011). Llorca-Vivero in 2008 (Llorca-Vivero, 2008) used the average data of tourist arrivals from G-7 countries to 134 destination across the world for the period from 2001 to 2003. They reported that both domestic and international terrorism have a significant negative effect on the flow of tourists. This type of study has, however, a significant limitation. As was highlighted by Samitas, Asteriou, Polyzos, and Kenourgios (2018), the impact of a single terrorist act on tourism preferences does not last forever and may fade over time. This type of information, however, cannot be obtained using a simple cross-sectional study.

3) Longitudinal country-specific studies assessing the impact of terrorism on tourism based on time series data (Afonso-Rodríguez, 2017; Gut & Jarrell, 2007; Pizam & Fleischer, 2002; Raza & Jawaaid, 2013; Samitas et al., 2018). Raza and Jawaaid (2013) reported a negative impact of terrorism on tourism based on annual data for Pakistan from the period from 1980 to 2010. A similar framework was used recently by Afonso-Rodríguez (2017), or Samitas et al. (2018). Afonso-Rodríguez (2017) analysed quarterly data for Turkey in the period between 1977 and 2014. They reported a negative impact of terrorist attacks on real GDP caused by the reduction of the contribution of tourism on economic growth. This effect could be further exacerbated by potential disruption of economic networks (Foltin, Gontarczyk, Świdorski, & Zelkowski, 2015). Samitas et al. (2018) analysed the monthly data for Greece in the period from 1977 to 2012. They reported that terrorism had a negative impact on tourism in any given period and this relationship is unidirectional, from terrorism to tourism only. On the other hand, Goldman and Neubauer-Shani (2017) suggested that the relationship between terrorism and tourism is reciprocal in a certain way. In their study, they reported a positive correlation between arrivals to a country and the number of terrorist attacks committed by foreigners in the country. The main limitation of longitudinal studies based on data from one country is, nevertheless, the impossibility of assessing compensation mechanisms. As suggested by Araña and León (2008), the reduction of tourism in one destination could be partially compensated by an increase of tourism in other countries which are perceived by tourists as being less dangerous.

4) Panel studies shared the advantages of both longitudinal and cross-sectional studies (Buigut et al., 2017; Drakos & Kutan, 2003; Liu & Pratt, 2017; Saha & Yap, 2014). Panel data contains longitudinal data for multiple countries. One of the first panel studies of relationship

between tourism and terrorism was performed by Drakos and Kutan (2003) who utilized the monthly data for 3 countries (Turkey, Greece and Israel) in the period from 1991 to 2000. They recorded a negative impact of terrorism on tourism. Interestingly enough, the reduction of one country's market share due to the low intensity of terrorist activity (i.e. terrorist attacks without fatalities) led to a significant increase of market shares of the other two countries. This substitution effect, however, was not observed for high intensity terrorist activity (i.e. terrorist attacks with fatalities). More recently, a panel study by Buigut et al. (2017) showed that casualties from terrorism have a significant negative impact on tourism demands based on the panel analysis of 49 destinations and 15 countries of origin for the period from 2010 to 2014. This effect was even stronger when casualties from terrorism are accompanied by a travel warning against visiting the country issued by tourists' home countries. Saha and Yap (2014) used panel data from 139 countries for the period from 1999 to 2009 assessing the influence of terrorism and political instability on tourism. Interestingly enough, they reported political instability as a more important cause of tourism demand reduction. Terrorism in political instable countries, however, led to an additional decrease in tourism. On the other hand, terrorism had no significant negative impact on tourism in countries with low political instability. Liu and Pratt (2017) analysed panel data from 95 destinations in the period from 1995 to 2012. They reported a negative impact of terrorism on tourism, however, only in the short term. In contrast, no significant long term relationship between terrorism and tourism was found. Based on this result, the authors suggested that the demand for international tourism is resilient to terrorism.

As mentioned previously, the negative impact of terrorism on international tourism could be considered a reliably proven fact. However, a few insufficiently resolved issues still remain:

First of all, as was suggested by some authors in the past (Araña & León, 2008; Drakos & Kutan, 2003), there could be a significant substitutional effect between tourist destinations. Gut and Jarrell (2007) later described a significant increase in attendance at Chimney Rock Park immediately after the terrorist attack on September 11, 2001. This increase lasted about 13 months, after which the attendance number decreased to its original level. Gut and Jarrell suggested that this was the result of changes in tourist preferences caused by the terrorist attack. Instead of urban destinations, they pursued rural destinations which they perceived to be safer. Unfortunately, we have practically no information about the exact mechanism of this substitution.

Secondly, not all terrorist attacks have the same effect on tourism. As reported by Drakos and Kutan (2003), the effect size of terrorist attacks significantly depended on the number of

caused fatalities. On the other hand, based on the monthly data of tourist arrivals in Israel from 1991 to 2001, Pizam & Fleischer (2002) suggested the frequency of terrorist attacks to be a better predictor of tourist arrivals than the severity of these attacks. Saha and Yap (2014) suggested that a reduction in tourism caused by terrorism depends on the political stability of the country. They did not observe any significant negative impact of terrorist attacks in destinations with low political instability. Similarly, Thompson (2011) reported that the negative affect of terrorist attacks on tourist arrivals is much stronger in developing countries than developed countries. Walters, Mair, and Lim (2016) noticed that the impact of a disastrous event on tourism demands may be substantially exaggerated by the way it is reported in the media, which tends to dramatize and sensationalize the real impact of the event.

Thirdly, although the negative influence of terrorism on tourism demands may be considered well-evidenced, there is only a limited amount of information about how much time is required so that the number of tourist arrivals returns to its original level. In the year 2000, Pizam and Smith analysed the recovery time after 70 major terrorist attacks that took place between 1985 and 1998 in 28 countries (Pizam & Smith, 2000). They reported the recovery time as less than 7 months in 92.4 % of valid cases.

The aim of our research was to bring new information about the last two from these issues utilizing the tourist arrivals data from Eurostat (2017a) and Global Terrorism Database (GTD) maintained by National Consortium for the Study of Terrorism and Responses to Terrorism (2016). For this reason, a statistical analysis of relative tourist arrivals increments in the months after a terrorist attack was performed.

## **METHODS**

Monthly data from Eurostat (2017a) on the number of arrivals (NARR) of non-residents at hotels and similar accommodations in member countries of the European Union (EU) in the period from January 2003 to December 2016 were used as the measure of international tourism rate. According to the methods used by Eurostat (2017b), 'a person is considered to be a resident in a country (place) if the person:

- has lived for most of the past year or 12 months in that country (place), or
- has lived in that country (place) for a shorter period and intends to return within 12 months to live in that country (place).'

Using tourist arrivals data as a measure of the tourism rate is usual practice in studies of tourism-terrorism relationships (Afonso-Rodríguez, 2017; Buigut et al., 2017; Liu & Pratt,



2017; Saha & Yap, 2014; Samitas et al., 2018). EU member countries (i.e. Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden and United Kingdom) were selected because in all cases, these countries have politically stable regimes. The reason for their selection was the effort to eliminate the effect of political instability on tourism as reported by Saha and Yap (2014). The period from 2003 to 2016 was chosen since we wanted to eliminate the short term effect of the terrorist attack on September 11, 2001 in the US. This attack was extraordinary in the number of casualties and media response throughout the world, which without any doubt, significantly influenced the global tourism market negatively as was repeatedly reported (Araña & León, 2008; Goodrich, 2002; Korstanje & Clayton, 2012).

The Global Terrorism Database (National Consortium for the Study of Terrorism and Responses to Terrorism, 2016) was used as a source of data for terrorism activities in EU member countries. As the results of Drakos and Kutan (2003) and Saha and Yap (2014) suggest, a terrorist attack with a higher degree of lethality has a more negative impact on tourism in developed countries. For this reason, only terrorist attacks leading to three or more fatalities were selected for statistical analysis. Subsequently, three overlapping groups of terrorist attacks were defined: 1) terrorist attacks causing three or more fatalities; 2) terrorist attacks causing five or more fatalities; 3) terrorist attacks causing ten or more fatalities.

The validity of data in the GTD about selected terrorist attacks was manually verified based on information published in open sources, particularly websites of news portals such as CNN (2018), BBC (2018) or France24 (2018). In all cases, the numbers of fatalities reported in the GTD and news reports were the same or slightly differed, however, in such a way that did not affect categorization of the terrorist attack. For each selected terrorist attack, the media impact of the attack was added. The media impact was assessed based on the number of search results in the Google search engine (Google, 2018) with region set to 'United Kingdom'. The keywords in the format 'country month year terrorist attack' were typed into the search engine for each terrorist attack, e.g. 'France November 2015 terrorist attack' for terrorist attacks committed in Paris in November 2015.

Subsequently, the monthly data in the selected period were indexed chronologically from January 2003 ( $I = 1$ ) to December 2016 ( $I = 168$ ) to obtain the time variable. For each terrorist attack, differences in relative tourist arrival increments (DIFINC) were calculated for the month when the attack was committed and eight successive months according to the equation

$$\text{DIFINC}_{a,t} = \text{RELARR}_{a,t} - \text{REF}_a, \quad (1)$$

where  $a$  in  $A = \{1, 2, \dots, 168\}$  is the time in months when the terrorist attack was committed,  $t$  in  $T = \{a+0, a+1 \dots, a+8\}$  the time in months for which DIFINC is calculated,  $\text{RELARR}_{a,t}$  relative number of tourist arrivals for time  $t$  and terrorist attack committed in time  $a$ , and  $\text{REF}_a$  reference relative number of tourist arrivals for terrorist attack committed in time  $a$ .  $\text{RELARR}_{a,t}$  was calculated using the equation

$$\text{RELARR}_{a,t} = \frac{\text{ARR}_t - \text{MARR}_{a,t}}{\text{IQR}_{a,t}}, \quad (2)$$

where  $\text{ARR}_t$  is the number of tourist arrivals in time  $t$ ,  $\text{MARR}_{a,t}$  the median of the number of tourist arrivals for time  $t$  and terrorist attack committed in time  $a$  and  $\text{IQR}_{a,t}$  interquartile range for the number of tourist arrivals for time  $t$  and terrorist attack committed in time  $a$ .  $\text{MARR}_{a,t}$  and  $\text{IQR}_{a,t}$  were computed based on all values of the number of tourist arrivals for the period from January 2003 to December 2016 corresponding to the value of month in time  $t$  except for the  $\text{ARR}_t$  value, i.e.

$$\text{MARR}_{a,t} = \text{median} \left\{ \text{ARR}_i \mid \frac{t-i}{12} \in \mathbb{Z} \wedge i \in A \wedge i \neq t \right\}, \quad (3)$$

$$\text{IQR}_{a,t} = \text{IQR} \left\{ \text{ARR}_i \mid \frac{t-i}{12} \in \mathbb{Z} \wedge i \in A \wedge i \neq t \right\}. \quad (4)$$

Therefore, the values of  $\text{MARR}_{a,t}$  and  $\text{IQR}_{a,t}$  are independent of the value of  $\text{ARR}_t$ , because  $\text{ARR}_t$  is not included in  $\text{MARR}_{a,t}$  and  $\text{IQR}_{a,t}$  calculation. Finally,  $\text{REF}_a$  is the median of relative tourist arrivals in the three months prior to the terrorist attack committed in time  $a$ , i.e.

$$\text{REF}_a = \text{median} \left\{ \text{RELARR}_{a,i} \mid a-i \in \{1, 2, 3\} \right\}. \quad (5)$$

This method of REF calculation was chosen to prevent biasness of the results caused by an irregular increase of tourist arrivals associated with hosting some kind of extraordinary event, such as the FIFA World Cup in the country.

One-tailed Wilcoxon signed rank test was used to test null hypothesis

$$H_0: \text{DIFINC}_{a,t} \geq 0 \quad (6)$$

with the alternative

$$H_A: \text{DIFINC}_{a,t} < 0, \quad (7)$$

which corresponds to the decrease in relative tourist arrival increments. The differences in DIFINC values were assessed for the month when the terrorist attack were committed as well as for eight consecutive months. To be able to use this procedure, only terrorist attacks committed in the period from April 2003 to April 2016 were considered. Spearman's rank correlation coefficient was utilized to assess the relationship between the number of fatalities and media impact of the terrorist attack. All statistical calculations were performed in R software (R Core Team, 2017).

Three hypotheses were tested using the described methods:

*H<sub>1</sub>: Terrorist attack causing three or more fatalities has a negative impact on DIFINC values in the months after the attack.*

*H<sub>2</sub>: Terrorist attack causing five or more fatalities has a negative impact on DIFINC values in the months after the attack.*

*H<sub>3</sub>: Terrorist attack causing ten or more fatalities has a negative impact on DIFINC values in the months after the attack.*

## **RESULTS AND DISCUSSION**

A list of terrorist attacks committed in the EU in the period from April 2003 to April 2016, which caused three or more fatalities, is shown in Table 1. As can be seen, the media impact of the terrorist attacks was moderately correlated with the number of fatalities ( $R_s = 0.511$ ,  $p = 0.108$ ). This result indicates that the perception of the severity of terrorist attacks is to a certain extent determined by the real number of fatalities, however, other factors also have an impact, e.g. the country where the terrorist attack was committed, the time elapsed from the attack etc. In Table 2, medians of DIFINC values calculated separately for each category of terrorist attacks are given for each month when terrorist attacks were committed, as well as for eight successive months. As can be seen, any negative impact of terrorist attacks was not found in the first and second category, where all attacks causing at least three, resp. five fatalities were included. In contrast, the medians of DIFINC values for the third category, which includes only the terrorist attacks causing at least ten fatalities, were relatively high and negative for two months after the terrorist attack. In the second month after the attack, the decrease in the relative number of tourist arrivals was the highest (DIFINC = -0.73).

Although, the validity of any of the three hypotheses of the negative influence of the most severe terrorist attacks on relative tourist arrivals increments could not be proven statistically,

these results indicate that terrorist attacks with high lethality may have a negative impact on tourism even in developed countries. This finding corresponds with the findings of Drakos & Kutan (2003), who reported that terrorist attacks causing more fatalities had a greater impact on the market share on tourism in the cases of Greece, Turkey and Israel. On the other hand, this is in contrast with the suggestion made by Pizam and Fleischer (2002), who reported the frequency of terrorist attacks were the better predictor of tourist arrivals than the severity of these attacks in the case of Israel in the period from May 1991 to May 2001. However, this case is very specific in some ways: 1) The analysed period from 1991 to 2001 preceded the September 11, 2001 terrorist attack. The intensity, frequency, ideological frame, as well as the technique of the terrorist attack, however, changed significantly after September 11, 2001 as was documented by Hamm and Spaaij (2015) for lone wolf terrorists in the USA; 2) In contrast to many EU countries, Israel has been exposed to terrorism for a much longer time with a much greater intensity. This fact may significantly modulate the risk perception of terrorist attacks committed in Israel; 3) As noted by Drakos and Kutan, Israel is a very specific destination containing 'holy sites for three major religions (Judaism, Islam, and Christianity), and therefore tourism flows might be relatively inelastic because close substitutes do not really exist' (Drakos & Kutan, 2003, p. 634).

Similar research was performed by Thompson (2011) based on data from 60 countries. He also used a number of incidents as a measure of terrorist activity. He recorded a decrease of tourist arrivals due to terrorist intensity, which was very distinctive in developing countries. A decrease in the number of tourist arrivals was reported as well for developed countries, although it was substantially smaller and statistically insignificant in this case. This finding brought Thompson to suggest that 'tourism is affected more by terrorism in less developed countries' (Thompson, 2011, p. 698). This is expected because developed and politically stable countries have more instruments to lower the negative impact of terrorist activity on tourism. In our study, we used data from countries in the European Union, which may be considered as both developed and politically stable. The obtained results indicate that terrorist incidents affect tourism even in developed and politically stable countries. However, the frequency of terrorist attacks seems not to be a decisive factor, because only the most lethal terrorist attacks have the potential to negatively influence the tourism in these countries.

**Table 1** Summary of included terrorist attacks

<b>time</b>	<b>country</b>	<b>nkill<sup>a</sup></b>	<b>media impact<sup>b</sup></b>	<b>short summary<sup>a</sup></b>
03/2004	Spain	191	1 370 000	Coordinated bombing attacks against four commuter trains in Madrid, Spain on March 11, 2004. Abu Hafis al-Masri Brigades, a group said to be associated with Al-Qaida, claimed responsibility for the attack, stating that it was retribution for Spain's cooperation with the United States in the Iraq War.
07/2005	United Kingdom	52	2 030 000	Four bombers detonated themselves inside three trains and one double-decker bus on July 7, 2005. Abu Hafis al-Masri Brigades and the Secret Organization of al-Qaeda in Europe both claimed responsibility, although it is generally believed that the claim by Abu Hafis al-Masri Brigades was not credible.
11/2007	Finland	8	660 000	A student carried out a school shooting in Jokela, Finland on July 11, 2007. He killed seven students, a teacher, and himself with a handgun.
05/2009	Netherlands	6	1 080 000	Seven people were killed, including the driver and 12 people were injured when a man aimed his car into a crowd of civilians attending a festival for the royal family in Apeldoorn, Gelderland, Netherlands on May 1, 2009. The target of the attack was a bus carrying the Queen and her family, but the car was stopped 15 yards from the bus. The 38 year old male driver was identified as Karst Tate, and is said to have acted alone and his motive for the attack was unknown.
03/2012	France	8	1 530 000	Mohammed Merah, a French citizen of Algerian descent, shot three uniformed soldiers in Montauban, France on March 15, 2012 and four people, including children, were shot and killed outside a Jewish school in the city of Toulouse in France on March 19, 2012.
07/2012	Bulgaria	6	449 000	A suicide bomber detonated an explosive device on a bus of Israeli tourists in Burgas city, Bulgaria on July 18, 2012. At least six of the passengers died and 30 were injured in the attack. Hezbollah claimed responsibility for the incident.
05/2014	Belgium	4	1 560 000	Assailants opened fire on visitors of the Jewish Museum in Brussels, Belgium on May 24, 2014. At least four people, including two Israeli tourists, a French tourist, and a Belgian museum worker were killed in the assault. Mehdi Nemmouche, an Islamic State of Iraq and Levant (ISIL) member who had recently returned from Syria, claimed responsibility for the attack.
01/2015	France	17	3 760 000	Two assailants stormed the offices of Charlie Hebdo, a satirical magazine, in the 11th arrondissement of Paris, France on January 7, 2015. The attackers opened fire on journalists and building security. During the attack and subsequent events, 17 persons were killed. Al-Qaida in the Arabian Peninsula (AQAP) claimed responsibility for the incident, stating that the attack was in retaliation for the magazine's depiction of the Prophet Muhammad.
10/2015	Sweden	3	1 090 000	An assailant armed with a sword attacked students and teachers at the Kronan School in Trollhattan, Sweden on October 22. At least four people, including two teachers, one student, and the assailant, were killed and another student was wounded in the incident. The assailant, identified as Anton Lundin-Pettersson, claimed responsibility for the attack and stated that he was opposed to the immigration policies in Sweden.
11/2015	France	130	1 770 000	Eight coordinated attacks including the Bataclan shooting were carried out in Paris on November 13, 2015. The Islamic State of Iraq and the Levant (ISIL) claimed responsibility and stated that the attacks were carried out in retaliation for France's participation in the United States-led coalition that carried out airstrikes on ISIL targets in Iraq and Syria.
3/2016	Belgium	32	1 760 000	Two suicide bombers with explosives-laden suitcases detonated themselves at a check-in counter at Brussels Airport in Zaventem, Flemish Brabant, Belgium, and one suicide bomber detonated himself at the Maalbeek Metro Station in Brussels, Belgium.

*Note.* a – information taken from GTD (National Consortium for the Study of Terrorism and Responses to Terrorism, 2016), b – number of search results using Google Web Search (Google, 2018)

**Table 2** Medians of differences in relative tourist arrivals increment (DIFINC) in the months after the terrorist attack was committed

time after attack (months)	TA <sub>F≥3</sub> (n = 11)		TA <sub>F≥5</sub> (n = 9)		TA <sub>F≥10</sub> (n = 5)	
	DIFINC	P value	DIFINC	P value	DIFINC	P value
0	0.05	0.62	0.05	0.63	0.05	0.41
1	0.06	0.42	0.23	0.54	-0.33	0.16
2	0.08	0.48	0.08	0.5	-0.73	0.22
3	0.11	0.58	0.11	0.46	0.11	0.41
4	0.03	0.48	0.05	0.82	0.05	0.59
5	0.07	0.55	0.18	0.71	0.07	0.41
6	0.13	0.79	0.13	0.82	0.81	0.59
7	0.25	0.94	0.25	0.95	0.13	0.84
8	0.09	0.77	0.09	0.79	0.04	0.78

*Note.* P values based on one-tailed Wilcoxon signed rank test, TA<sub>F</sub> – terrorist attacks with F fatalities, n – number of cases

The second significant finding of our study relates to the recovery time, which is necessary for returning the number of tourist arrivals to its original rate. Pizam and Smith (2000) analysed the recovery time after 70 major terrorist attacks and reported recovery time less than 7 months in 92.4 % of valid cases. As can be seen in Table 2, the negative impact of the terrorist attacks from the third group with at least ten fatalities is apparent only for two months after a terrorist attack, where the DIFINC values were negative. After then, the DIFINC values turned slightly positives. However, in the analysed period, there were only 5 terrorist attacks which fell into this group and in all cases the P values were higher than the selected significance level of 0.05. Therefore, the result cannot be considered conclusive. Moreover, on the basis of such a limited sample size, the mean duration of the negative impact of these attacks cannot be determined with sufficient precision.

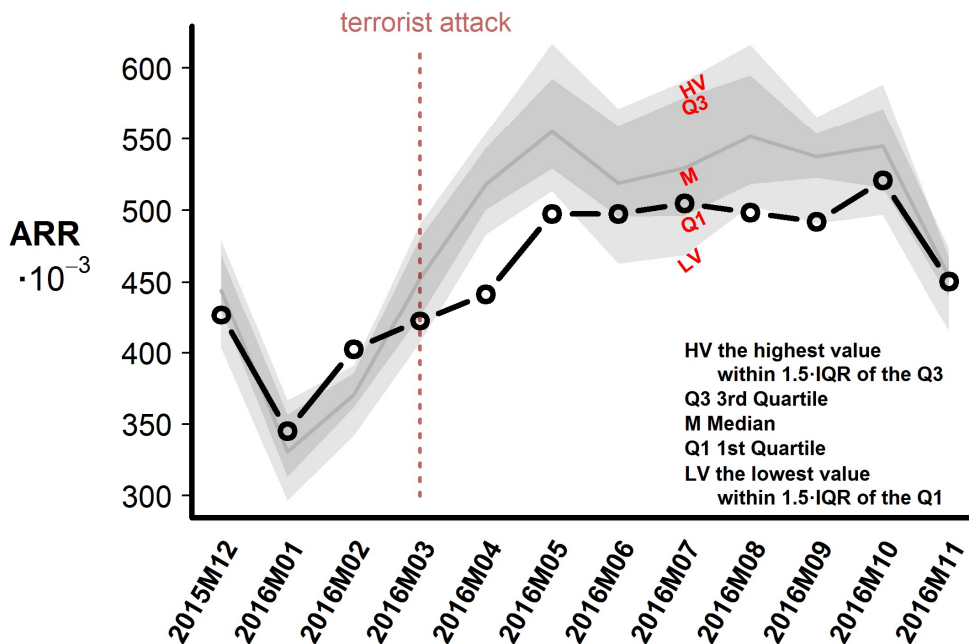
The effect of terrorist attacks with high lethality on tourism may be demonstrated in the case of the Brussels bombings attack that was committed on March 22, 2016 in Brussels, Belgium, which was aimed at Brussels airport in Zaventem and Maalbeek metro station. The terrorist attack resulted in 32 fatalities and more than 300 wounded persons. As can be seen in Figure 1, two months prior to the attack, the number of tourist arrivals was above the median. However, immediately after the terrorist attack, a visible decrease in tourist arrivals occurred. This decline resulted in a situation when the number of tourist arrivals in the two months after the attack (April and May) fell significantly below the long-term minimum for these months. The remainder of the tourism season was also below the long-term median, however, the values were in common variability.

Even though there are several publications dealing with the negative impact of terrorist activity on tourism, only a few studies discuss the measures that can be adopted to make the

tourism industry more resilient to terrorism. In 2001, Faulkner noticed that in spite of the high vulnerability of the tourism industry to disasters, very little research on the responses by the tourism industry and government agencies for coping with these disasters had been conducted (Faulkner, 2001). Until then, however, few instructive studies had been published.

As was demonstrated by several studies (Gurtner, 2016; Pizam & Smith, 2000), the negative effect of an terrorist attack on tourism demands is usually not permanent, but only temporary. As reported by Pizam and Smith (2000), the recovery time doesn't usually exceed six months. However, appropriate crisis management can significantly mitigate the impacts in at least three ways: 1) shorten recovery time; 2) reduce the immediate decline of tourist demands and 3) prevent the collapse of tourism and travel industry facilities. Two main approaches to crisis management in tourism can be distinguished: 1) a reactive approach aimed at mitigation of the disaster's impact and the rebuilding as quickly as possible of the destination image and 2) a proactive approach emphasizing the importance of prevention and preparedness for the disaster.

**Figure 1** Number of tourist arrivals (ARR) for three months before and eight months after the terrorist attack committed on March 22, 2016 in Brussels, Belgium



Source of data: Eurostat, 2017a)

The first reaction to a terrorist attack or a terrorist attack attempt is usually the enforcement of security measures. Goodrich (2002) analysed the security measures affecting tourism which was adopted in the USA after the terrorist attacks on September 11, 2001. These measures

included an increase in the number of security personnel at airports, intensification of personal and luggage checks at airports, investments in scanners able to detect explosives at airports, reinforcement of security personnel, and installation of more surveillance cameras in buildings such as hotels, bus stations or museums, strengthening border surveillance or investments in automatic face recognition technology. However, these measures are primarily focused on the increase of security. Although they may possibly lower the risk perception in tourists and thus mitigate the impact of crises and shorten recovery time, they cannot resolve immediate problems of organizations involved in the tourism sector, who lose a significant part of their income.

As suggested by Crawford (2012), a tourist's willingness to travel is determined not only by the perceived risk, but also by the perception of benefits. Based on this assumption, Crawford recommended to tourism stakeholders such as accommodation providers or transport providers, "to immediately cut prices during the recovery phase after a terrorist crisis in a host destination". Although this measure is capable of reducing the decline in tourism demands and shorten the recovery time, in the long run it would undoubtedly lead to the collapse of a large number of providers that are otherwise not supported by the government. Blake and Sinclair (2003) evidenced sector-specific targeted subsidies and tax reductions to be the most effective government measures for dealing with the downturn in the tourism and transport sectors in the US after September 11, 2001.

Regarding the pro-active approach, Paraskevas and Arendell (2007) and later Paraskevas and Altinay (2013) highlighted the role of crisis signals detection in the prevention of crises in the tourism sector. Paraskevas and Altinay (2013) distinguish three stages of the signal detection process: 1) scanning for signals; 2) signal capture and 3) signal transmission. The scanning phase should be performed by all stakeholders of the tourism sector. Its effectiveness is largely influenced by personal features such as education, experience or intuition especially by employers of organizations involved in the tourism sector, such as accommodation providers, tour operators or entertainment providers. Once the signal is scanned, the relevant signal must be recognized from noise. When the relevant signal is captured, it must be transmitted from organizations to 'those with the mandate of launching responsive measures' (Paraskevas & Altinay, 2013, p. 162). For successful transmission of a signal, the communication and cooperation between critical stakeholders of the tourism sector is required. The strategy for crisis signal detection is based on the assumption that many crises are preceded by some detectable signals. The question remains, however, how predictable terrorism-induced crises are. The crisis signal detection process should be accompanied by operational risk



assessment of terrorist attacks using standardized method (e.g. Štěpánek, Urban, & Urban, 2013).

## CONCLUSIONS

The impact of terrorist activities on international tourism in developed countries with politically stable regimes is undoubtedly not as significant as was repeatedly reported for politically instable developing countries. Obtained results suggest, however, that even developed countries may be affected in a similar way when an extremely severe terrorist attack occurs, such as the terrorist attack committed in Brussels on March 22, 2016. Nevertheless, their effect on relative tourist arrival increments could not be statistically proven due to the limited number of these types of terrorist attacks in the European Union in the selected period from April 2003 to April 2016. This study may serve, however, as a basis for further research of the effect of terrorist attacks on international tourism in developed countries. Based on the obtained results, the research should focus on the deadliest terrorist attacks in the case of developed and politically stable countries. Additional data will be required for the final assessment of the impact of terrorism on tourism in these countries. Data from other developed countries with politically stable regimes outside the European Union such as United States, Canada or Australia may be utilized in order to obtain decisive evidence of the impact of terrorist attacks on tourism, and gain more details about its extent. Only on the basis of this information will it be possible to suggest an optimal strategy for coping with terrorist threats to international tourism in developed countries. In general, however, adoption of crisis management procedures for the reduction of risk of a major terrorist attack or its negative impact on tourism, such as enforcement of security measures, government subsidies for the tourism sector during the recovery phase after the terrorist attacks, crisis signal detection or operational risk assessment, may be recommended.

## Acknowledgements

The first author has been supported by the Ministry of Education, Youth and Sports of the Czech Republic (project Resilience of soft targets against violent attacks, no. SV18-FVL-K106-BŘE).

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## **DEVELOPMENT PROCESSES OF REGIONAL CENTRES IN CENTRAL AND SOUTHEAST EUROPE - FROM STATE SOCIALISM TO DEPENDENT MARKET ECONOMIES**

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**Cite this article:** Rác, S. (2019). Development Processes of Regional Centres in Central and Southeast Europe - From State Socialism to Dependent Market Economies. *Deturope*, 11(2), 92-100.

### **Abstract**

The background of the current research is that despite the existence of a vast amount of literature devoted to the study of post-socialist transition processes, there is a relative scarcity of international comparative analyses on Central and Southeast European metropolises. The research seeks to explore FDI-driven transformation and development processes in Central and Southeast European regional centres in the post-transition period. The geographical focus of the analysis is limited to Central and Southeast European post-socialist states, while the scale of the analysis targets the metropolitan and regional level. The present study provides a brief summary of the first phase of the research constituted by literature review.

Keywords: urbanization, urban functions, global cities, FDI, Central Europe, Southeast Europe

### **INTRODUCTION - TRENDS IN URBAN DEVELOPMENT**

As a basic point of departure of the research, a review of global trends of urban development and urbanization was performed relying on the latest prognosis of the UN (2018). Currently 55% of the global population live in cities, a process which is likely to unfold on all continents and expected to rise to 68% by 2050. However, urbanization trends on the different continents reveal spectacular differences, with appr. nine-tenth of extensive urban growth occurring in the least urbanized continents of Asia and Africa. Albeit certain regions and cities show reverse tendencies with the share of urban population stagnating or decreasing, this will not affect the overall urbanization rate due to a more significant decline of the rural population (UN, 2017). According to the summary of the UN prognosis more densely populated Eastern-European countries (Poland, Romania, Russia, Ukraine) fall into this latter category, while Central and Southeastern European countries covered by the current research - including those with a significant Albanian population – are characterized by similar unfavorable demographic tendencies.

This points to significant modifications in the hierarchical ranking of the world's cities by population size as well as geographical position, increasing the relative marginalisation of Central and Southeast European cities in global terms, while conserving their relative pre-eminence in their respective states and regions due to their population retention capacity exceeding by far that of rural areas. The morphology and physiognomy of cities affected by the above-mentioned processes will also be subject to profound transformation. Urban population growth will be heterogeneous both in qualitative and quantitative terms, the only common feature being the challenge arising from the growing percentage of urban dwellers. The management of population decline in macroregions remains a significant challenge.

### **THEORETICAL BACKGROUND - GLOBALIZATION AND METROPOLIZATION**

The next step of the current research was to investigate the interaction between globalization and urban development processes. In the so-called postindustrial era, the geographically disparate elements of competitive corporate structures are organized into global networks. This not only applies to business services and the most advanced industrial sectors, but traditional productive sectors as well. This kind of internationalism is typical of almost every sector and is also manifest in interurban relationships. An unprecedented extension of various global networks (Friedman, 2005) characterises the various-level nodes of these structures constituted by cities integrating into these systems (Florida, 2005).

These cities are classified by literature as international city, global city, metropolis, global financial centre, etc. All of these titles indicate the presence of a trans-continental network and power position. At the summit of the global city hierarchy and the centre of international networks are metropolises concentrating a significant share of the population, economic activities and institutions. Not every (ten-million) megacity is a world city, and vice versa, world cities are not necessarily the largest cities. However, in the highest categories in functional and demographic terms distinctions tend to disappear. Hence, size (city, agglomeration, national economy) is a factor of outstanding significance, and as such, deserves special emphasis in the study of global network positions and future opportunities of Central and Southeastern European cities.

### **GLOBAL URBAN FUNCTIONS**

The nodal points of the global economy are constituted by world cities, in other terms, the global economy is controlled by the most significant companies and institutions via their

headquarters located in world cities (Vitali, Glattfelder, & Battiston, 2011). While the position of leading global cities (London, New York, Tokyo) is remarkably stable, the network of metropolises is subject to continuous expansion and restructuring, fluctuating in line with the shifting foci of the global economy (Beaverstock, Taylor, & Smith, 1999). A crucial change of the past three decades was the integration of BRIC countries with extensive domestic markets and foreign direct capital-driven post-socialist states into the global economy whereby capital cities and certain gateway cities were able to improve their positions on various metropolitan ranking lists.

Since the 1980s there has been a fundamental change occurring in the global economy also affecting metropolitan hierarchies. The main drivers of this transformation process (globalization) are among other factors new industries and innovations, falling transportation costs, the Internet, the explosive development of the postindustrial economy and financial markets, various free trade agreements, and supranational integrations. This change also affected world city concepts and nomenclature. The term „metropolis” in use since 1915 gained momentum with the growth of multinational companies, enabling the identification of cities commanding the global economy through a registry of multinational companies. The most seminal contribution in the field was written by Peter Hall (1966) whose quantitative grounding was attributed to John Friedmann (1986).

The term „global city” can be traced back to the high impact book of Saskia Sassen (1991) whose conscious choice of the term indicates the novelty of the approach (Derudder, 2006). Global leadership position is no longer measured in terms of the concentration of multinational companies producing tangible goods in global city regions, that is, traditional economic power. In the era of globalization, the most modern global city functions rely on a network of advanced producer services (APS), and these specialized and advanced service companies prefer locating in business districts and city centres.

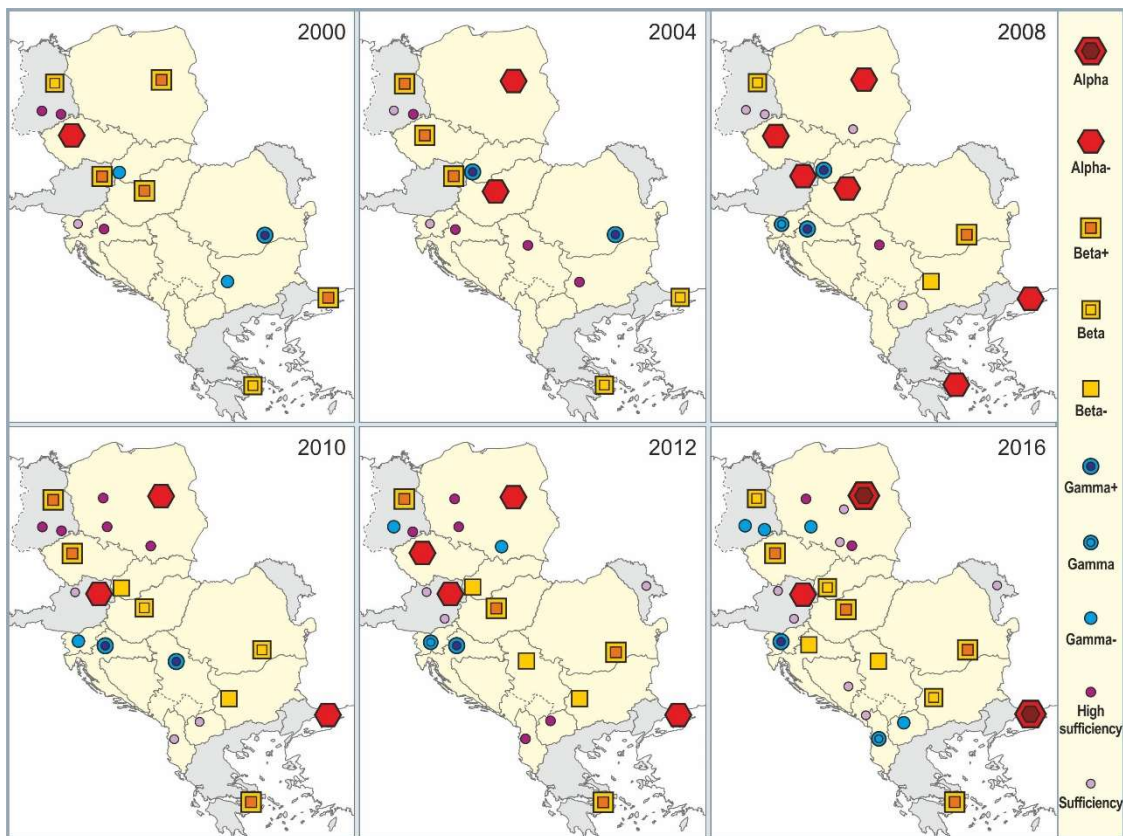
The quantitative bases of the global cities of Sassen were developed by Beaverstock et al. (1999) – through an assessment of four APS services (accounting, advertisement, banking and legal). The global city ranking list grounded on the methodological base dating back to the millennium is periodically published by the Globalization and World Cities Research Network (GaWC).

## RESULTS

From the perspective of the current research, the emergence of Central and Southeastern European capital cities on the ranking lists of world cities, more specifically, at their middle

and lower tiers, is of paramount importance. Figure 1 indicates that the development of capital cities in the region has a global impact, according even to the most recent global city approach. The figure also reveals that in post-socialist Central and Southeastern Europe only capital cities are featured on these lists, the only exception being Poland the country with the largest population. Eastern German and Austrian cities and cities on the edge of the Balkan Peninsula are presented in Figure 1 as reference points.

**Figure 1** GaWC cities in Central and Southeast Europe, 2000–2016



Source: Author's own construction based on GaWC (2018) data

Below are some summary statements also taking into account the related researches of Csomós (2017) and Döbrönte (2018). Capital-city-centricity can also be demonstrated by the extension of the geography of APS-offices to cities hosting at least one such company. Huge disparities characterise capital cities and second-tier cities in terms of the number of offices (Tab. 1).

Appr. 80-90% of the examined APS offices (TOP50 consulting, auditing, advertising, banking, legal services) are located in central regions in Bulgaria, Croatia, Hungary and Slovenia. Their spatial distribution is somewhat less concentrated (74-78%) in the Czech



Republic, Romania and Slovakia. Polycentricity is evident only in the case of Poland where 52% of APS offices operate in Warsaw.

**Table 1** Geography of the leading APS companies' office network in the CEE, 2015

	Cities with APS offices	Total number of APS offices	APS offices in					
			Capital city	%	Second-tier APS city	%	Other cities	%
Bulgaria	4	39	33	84,6	4	10,3	2	5,1
Czech Republic	7	76	56	73,7	8	10,5	12	15,8
Croatia	5	43	36	83,7	2	4,7	5	11,6
Poland	16	133	69	51,9	13	9,8	51	38,3
Hungary	6	53	47	88,7	2	3,8	4	7,5
Romania	7	62	47	75,8	6	9,7	9	14,5
Slovakia	7	46	36	78,3	5	10,9	5	10,9
Slovenia	4	26	23	88,5	1	3,8	2	7,7
Total	56	478	347	72,6	41	8,6	90	18,8

Source: Author's own calculation based on Csomós (2017) data

Second-tier cities are privileged location sites for leading business service companies (auditing, consulting, banking) with market acquisition strategies oriented at the Central and Eastern European region. APS companies are characterised by a different location strategy: companies with relatively few offices either operate a single Central European headquarter or show a unique preference for capital cities of larger countries. The construction may also differ, for instance, in the case of legal services, service provision may be contracted to a local partner replacing the need for an own office network. The size (population, market) of regional centres of Central and South-Eastern Europe may also be serious limiting factors. The global economic integration of FDI-driven medium-sized cities which provide a much too narrow market for APS companies is ensured by multinational manufacturing firms. Nevertheless, the presence of APS offices indicates a certain degree of embeddedness of the respective cities in global networks.

## DISCUSSION - POLITICAL AND URBAN GEOGRAPHY

The past three decades have brought about substantial changes across Central and Southeastern Europe. Transition to the market economic has fundamentally transformed the social, economic and political structure of each country (Enyedi, 1998; 2012). In some of the post-socialist

countries, the transformation has fostered an almost comprehensive restructuring of the state and state territory. As a crucial aspect of the changes, private initiatives have replaced a highly centralized and party based system of decision-making, internal and external capital have gained an essential role in shaping economic decisions and the employment opportunities of the population. These processes were not primarily linked to the settlement network, however, each aspect of the transformation contributed to shaping indirectly and in many respects, directly the life of settlements and the evolution of network relations. From the aspect of the post-regime change evolution of the settlement network, the emergence of new states and new capital cities is of paramount significance, akin to positive changes in the permeability of state borders and the emergence of the new neighbourhood (Hajdú, Horeczki, & RÁCZ, 2017). Significant disparities between cities and various groups of cities have emerged in each of the countries. Spatial processes were fundamentally defined by the urban network and the focus of EU regional policy and development policy has also shifted to metropolises. Transformation processes have primarily affected capital city and metropolitan functions. Therefore, the analysis is focused on the latter two settlement categories - despite the original plan of the author to omit capital cities, an idea which he abandoned later.

### **POLITICAL ECONOMY**

In the course of the past three decades, Central and Southeastern Europe has witnessed a particularly dynamic transformation process. Central Europe has emerged as a winner of global industrial relocation processes, industrial decline (Lux, 2017) was followed by reindustrialisation, while economic restructuring produced a multi-layered spatial structure. According to Gál and Schmidt (2017), the main specifics of the transition model include a double shift in ownership structure (from state to private, from domestic to foreign) and a double shift in the system model (from state socialism to market capitalism, from industrial capitalism to financialized capitalism). The region's externally driven and financed global economic integration was not the result of bottom-up development, which led to the proliferation of literature challenging core ideas of mainstream theories or presenting their variable geo-economic framework conditions referred to as externally-driven capitalism or the dependent market economy model (Nölke and Vliegenthart, 2009). While FDI was the dominant foreign capital type in the first phase of the transition (privatization), foreign bank capital took over the predominant role of FDI at the turn of the millennium. The unfolding of this process was spatially uneven since capital cities, port cities and western regions adjacent to EU Member States were seen to provide profitable investment opportunities by investors in

the first round. Initially, investments targeted only a small number of cities and regions, hence, economic growth was also concentrated in these areas, providing them a source of relative advantage. The global economic crisis has impacted this trend, without, however reversing long-term tendencies. The penetration of advanced services follows the urban hierarchy and in the bulk of the states this sector is concentrated in the capital city. The dominance of capital cities and city regions is a well established fact. In smaller countries, or in the case of central location, the role of capital cities cannot be overstated. In addition, there is a substantial difference in size between capital cities and second-tier cities in every respect (Hajdú et al., 2017). For supply-driven vertical investments, the main attracting factor in capital cities is the large supply of suitable workers (Hardy et al., 2011; Gál & Kovács, 2017). One-tenth of the hundred investigated cities are FDI-driven vehicle industrial cities characterised as successful (or fortunate), which underlines the importance of their individual study (Rechnitzer, 2014). In future research will be important to present the specificities of FDI in the service sector, because nearly 70% of FDI has been invested globally in the service sector since the turn of the millennium, and APS companies in Central and Eastern Europe are subsidiaries with Foreign Direct Investment.

## CONCLUSION

World cities constitute the nodal points of the global economy. While the position of leading cities is remarkably stable, the network of world cities is subject to continuous extension and geographical restructuring. The gradual global economic integration of post-socialist cities has been a dominant process characteristic of the past three decades. In each of the countries included in our research, the development paths of the capital city and the rest of the cities are highly divergent. This is a natural phenomenon considering that the „space of flows” of the global economy is constituted only by a limited number of prominent nodes. Balanced (polycentric) development in the various countries requires long-term investments in the development of national urban networks. However, the development and size of a national economy, the specificities of the urban network and regional disparities crucially impact the efficiency of these measures. The integration of FDI-driven cities into the global economy is ensured by multinational manufacturing companies. While only a limited number of APS offices are located outside capital cities, their presence clearly indicates a certain degree of embeddedness of these cities in global networks. In addition to their nodal character, these cities also play a crucial role in the creation of networks. Besides their external, intercontinental

relations, these cities also place a crucial emphasis on their internal, local networks and assets, since they regard mutually advantageous linkages with their immediate and integrated environment and agglomeration as a key factor of competitiveness. Global economic integration is realized gradually and sporadically, with spaces unaffected by the movement of FDI. An increase of spatial inequalities is a natural byproduct of the era of integration into international networks. However, the past decade has seen a reevaluation of the role of the FDI due to the growing geo-economic dependence of the region on foreign capital and global value chains, which exposed systemic vulnerability and the inability of FDI to reduce the development gap between Western and Eastern Central Europe. The global economic crisis was not the main driver, but merely an aggravator of the systemic vulnerability of the dependent market economy model based essentially on foreign-owned export industries and low wages. Our general findings will also be tested in the next phase of the research focusing on the examination of individual urban development paths.

#### Acknowledgement

Research for this publication is supported by the ÚNKP-18-4 New National Excellence Program of the Ministry of Human Capacities (Bolyai+ scholarship).

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## COMPARATIVE ANALYSIS OF THE SUSTAINABLE DEVELOPMENT STRATEGIES AND INDICATORS OF THE V4

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**Cite this article:** Kozma, D.E. (2019). Comparative Analysis of the Sustainable Development Strategies and Indicators of the V4. *Deturope*, 11(2), 101-120.

### Abstract

With the explosive growth of mankind and as a result of the escalating migration wave the European Union attaches greater importance to sustainable development and sustainability. In my study within the European Union, I examine the countries of the Visegrád Four in terms of sustainability. The Visegrád countries (also known as V4) have gone through great changes during the last two decades in case of economic, social and environmental perspectives equally. Incorporating these factors into their sustainable development strategy and their indicator system has been implemented in different ways which can be seen from the year of the development of the strategies. The four countries are investigating great power in sustainable development, so it is essential to examine how the V4 countries could incorporate and apply the goals of sustainable development (EU SDG) and its indicators into the lives of the citizens and in the policies. The most important goal of my study is to identify the similarities and differences in the application of the sustainable development framework strategy and indicator system of the surveyed countries. Do we find any difference from the EU indicators or they are the same in one? I apply a comparative analysis to the illustration that is best able to show the intended purpose. My hypothesis is the following: *none of the surveyed Visegrád countries has taken over the European Union's Sustainable Development Indicator System or the SDG indicators*. In the first part of the study the EU and country strategies are analyzed while the second part is the analysis of the indicators/indicator systems. The information which is required for the comparison is provided by the European Union, the Czech Republic, Hungary, Poland and Slovakia's Statistical Offices.

Key words: Visegrád Four, EU, sustainable development, indicator, indicator system

### INTRODUCTION

If we think about what sustainable development, sustainability concepts mean, when they were first used and under which circumstances developed, we may not be able to give the first thought the answer of these questions. We must go back to history. Rachel Carson, American naturalist, published the first conception of environmental crisis awareness in 1962 in the *Silent Spring* (Bartus & Szalai, 2014). The next step was made by the Club of Rome (*The Limits to Growth*). Their primary purpose was to draw attention to problems in the environment, to examine them and try to develop a solution (Rosta, 2008).

The first solution was set up at the 1972 Stockholm Conference (UN Conference on the Human Environment), which adopted a Declaration on the Principles of Environmental

Protection and international tasks. As a result of this, change of attitude has taken place (Láng, 2001). The formation of sustainable development concept and definition were connected with the United Nations Commission on Environment and Development (Brundtland Commission). First appeared in 1987 in *Our Common Future*. The concept was determined as follows: *“Development which meets the needs of current generations without compromising the ability of future generations to meet their own needs.” (WCED, 1987)*. In essence, the work of Brundtland Commission has brought a breakthrough success in sustainability. Timely next conferences and world meetings (Rio de Janeiro – 1992, Johannesburg – 2002) took onward the concept of Brundtland Commission (Láng, 2001). The Rio de Janeiro Conference (United Nations Conference on Environment and Development – UNCED) encouraged people to protect their environment while Johannesburg Conference (World Summit on Sustainable Development – WSSD) was a kind of further developed version. The Rio+20 conference (UN Conference on Sustainable Development) was built on three previous conferences (Stockholm, Rio, Johannesburg). This conference gives the background of the sustainable developments new, global architecture (Zolcerova, 2016).

In 2015 it was necessary to renegotiate future objectives. It was located in Paris where 193 United Nation members gathered to discuss the new sustainability program, resulting in the AGENDA 2030 for Sustainable Development. They have been formulated 17 goals (SDG – Sustainable Development Goals) on the basis of which the European Union has developed its new sustainable development indicators.

With the reviews of these it becomes visible what is the meaning of sustainable development (definition) nowadays and under what circumstances have been developed. Sustainable development features the quality of life. For the whole world it is a typical problem that in several places the population lives in unequal economic and social conditions. As far as we can take advantage of our environment, whether we know our stocks are limited to some extent, not all the factors have been an alternative. Consequently, the main purpose of my study is to determine how similarities and differences were found in the application of the Sustainable Development Framework Strategy and indicators system of the countries (V4).

## **THEORETICAL BACKGROUND**

Hungary, the Czech Republic, Poland and Slovakia (group of V4) have a long-term past in all historical, economic and cultural perspective (Káposzta & Nagy, 2015). In the past and present these countries represented/represent a civilization based on social and cultural roots (Brokešová & Vachálková, 2016). The background of my study is the review and examination

of the Visegrád Four countries and the European Union's sustainable development framework strategy. The examination of the countries' sustainable development strategies are inevitable to understand what objectives and indicators have been set. Unfortunately, in my own previous research I have been assured that a country set up its goals for sustainable development does not mean that it clearly states what indicators it uses.

### **Research question and hypothesis**

During the study my main purpose is to determine what similarities and differences can be found in the surveyed EU member states or if we want to define in another way in sustainable development framework strategies and indicator systems of the Visegrád Fours. Based on this, I have determined my research question as follows:

*Q: To what extent do the surveyed Member States use the indicators of the SDIs or SDGs developed by the European Union? Did they build into their strategies in the same way or are they using their own systems?*

To answer this question, it is necessary to examine the country's sustainable development strategy which takes place in the second chapter. Naturally, it is also necessary to comprehensively study the sustainability indicators and indexes of the Visegrád Four countries. In these, the SDIs and SDG system are providing a comparison basis and great help as well as the countries sustainable development strategies which contain and identify the indicators. In case of the Czech Republic the *Czech Republic Strategy for SD*, in Hungary the *Sustainable Development Framework Strategy*, in Poland the *SD Strategy for Poland up to 2025 – Polska 2025* while in Slovakia the *National Strategy for SD for the Slovak Republic*. For those countries which developed their own indicators the statistical office plays an important role. They are providing the datas to the development of the indicators. My hypothesis is the following:

*H: None of the surveyed Visegrád countries has taken over the European Union's Sustainable Development Indicator System or the SDG indicators. In each case it serves as a kind of comparison basis.*

The answer of the research question and hypothesis will be shown after the presentation of the Visegrád Four's sustainable development indicators because it would be impossible without the overview of the systems.

### **The sustainable development strategy of the European Union as a starting point**

In the last decades, years several researches, publications, analysis and comparisons appeared in case of sustainable development. What does sustainable development mean? As we can not



easily answer what is the meaning of sustainable development, the formulation of the strategy is not simple either. The countries involved in the examination – Hungary, the Czech Republic, Poland and Slovakia – its sustainable development strategy or action plan is largely linked to the strategy which was developed by the European Union. This connection is also good because when all of the 28 European Union member states developed their strategies this gave them a kind of basis.

When can we say that the European Union has a sustainable development strategy? The first steps to develop the strategy were made during the Helsinki Summit (1999) (Magyar Természetvédők Szövetsége, 2005) and the final touches were done in 2001. From that date we count on the implementation of the action plan. The European Union Sustainable Development Strategy was finally adopted at the Göteborg European Council (Fischer et al., 2013). This means that the Lisbon Strategy was completed with the third dimension which is the environmental dimension (Schmuck, 2002). The sustainability strategy of the European Union is a three-pillar strategy. If we draw up a parallel with the work of Brundtland Commission in line with the concept of sustainable development that may formulate, we are certainly talking about a long-term strategy which affects the three dimensions. At the same time coordinates the appropriate policies in order to meet the present and future generation needs and provide these generations a better standard of living and prosperity (European Council Göteborg, 2001). Based on these the following long-term goals are named:

- fight against climate change, global poverty, social exclusion, ageing;
- sustainable transport, production and consumption;
- proper management of natural resources;
- public health (Puşcaci, Puşcaci & Puşcaci, 2016).

Following the presentation of the strategy in 2001, it was reviewed in 2006 and then in 2009. These revisions complemented new targets which were adjusted to the sustainable development indicators.

### **Sustainable development strategy of the V4's**

In the 20th century, sustainability was a major issue as it is today and is believed to have developed as a result of increased resources use during the Industrial Revolution. With the rapid growth of the population the challenges and needs will increase significantly (Štreimikiene, Mikalauskiene & Mikalauskas, 2016). In the *Czech Republic* sustainable development is primarily assessed at national level. Three years after the European Union's strategy was established the Czech Government adopted the country's sustainable development strategy,

the official name is: Czech Republic Strategy for Sustainable Development. It is a framework for the development of various policies and similar official documents which includes sectoral policies and action programs. It serves as a basis for strategic decision-making: in each sector and in inter-sector cooperation as well as in cooperation with other interest groups. It aims to identify the most important strategic sub-objectives, goals and tools that are designed to eliminate the weightlessness problems in each sustainability pillar (Office of the Government of the Czech Republic, 2006). The framework strategy concentrates on the following areas:

- competitiveness of the economy; stability and cohesion;
- landscape, natural resources and environmental protection;
- research, development, education; European and international context;
- good governance (Fischer et al., 2013).

Based on the Brundtland Commission's definition the focus of the planning is to ensure the best possible quality of life for today's generations and to create high level quality conditions for future generations. Today, the last 2010 Czech sustainable development name five key priority axes which are also the strategic vision of sustainable development: 1. society, people and health; 2. economy and innovation; 3. spatial development; 4. landscape, ecosystems and biodiversity; 5. a stable and secure society (Ministry of the Environment of the Czech Republic, 2010).

Similarly to the Czech Republic, *Hungary* developed its first sustainable development strategy in 2007 after joining the European Union. The European Union gives free hand to the Member States to develop their sustainable development strategy which summarizing their own goals and priorities. In case of Hungary it is true that the first strategy (National Sustainable Development Strategy) was completed in 2007 but there were many preliminary ambitions for sustainability. There were essentially not yet concrete strategies but plans, drafts (NFÜ, 2007). The focus point is to develop sustainability priority objectives. The assessment of unsustainable processes, the Future Finding – the assessment of the National Sustainable Development Council started the establishment of the second action plan or the so-called framework strategy. Hungary's second sustainable development strategy was published in 2013 covering the period from 2012 to 2024 (Kis-Orloczki, 2014). The main goal is to recognize the so-called lending process of future generations as well as comit themselves to presenting conditions of natural resources of the state and how these could be used to develop the maintenance system (NFFT, 2013).

The interpretation of the strategy is much narrower if we compare with the sustainability strategy of the European Union. From a political view sustainable development is a long-term activity referring to resource management (Bartus, 2013). Solving the problems are not necessarily just the task of political government. In order to be able to solve them we must involve families and businesses alike. When we compare it to the European Union's strategy we can only find difference between the three dimensions (economic, social and environmental). In case of Hungary the three dimensions are supplemented with one additional which is the human dimension. The overall goal of Hungary's sustainable development framework strategy is to create and secure the conditions for continuous adaptation for all sustainability dimensions. In addition, it should be able to ensure that cultural adaptation is improved (NFFT, 2013).

The transitional countries (eg. Lithuania, Poland and Latvia) have had special motivation in preparation of national sustainable development strategies. Why is it important for them? The answer seems clear as these countries seek to reverse the negative economic, social and environmental trends of the past by creating a strategy (Ruotsalainen, 2005). As the countries of the Visegrád Four, *Poland* was the first that developed a sustainable development strategy in the spirit of the millennium (2000) which is essentially a long-term strategy for sustainable development (Kis-Orloczki, 2014). In Poland the conception of development is a constitutional principle. The 5th Article of the Polish Constitution (2. April 1997) contains the principle of sustainable development (Urbaniec, 2015). On this basis, sustainable development is considered as a socio-economic development in which the integration of political, economic and social actions take place. The NSDS<sup>17</sup> of Poland (Sustainable Development Strategy for Poland up to 2025 ~ *Polska 2025*) typically analysis the changes since the transition to the market economy. The main goal of the strategy is to reverse the negative tendencies of the past. Another objective of the strategy is to provide Polish families with welfare growth and to minimize development gaps against developed countries. Naturally, taking into account the three dimensions of sustainability (Ruotsalainen, 2005). It is a very important factor to do these goals by taking into account the current status of the Polish economy as well as the consequences of Polish law and the concepts they formulate (Zuzek, 2007). Similarly like Hungary and the Czech Republic's sustainability program, it is a long-term, multidimensional framework program which presents a general vision of the future Poland. It also provides guidance on how to revise sectoral and regional plans, programs and policies in order to strive

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<sup>17</sup> NSDS – National Sustainable Development Strategy

for sustainability. The country's sustainable development strategy is complemented by two additional areas which are the political and institutional dimensions (Urbaniec, 2015).

The *Slovak* economy can be referred to like one of the most dynamically developing economies in the euro zone. It is approaching very fast to the standard of living of the OECD economies but it is often not the easiest to implement. The Slovak Government adopted the sustainability strategy on 10 October 2001 and by the National Council on 3 April 2002 (Koločány, 2014). Sustainable development is regulated in the 6th Article of Law 17/1992. Similarly to the other surveyed countries, the sustainability strategy is based on the definition of Brundtland Commission and formed on the three dimensions (economic, social, environmental) and it is complemented by more such as culture (Kis-Orloczki, 2014). From an economic point of view, the emphasis is placed on the effective use of natural resources as well as the pursuit of economic development which is consistent with the conservation of natural resources. If we look at sustainability from a social view of point the goal is to provide the so-called respectable life for the population and distribute income from resources equally between groups of society (Izakovičová & Oszlányi, 2009). The sustainable development strategy set out two Action Plans for the period after 2000. One between 2005 and 2010 ("Action Plan for Sustainable Development") and the other between 2007 and 2013. The "Action Plan for Sustainable Development" covers the period of 2005-2010 in which the implementation of sustainable development is included in sectoral policies. They would like to use environmentally friendly technologies and to reduce the rate of waste generation in the territory of the Slovak Republic. Further orientation is to promote financial instruments, to educate the population on how to reasonably use and protect natural resources in favor of sustainable development. Priority will also be given to the development of the information society, sustainable mobility and urban renewals. The horizontal priority objectives for sustainable development 2007-2013 are to support all three pillars of sustainable development from the National Reference Framework. Of course, this must be consistent with the objectives and the indicators of the European Union Sustainability Strategy. Cumulatively, it focuses on intelligent and inclusive growth and respects the economic, social and environmental dimensions (Koločány, 2014).

### **The summary of the examined sustainable development strategies**

Overall, looking back to the sustainable development strategies of the four countries – the Czech Republic, Hungary, Poland and Slovakia – we can conclude that each country has its own characteristics of sustainability. There are even bigger differences compared to the

European Union's strategy but the fact that the countries have to rely on the EU at some level. The similarities and differences of the strategies are summarized in Tab. 1.

**Table 1** Summary of the surveyed countries' strategies

	<b>European Union</b>	<b>The Czech Republic</b>	<b>Hungary</b>	<b>Poland</b>	<b>Slovakia</b>
<b>Name of the strategy</b>	•Sustainable Development Strategy •Agenda 2030	Czech Republic Strategy for SD	Fenntartható Fejlődési Keretstratégia	SD Strategy for Poland up to 2025 – Polska 2025	National Strategy for SD for the Slovak Republic
<b>Year of publication</b>	•2001 •2015	2004	2007	2000	2001
<b>Year of modification</b>	2006	2010	2013	2000	2001
<b>Number of modifications</b>	1	1	1	0	0
<b>Pillars</b>	3+1	3 + 3	3 + 1	3 + 2	3 + 1

Source: By the author, based on Kis-Orloczki (2014)

What are these similarities and differences? The most important similarity is that each state has developed its own strategy and in each case it has been developed by the 1992 Rio Conference as well as the indicators. A difference can be seen in the year of publication, sustainability goals, objectives and implementation time.

## **DATA AND METHODS**

Earlier until 2015-2016 the European Union used the European Union Sustainable Development Indicator System (EU SDIs) to measure sustainable development. Nevertheless, the AGENDA 2030 for Sustainable Development which was presented in the framework of the United Nations Climate Change Conference (2015, Paris) has developed new indicators for sustainable development. This system is well situated to evaluate the performance and progress of member countries both methodically and statistically. Data which is required for the indicators can be assessed on EUROSTAT's website from 2007 and includes data from all 28 Member States. However, we can not ignore the old system anyway. The SDIs and SDG system are providing a comparison basis and great help as well as the countries sustainable development strategies which contain and identify the indicators.. Moreover, of course each country has developed the most appropriate indicators for its own goals, objectives and progress plan which can be said to be country specific. Overall, the indicators are intended to show the achievement of countries in their own sustainable development indicator systems. In case of

the Czech Republic the *Czech Republic Strategy for SD*, in Hungary the *Sustainable Development Framework Strategy*, in Poland the *SD Strategy for Poland up to 2025 – Polska 2025* while in Slovakia the *National Strategy for SD for the Slovak Republic*. For those countries which developed their own indicators the statistical office plays an important role. In my study I would like to present the sustainable development indicators of the surveyed countries – the Czech Republic, Hungary, Poland and Slovakia – in a comparative analysis. We can not use other methods because the similarities and differences of the indicators/indicator systems can not be identified by other technique. It is not possible to show in any other way because there are no methods which concentrate on specific features.

## RESULTS

During the presentation of the definition and concept of sustainable development became visible that the mankind began to recognize unsustainable processes and problems from the 1960s. Hungary, the Czech Republic, Poland and Slovakia – group of V4 – have a long-term past in all historical, economic and cultural perspective. Similar concentrations have emerged in the analysis of the countries' sustainable development strategies whereas in all four cases, the 1992 Rio Declaration commitments launched the process of developing sustainable development strategies. We can consider the European Union's Sustainable Development Strategy as a starting point that has given the Member States a proper background for their own national strategies.

Different words are used in the literature to formulate the indicator word. Basically if we strive for simplicity when defining this concept, the indicator word is dependent on many factors. It expresses some kind of change that reflects its degree and the related features. For the given phenomenon it shows the properties of the phenomenon as well as helps to getting through and last but not least based on these features make the phenomenon comparable (Havasi, 2007). The definition of sustainable development indicators are based on different specifications of development concepts. We call development concepts those plan documents (strategies, programs) that are designed to track the implementation of the project (Central Statistical Office, 2011). They can be at local, regional and national levels as well as at the European Union's level. The primary role of sustainable development indicators is the operationalization of sustainable development at local, regional and national levels in order to monitor the various plan documents (Urbaniec, 2015).

## **Indicators for Sustainable Development in the European Union**

The European Union has used its own SDIs for measuring and demonstrating sustainability target for the period of 2015-2016. This is essentially the time when AGENDA 2030 has not yet come to the fore for sustainable development. The purpose of the former system – EU SDIs – was to show how far the Member States of the European Union have progressed to achieve their goals which are essentially described by the EU SDS (Sustainable Development Strategy). The strategy and the indicators were adopted at the same time at the Göteborg Summit (2001) by the Commission in 2005 (Stănciulescu & Bulin, 2012). The European Union's SDI system contains nearly 130 indicators. The main indicators can be divided into additional operational, explanatory and contextual indicators that are built in a pyramid shape. All in all they can be split up into three main and one additional levels (Eurostat, 2015).

AGENDA 2030 for Sustainable Development is a strategy for the eradication of poverty and the promotion of sustainable development. This strategy is tangible and must be consistent with measures that addresses a wider range of social needs and promote the creation of fair, peaceful, inclusive societies and also protect them. In addition, they naturally protect the environment and they give help in managing climate change. From the part of the European Union, the EUROPE 2020 strategy played an important role in the development of AGENDA 2030. The European Commission has undertaken to monitor the development of the objectives for sustainable development. It is not binding on UN members but it is a requirement that governments undertake and set up at national level the backdrop for achieving the 17 goals (Eurostat, 2017). The strategy developed indicators for all 17 goals and for the 169 objectives which are in association with them. The indicators are revised by the UN Statistical Commission. It is important to note that the indicators of AGENDA 2030 are in line with the UN Global Indicator list. It also contains indicators that are specifically EU-specific and suitable for incorporating into the EU's various, long-term policies. The set of indicators adopted in 2016 contains totally 244 different indicators covering the 169 goals (Griggs et al., 2014). These indexes cover the three dimensions of the Brundtland Commission's concept and one more institutional dimension. Depending on their rating, the indicators are divided into two groups: show a longer or short term trend. The long term indicators focus on the last 15 years (2000-2015, 2011-2016) and at least 10 years of data are available. Short time indicators cover the past 5 years (2010-2015, 2011-2016) but are available for at least 3 consecutive years (Eurostat, 2017).

## **Sustainable development indicators in the V4**

In case of the Czech Republic, we can divide the indicators in two ways. The first splitting method is based on the three dimensions of sustainable development (economic, social, environmental) and three additional dimensions (research, development, education; European and international context; good governance). In this case we can speak about 34 aggregated indicators (Government Council for SD – Ministry of the Environment, 2009). While the collection of country-wide indicators is not a problem we must not forget the fact that the examination of lower levels of public administration can cause some sort of headache (Fischer et al., 2013). If we divide the Czech Republic's sustainable development indicators into the five main priority axes at the same time, we get completely different indicators. Their number (47 indicators) is not the same as the dimension based resolution. The currently used Czech Strategy contains 47 indicators that are closely to achieving each strategic goal. Essentially for communication purpose they use the 34 aggregated indicators (Ministry of the Environment of the Czech Republic, 2010).

Until the appearance of the second framework strategy in 2013, *Hungary* used the indicators divided by the EUROSTAT. The indicators were identical with the EU SDIs. By developing the strategy, they have completely revised the indicators and made them country specific. Every two year the so-called "Progress Report" will be published in which the indicators are reviewed. The National Sustainable Development Council adopted the first report on 3 December 2015 in which 16 key indicators are named with additional and context indicators (KSH, 2017). Totally, 103 indicators can be identified in Hungary which can be divided according to the 3 + 1 dimension of sustainability: 23 economic, 13 social, 41 environmental and 26 human (Korsós-Schlesser & Marselek, 2016). Further splitting of the indicators can also be made depending on which one is considered a true indicator and which is only a background indicator. Based on these, we distinguish 82 real indicators. They are characterized by both positive and negative comparisons. In the other group there are 21 background indicators that provide mainly structural information. There are indicators from which no time series can be set up. With this kind of transformation, such as the fact that the Statistical Office differ from the system (EU SDIs) developed by the European Union there are indicators that we can not compare with EUROSTAT indicators. These indicators are household indebtedness rate or NGOs. However, it is not a "unique" feature. We have experienced these inconsistencies even in the first examined country (the Czech Republic). We will experience in the countries that are being examined. Since the strategy was developed in a timely manner rather than the adoption of



SDGs, the progress report goals are not linked to SDG. Indicators will only follow these goals in the future (KSH, 2017).

*Poland's* Sustainable Development Strategy tells us one in one how many indicators are "managed" by the country, how many indicators are used to measure the goals and objectives of sustainable development. In Poland sustainable development indicators can be separated on the basis of three dimensions of sustainable (economic, social, environmental) and two additional dimensions (political, institutional) (Central Statistical Office, 2011). Based on these, the country totally manages 76 indicators. Among the countries have studied so far, Poland and the Czech Republic have the least sustainable development indicators. Hungary is an exception in this respect, as there are 103 sustainability indicators for the country. Based on the above, we can conclude that the sustainability strategies of the countries have been greatly influenced by the Brundtland Commission's sustainable development concept. We can break down the indicators of all three countries by the three basic dimensions (economic, social, environmental) and in some cases based on the additional dimensions.

The introduction of sustainable development indicators in *Slovakia* was largely influenced by the indicators developed by the Commission. This set of indicator contains in total 134 indicators that can be separated by the 3 + 1 dimensions: 23 economic, 41 social, 55 environmental and 15 institutional. The indicators listed here were tested in 22 countries between 1997 and 1999, including Slovakia as well. Their main purpose is to provide the countries the appropriate indicators for measuring sustainability. The secondary objective is to create a better statistical evaluation. Statistical evaluation is an important aspect namely national characteristics largely determine the evaluation of a country (Lyytimäki et al., 2011). As a result of this process in 1997 the Government of Slovakia approved the use of AGENDA 21 as well as the use of indicators. Slovakia defined first its own indicators. This does not really mean the development of fully independent indicators but the adoption of relevant indicators to the country (125 out of 134). At present, indicators for sustainable development are reviewed by the Slovak Statistical Office and the Environment Agency. The Government and other agencies are responsible for issuing databases. The indicators used today are the result of several organizations, programs and conferences, such as AGENDA 21, Rio + 10 processes or the Lisbon Strategy (Zolcerova, 2016). In Slovakia all the indicators which are in the "circulation" can be splitted down by four dimensions. From all of the national indicators 32 are more or less correspond to the indicators which are used by the European Union. In case of institutional indicators from three indicators two correspond, while the proportion in socio-economic indicators are half. The most significant differences can be seen in environmental indicators because of these (65) are only 16 similar to those of the European Union.

Unfortunately, the list of indicators can not be found either in the country's sustainable development strategy or in any other area.

### **The results of the research question and the hypothesis**

Overall, it can be concluded that in the examined countries (V4) Slovakia is the only one country that does not name the indicators one in one. We can not find the indicators anywhere. All other sustainability strategies outline how they measure and evaluate sustainable development. Typically, indicators are divided by sustainability dimensions and they are country specific. In Hungary there are 103 indicators, in Slovakia 92, in case of Poland 76 while in the Czech Republic 34 aggregated indicators.

During the presentation of sustainable development framework strategies and indicators obvious facts have become visible. They have shown the fact that they are suitable for answering the research question and the hypothesis. Based on these, my answer to the research question is the following.

*To what extent do the surveyed Member States use the indicators of the SDIs or SDGs developed by the European Union? Did they build into their strategies in the same way or are they using their own systems?*

It can be concluded that from the countries of Visegrád Four group none of them are fully used the SDIs or SDGs developed by the European Union. In the beginning the EU SDIs provided great help to countries to develop their own indicators. In case of Hungary you can see the most that initially in the strategy set up in 2007, they relied entirely on the European Union indicators. Then in 2013 at the time of the second framework strategy they changed this practice and developed their own indicator system by the help of Central Statistical Office (KSH). This system contains and uses numerically fewer indicators. In the Czech Republic there is already a deviation from the EU. There are very few indicators we can find only 34 aggregate indicators in the strategy if we divide them according to the dimensions of sustainable development. This is also the case with the second modal split which divides the indicators according to the five main priority axes. The situation in Poland and Slovakia is no different from this point of view. Slovakia is closer to the EU indicators because the country had great importance in the development of the indicators of the sustainability strategy. The indicators used by V4 are summarized in Tab. 2.

**Table 2** Sustainable development indicators of V4 countries

	<b>European Union</b>	<b>The Czech Republic</b>	<b>Hungary</b>	<b>Poland</b>	<b>Slovakia</b>
<b>Name of the strategy</b>	<ul style="list-style-type: none"> <li>•Sustainable Development Strategy</li> <li>•Agenda 2030</li> </ul>	Czech Republic Strategy for SD	Fenntartható Fejlesztési Keretstratégia	SD Strategy for Poland up to 2025 – Polska 2025	National Strategy for SD for the Slovak Republic
<b>Pillars</b>	<ul style="list-style-type: none"> <li>•3+1</li> <li>•17 goals</li> </ul>	3+3	3+1	3+2	3+1
<b>The way of resolution the indicators</b>	<ul style="list-style-type: none"> <li>•EU SDIs – 3+1 dim.</li> <li>•Agenda 2030 – 17 goals</li> </ul>	<ul style="list-style-type: none"> <li>•3+3 pillar</li> <li>•5 main priority axis</li> </ul>	3+1 dimensions (resources)	3+2 dimensions (domains)	<ul style="list-style-type: none"> <li>•Indicators of Commission (3+1 dim.)</li> <li>•Environmental Agency (3+1 dimensions)</li> </ul>
<b>Number of indicators</b>	<ul style="list-style-type: none"> <li>•Theme 1. (17)</li> <li>•Theme 2. (20)</li> <li>•Theme 3. (19)</li> <li>•Theme 4. (13)</li> <li>•Theme 5. (10)</li> <li>•Theme 6. (12)</li> <li>•Theme 7. (12)</li> <li>•Theme 8. (10)</li> <li>•Theme 9. (13)</li> <li>•Theme 10. (6)</li> </ul>	<ul style="list-style-type: none"> <li>•Economic pillar (8)</li> <li>•Social pillar (10)</li> <li>•Environmental pillar (7) <ul style="list-style-type: none"> <li>•R&amp;D, education (3)</li> </ul> </li> <li>•European and international context (1) <ul style="list-style-type: none"> <li>•Good governance (5)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>•Economic resources (23) <ul style="list-style-type: none"> <li>•Social resources (13)</li> </ul> </li> <li>•Environmental resources (41) <ul style="list-style-type: none"> <li>•Human resources (26)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>•Social domain (26) <ul style="list-style-type: none"> <li>•Economic domain (19)</li> </ul> </li> <li>•Environmental domain (24) <ul style="list-style-type: none"> <li>•Institutional and political domain (7)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Indicators of Commission: <ul style="list-style-type: none"> <li>•Economic dimension (23)</li> <li>•Social dimension (41)</li> <li>•Environmental dimension (55)</li> <li>•Institutional dimension (15)</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>•Goal 1. (10)</li> <li>•Goal 2. (9)</li> <li>•Goal 3. (11)</li> <li>•Goal 4. (7)</li> <li>•Goal 5. (9)</li> <li>•Goal 6. (7)</li> <li>•Goal 7. (8)</li> <li>•Goal 8. (8)</li> <li>•Goal 9. (7)</li> <li>•Goal 10. (9)</li> <li>•Goal 11. (12)</li> <li>•Goal 13. (11)</li> <li>•Goal 14. (5)</li> <li>•Goal 15. (9)</li> <li>•Goal 16. (7)</li> <li>•Goal 17. (5)</li> </ul>	<ul style="list-style-type: none"> <li>•Axis 1. – society and health (7)</li> <li>•Axis 2. – Economy and innovation (13)</li> <li>•Axis 3. – Spatial development (12)</li> <li>•Axis 4. – Landscape, ecosystems and diversity (7)</li> <li>•Axis 5. – A stable and secure society (8)</li> </ul>			<ul style="list-style-type: none"> <li>Environmental Agency's indicators: <ul style="list-style-type: none"> <li>•Social (9)</li> </ul> </li> <li>•Environmental (65) <ul style="list-style-type: none"> <li>•Economic (15)</li> <li>•Institutional (3)</li> </ul> </li> </ul>

Source: By the author, based on Griggs et al. (2014), Ministry of the Environment of the Czech Republic (2010), KSH (2017), Central Statistical Office (2011), Zolcerova (2016)

By not taking over one in one the SDIs or SDG indicators used by the European Union, nevertheless they are required to provide datas to EUROSTAT on the measurement of

sustainability. The other factor that may have contributed to the fact that none of the surveyed countries has taken over the mentioned systems that the European Union has not made it binding on any country. They are free to choose whether to apply or not. From the detailed study of the indicators we can see that countries do not use 100% of the indicators but at some levels they are using the EU indicators. There are indicators for which the V4 countries have not developed their own indicators. Overall, it can be said that countries can only be compared based on EU SDIs or SDGs.

*None of the surveyed Visegrád countries has taken over the European Union's Sustainable Development Indicator System or the SDG indicators. In each case it serves as a kind of comparison basis.*

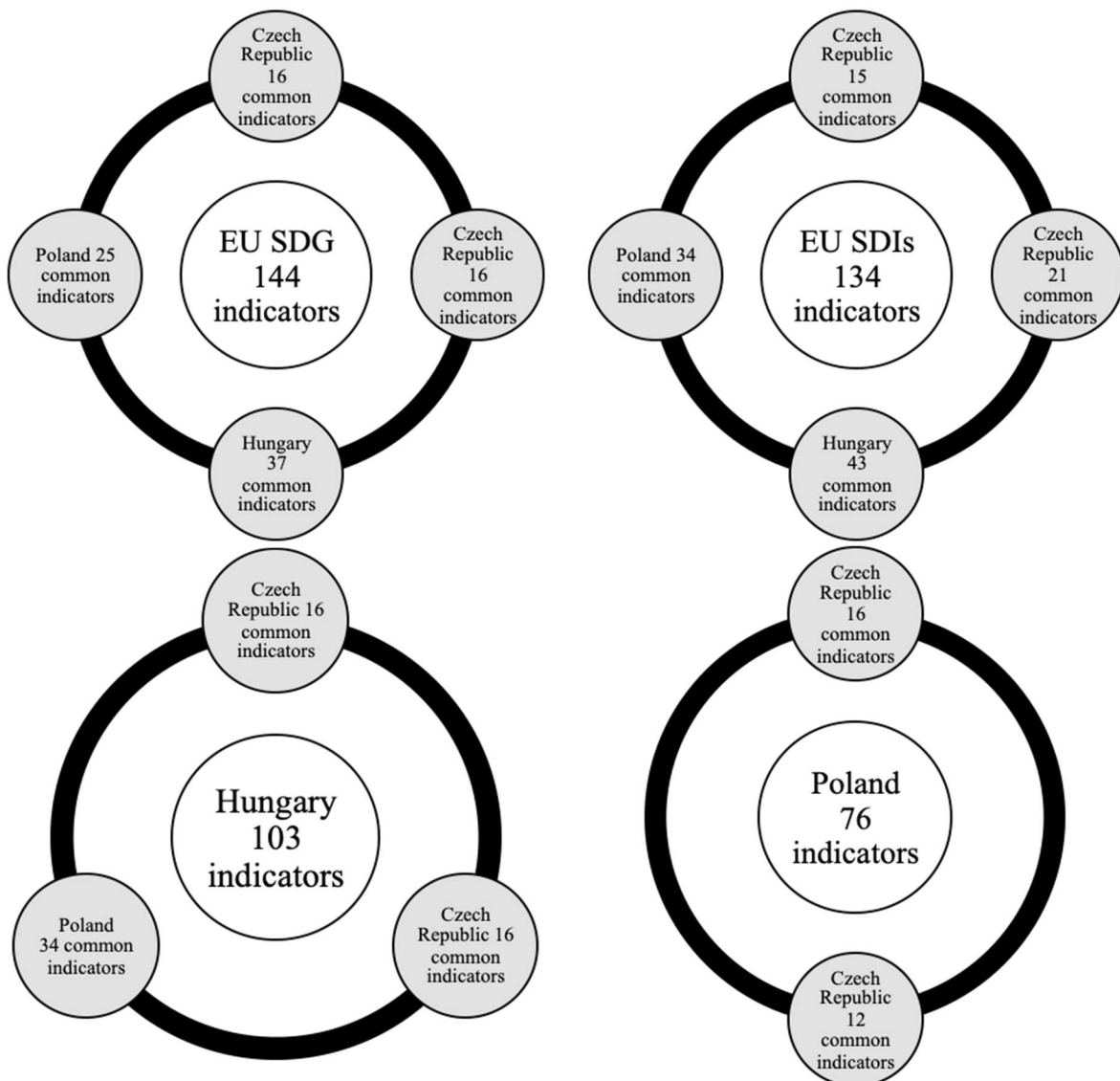
To this assumption the answer became visible during the research question. The benchmark will happen that all 28 European Union Member States are required to provide data to EUROSTAT. The Member States are needed to become measurable and at the same time comparable in achieving their objectives. Before 2015-2016 the main part of the studies were based on the EU SDIs because it was the only system, set of indicators that contained complete all the data which were needed for the analysis and evaluations. This situation has changed when the AGENDA 2030 for Sustainable Development and the related 17 goals been developed as a result of the 2015 Paris Climate Convention. The 17 targets can be characterized by about 244 indicators, of which 144 are relevant for the European Union. With these another system was developed to provide basis for comparison for research and analysis. If we should analyze the surveyed Member States based on the self-developed indicator systems, we would encounter the problem of incompatibility. These systems are country-specific and the countries have been developed on the basis of their own objectives. Of course, there are indicators that can be found in every strategy (eg. GDP), there are more or less comparable and have the "worst category" that is totally incomparable. *As a thesis, it is possible to state that all EU Member States are obliged to provide data to the current SDG indicators, so my assumption is true. Indeed, the SDG system forms a kind of comparison basis because that is the only way to allow equal comparisons between Member States.*

## DISCUSSION

Comparing the sustainability indicators of the V4 countries with those of the EU SDIs and SDGs, I concluded that the indicators used by the countries and the two EU systems minimally resemble to each other. In case of the Czech Republic 16-16 (both grouping modes), in relation to Hungary 37, while only 25 of the Polish indicators are similar to the EU SDG indicators. In

total, it can be said that just five indicators are fully common, such as: GDP, general government debt, long-term unemployment rate, greenhouse gas emission and areas under organic farming. The previously used EU SDIs also showed similar results as a comparison. It can be said that the 43 indicators of the indicator system used by Hungary result in the highest degree of similarity, followed by Poland with 34, while the Czech Republic with 15 and 21 indicators. The one in one used indexes are the following: GDP, energy intensity of the economy, total unemployment rate and the areas under organic farming. Figure 1 shows the numerical consistency of the indicators.

**Figure 1.** The number of identical indicators



Source: By the author, based on Eurostat (2015), Griggs et al. (2014), Ministry of the Environment of the Czech Republic (2010), Korsós-Schlesser & Marselek (2016), Central Statistical Office (2011)

In addition to comparing with the EU indicator systems, I also made a comparison between the countries. Based on these, I examined the similarities and differences of the indicator systems of Hungary and Poland, Hungary and the Czech Republic, as well as Poland and the Czech Republic. In any case, I could draw the conclusion that none of the systems completely covers the other. Common indicators are: energy intensity, greenhouse gas emissions, GDP, government debt, R&D, labor productivity, unemployment rate. I could draw similar conclusions when comparing the Czech Republic and Poland. A total of 10 indicators are equal to 100%, such as life expectancy, energy intensity of the economy, GDP. In case of Slovakia I could not compare the indicators of sustainability with the other surveyed countries and the European Union because the strategy does not name them.

In my comparative analysis, it became even more apparent that the surveyed Visegrád countries used the indicator systems of the European Union only as a basis for developing their own systems. Numerical analyses can only be carried out on the basis of the EU SDG. In every case, the basis of the country strategies can be traced back to the sustainable development concept and definition of the Brundtland Commission.

## CONCLUSION

In my paper, I tried to find an answer, how the Visegrad Four applied the European Union's sustainability strategy and to what extent were integrated the EU SDIs or SDG indicators into their indicator system. It can be simply phrased what are the similarities and differences between the surveyed countries – the Czech Republic, Hungary, Poland and Slovakia – in their sustainable development strategies and indicator systems. It has been proved that the examination of country-specific strategies is indispensable for the subsequent examination of sustainability indicators. The V4s are completely different from the EU strategy. The strategy of the European Union provided them only a basis to develop their own system. Due to the differences that is why the comparison of the surveyed countries is very difficult. During the research work which preceded the study, it has become apparent that after the Paris Climate Convention in 2015 the European Union does not measure the progress of the sustainable development objectives by the EU SDIs but by the SDG (sustainable development goals). More specifically with the related indicators. These indicators are intended to show how much progress has been made towards achieving sustainable development goals in countries. Each country involved in the study has developed its own independent system of indicators. It identifies exactly what sustainable development and the related strategy mean for them.

Overallly, it is sayable, both the European Union and its Member States are investing heavily in developing their own independent indicators. In the former process the national sustainable development strategy, the EU SDIs and the SDGs help them. Although in many cases this is only used as a solid basis.

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# **EXPERIENCES MATTER! LUXURY TOURISM CONSUMPTION PATTERNS AND MOTIVATION OF THE CZECH AFFLUENT SOCIETY**

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**Cite this article:** Novotná, M., Kunc, J. (2019). Experience Matters! Luxury consumption patterns and motivation of the Czech affluent society. *Deturope*. 11(2), 121-142.

## **Abstract**

The affluent society and its leisure lifestyle and luxury consumption can influence the future tourism trends. One key prerequisite shaping the future of luxury tourism is the shift in values from the material to the experiential purchases. It is related to the assumption that money spent on experiences can satisfy various people's needs. Moreover, the luxury consumption displays wealth and social status. This exploratory study, based on the questionnaire survey among clients of one of the Czech luxury tour operators, analyses the Czech luxury tourism market segment and reveals the luxury-driven attitudes and consumption patterns. In conclusion, the findings are compared with the results of similar foreign studies. The results suggest that Czech luxury tourists are both similar in a lot of cases (age group, motivation, type of accommodation, preferred destinations etc.) and different in comparison to the traditional European markets, especially regarding the financial possibilities. Most of the Czech tourists are willing to pay considerably lower amounts of money for luxury holidays. The frequency of their luxury holidays is also significantly lower. In this respect, but also for example in special interest (eco-friendly goods and services), the Czechs fall behind the European luxury tourists.

Keywords: luxury consumption, motivation, luxury travel, tourism demand; Czech Republic

## **INTRODUCTION**

The development of the social status and lifestyle of consumers relates to various forms of tourism reflecting the requirements of the demand. One such form that is becoming more and more popular in the last decades is luxury tourism. A specific category of potential consumers who are seeking something exceptional highlights the benefit of experiences and material aspects of tourism. An increase in the consumption of luxury goods and services is in case of the luxury segment of tourism related to the search of unique services provided at an adequate level and with a possibility to have extraordinary experiences, which consequently corresponds with a higher price evaluation.

The significance of the luxury sector is demonstrated by an increasing trend at the world market for luxury personal goods that rose three and a half times between 1995 and 2015, from 77 billion to 253 billion Euros (D'Arpizio, Levato, Zito, & Montgolfier, 2015). This

market accounts for approximately 25% out of the entire luxury sector and is one of the most significant parts together with the segment of luxury cars (39%) and “luxury hospitality” (17%). “Hospitality” can be defined as an industry that includes hotels, restaurants and other facilities offering accommodation and food catering, as well as clubs, resorts, attractions and the like that create the base for (luxury) tourism and are an inspiration towards the demand for such industry (Barrows, Powers, & Reynolds, 2012). The permeation of tourism and a luxury sector thus offers a significant potential and an interesting perspective for the future.

Even though the foreign professional literature has been dealing with luxury tourism largely for two decades (Bernstein, 1999; Silverstein & Fiske, 2003; Kapferer, 2008; Page, 2009; Park, Reisinger, & Noh, 2010; Hwang & Han, 2014; Correia, Kozak, & Kim, 2017; Han & Hyun, 2018 and others), the research activities focused on luxury tourism in the Czech environment are rather sporadic. The presented study is thus a response to such situation, analysing the specific segment of the Czech luxury tourism. The objective of our contribution is to create a profile of Czech participants of such type of tourism, that is an affluent clientele, and explain their motivation to buy luxury services and products of tourism. The characteristic of the Czech participants of luxury tourism is researched on a sample of clients of a luxury travel agency by means of the questionnaire survey. We determined the factors that influence the way people decide when choosing their holiday and basic attributes of the stay/package holiday.

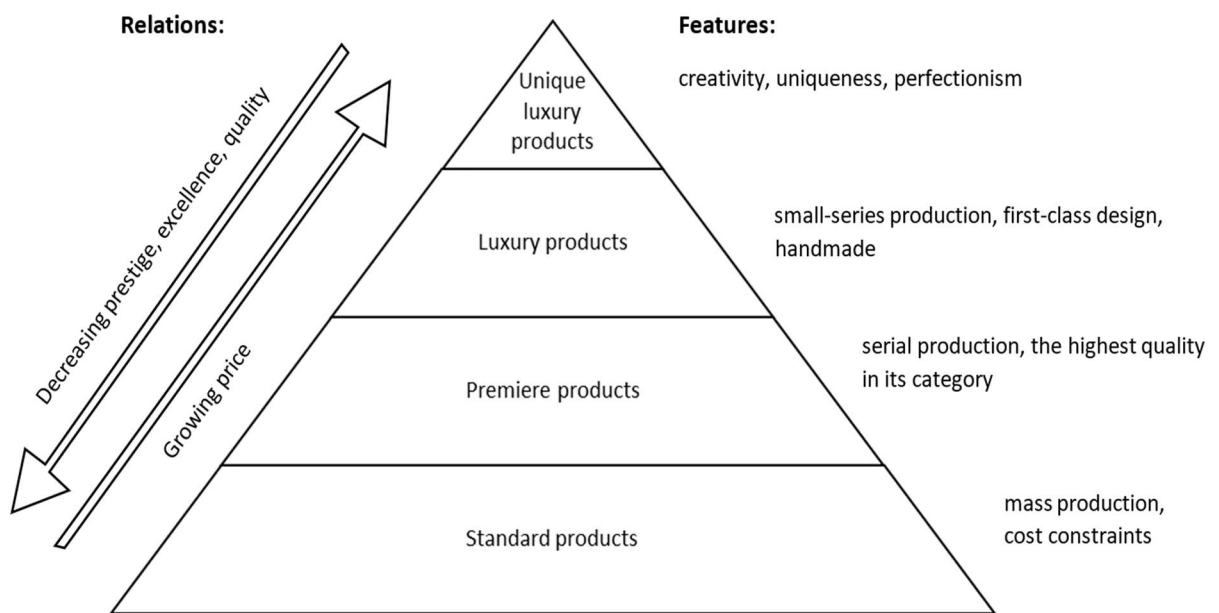
## **THEORETICAL BACKGROUND**

The term “luxury” has been used so often recently that it may seem its original meaning is disappearing. One of the reasons might be the consistent global rise in the modern luxury market and globalization, a second reason might be the relativity and subjectivity of the term itself. The products and services that extend beyond the boundary of an elementary need, and with their price, quality, aesthetics and rarity exceed the general character may be considered luxurious (Bernstein, 1999). Such goods contribute to a personal satisfaction or strengthen the social status of the buyer. When deciding to buy luxury goods, the desire of the consumers to be part of the luxury market plays an important role (Heine & Phan, 2011). Yet, a high price level of such products and services influence the number of consumers who can afford to buy them (Silverstein & Fiske, 2003). The majority of ordinary consumers thus never or very rarely reach such products or services. For this reason, most people perceive the luxurious goods as “psychologically further away” than the necessary goods (Hansen & Wänke, 2011).

Regardless of all definitions of luxury, it is necessary to consider that the term is subjective and that luxury is derived from the perception of the consumer. For this reason,

Kapferer and Laurent (2015) support the idea to research and analyse the perception of consumers to detect the consumers' definition of luxury that could be exploited by managers and marketing experts dealing with a luxury market. Even though the status of several products might be considered luxurious from the perspective of the society, it is highly probable that not all individuals will agree whether the goods or the service is a luxury or a necessity, and therefore it is necessary to take this paradox into consideration. Within the luxury market, there is a vast range of potential levels (Heine & Phan, 2011). Fig. 1. depicts the levels of luxury in the so-called Kapferer's pyramid (Kapferer, 2008).

**Figure 1** Kapferer's pyramid of the level of luxury



Source: Kapferer (2008, p. 98)

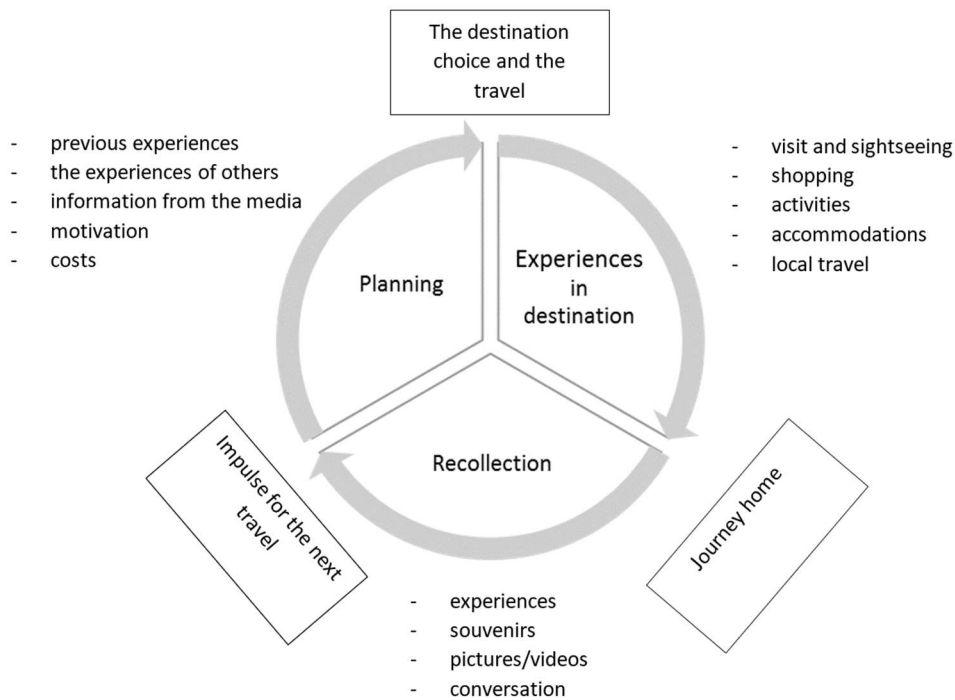
Just as the idea of luxury, the concept of tourism as well can be linked to the beginning of the human existence. Due to this fact, we can focus on luxury tourism within the general definition of the luxury sector in its strict sense. According to the data of UNWTO of 2011, the participants of the luxury tourism accounted for 3% of all tourists worldwide and represented up to 20% of expenses on tourism (Chen & Peng, 2014). The essential prerequisite of the growing importance of luxury tourism is the increase in the comfort and the welfare of society and greater availability of leisure time.

According to Page (2009), the luxury tourism is defined as a consumption of high-priced and high-quality experiences following the idea that the characteristics of luxury experiences evolve during the course of time. So for example staying in luxury resorts and hotels, tailor-made package holidays or travelling by private planes belong to such experiences. The emphasis is put on comfort, relaxation and first-rate quality, while at the same time a high

standard and unique and authentic services are expected (World Tourism Forum, 2014). In the luxury market, the main idea is to transform dreams into reality through tailor-made experiences. Such experiences are represented by stays in luxury hotels and resorts, luxury cruises, travel and luxury shopping, unique tailor-made holidays with authentic experiences or extreme experiences in unexplored places (Petrick & Durko, 2015).

With regard to the above-mentioned findings, we may state that the luxury tourism is closely related to the so-called adventure tourism, as their common goal is to provide consumers with experiences (Pine & Gilmore, 1999). The specifics of the luxury tourism lie in its cross-sectional nature interfering in other forms of tourism. In this way, we can detect luxury elements in for example spa tourism, cultural-cognitive tourism or congress tourism. The important common ground is the motivation of individuals by way of satisfying the need for holiday, regeneration, excursions or leisure time activities (Page 2009; Bacsi, 2017). Hallot (2013) points out that a luxury visitor has generally the same needs and desires as a common visitor. They undergo the same structure of experiences as it is with common tourism, which is demonstrated in Fig. 2.

**Figure 2** The structure of experiences in tourism



Source: Williams and Lew (2014)

Apart from common general needs such as relaxing, visits and sightseeing, social interaction and economic and sports reasons, the motivation of the participants in case of the luxury tourism is related to luxury places of stay, travelling to far-away exotic destinations, and searching for exciting experiences distinct from ordinary life (Pásková & Zelenka, 2012).

We can perceive experiences as a complex including a combination of factors that shape the feelings and attitudes of the participants of tourism towards the given moment. The experiences, therefore, affect individuals differently as their perception is based on various personal evaluations, be it an emotional or physical aspect. (Page, 2009; O'ahel', Ira, Hlavatá, & Pazúr, 2018). The specifics of experiences in luxury tourism depend on the level of the demands of the travellers who usually wish to get authentic, exclusive and personalized experiences with a benefit paying huge sums of money. Such experiences might include e.g. individual excursions and trips, dinners at unique places (be it in renowned restaurants or in a secluded place in the countryside), or a chance to experience traditional rituals with local inhabitants in a given destination, etc. (Mahika, 2011).

As it was mentioned above, numerous studies in the last years were focused on examining the motivations (e.g. Uysal & Jurowski, 1994; Baloglu & Uysal, 1996; Yoon & Uysal, 2005; Novanská, Benová, & Geghamyan, 2018) that activate the needs for experiences and subsequently satisfy the needs by participation in tourism (Lee, Chua, & Han, 2017). Based on the analysis of the motivations in tourism, types of tourism were created (Mahika, 2011). A study of demographic and socio-economic characteristics of consumers and their psychological stimuli thus became useful not only for managers but also for businessmen who wished to comprehend the behaviour of consumers and develop successful marketing strategies (Park & Yoon, 2009; Kraftchick, Byrd, Canziani, & Gladwell, 2014; Bobková & Holešinská, 2017; Han & Hyun, 2018). The providers of tourism services had to be able to predict the changes in motivations that predetermine the tourists to buy a package holiday or select a destination. Considering this, different motivations were hugely discussed, being caused on one hand by the real psychological motives (push factors), while on the other hand depending on specific characteristics of the destination, the so-called pull factors (Uysal & Jurowski, 1994; Lesjak, Navrátil, Pícha, & Gilliam, 2015).

It is obvious that the demand in the segment of tourism differs from a common segment e.g. by special interests and requirements. The specifics of the demand should be reflected on the grounds of thorough market segmentation that is the basis of the marketing strategy. The consulting company Horwath HTL (2011) assumes the typical participant of the luxury tourism to be somebody who uses air transport or a ship to get to the target destination, and the purpose of their trip is predominantly to discover, relax or change the pace of life. According to Peak and Skift (2014), nowadays people simply wish to travel better and at a

higher emotional and personal level, they turn away from standardized, prearranged package holidays and their travel is more authentic, adventurous, active or locally focused. An affluent clientele starts to search for not only material standard, but also for a specific added value of non-material nature (Koch, 2011). Non-material nature is connected with personalized services including the preparation of the tour, the stay itself and the services after the return. The basic prerequisite is the ability to fulfil the personal requirements and provide services customised to fit the preferences of the clients. By its definition, the luxury tourism can be also perceived as a counterpart of the mass tourism. The basic characteristics of luxury and mass tourism are summarized in Tab. 1.

**Table 1** The basic characteristics of luxury and mass tourism

<b>Luxury tourism</b>	<b>Mass tourism</b>
Travelling of individuals or smaller groups	Travelling in larger groups
Representation of the older generation of travellers	Rather younger generation of travellers
Social class with a high income	Social class with lower income
Tailored products	Catalogue-based and pre-arranged products
Selective communication, selling dreams	Less selective communication, selling facts
High quality connected with higher prices	Lower quality connected with lower prices
Stressing the respect for the privacy of visitors	High concentration of visitors in the destination
Stressing the prestige and unique experiences	Stressing the economic aspect and lower costs
Hotels and resorts ****, luxury residences	Hotels *** and collective accommodation facilities
Professional and trained staff	The lower level of professionalism of the staff
High level of discreet behaviour	The lower level of privacy
Use of high-quality means of transport	Use of cheap means of transport

*Source: authors' processing based on Euromonitor International (2008); Pásková and Zelenka (2012)*

The luxury tourism in the Czech Republic has a considerably shorter history than in the developed western countries. This is also linked with the perception of luxury by the Czech consumers, which is now getting closer to the perception of luxury by the affluent clients from the traditional countries such as USA, Japan, Germany, China, France or United Kingdom (Capgemini, 2019). The progress of the demand in the segment of luxury tourism corresponds to the growth trend set across the world. By Investopedia server (2018), a better validity regarding the potential luxury clientele presents the so-called concept of HNWI (High Net Worth Individuals) that includes individuals with liquid assets exceeding a specific limit, while the most frequent limit is 1 million USD. When applying the concept of HNWI, the number of US dollar millionaires in the Czech Republic amounts to approx.

28,000 (Credit Suisse, 2017; Prague Daily Monitor, 2018). Compared to the global statistics with the entire value of 16.7 million of HNWI, it is a rather insignificant amount, yet the year-on-year growth in the Czech Republic, oscillating recently between 10–11%, has reached the level of the global average, even exceeding it slightly, which also offers a range of opportunities for luxury tourism.

## **DATA AND METHODS**

The basic methodological approach towards our research focused on the Czech luxury clientele is based on the theoretical knowledge using the professional literature and formerly published studies. Our own research is thus focused on the preferences and individual characteristics of the participants of luxury holidays organised by the Czech travel agency. The research questions were asked in such a way that when answering them, the Czech demand segment of the luxury tourism was characterized and the goal was thus accomplished, creating a profile of Czech participants of this type of tourism and explaining their consumption behaviour and motivation to purchase luxury services and products of tourism. The stipulated questions are as follows:

RQ1: What are the typical characteristics of the Czech luxury tourism participants and the main differences from European participants?

RQ2: What are the consumption patterns and factors that motivate the Czech demand segment to participate in the luxury tourism?

The research itself has a quantitative character (probability stratified sampling) and a method of questionnaire survey performed directly among the clients of one of a luxury travel agency at the Czech market was chosen. A range of more or less luxury travel agencies operates in the Czech market. To map the Czech market of luxury travel agencies is a quite difficult matter. The offer of some agencies pretends to be luxury. On the other hand, it includes sometimes elements characterized as less luxurious or common. The careful analysis of the offer of individual agencies shows that from a geographic perspective, some of the agencies focus only on specific regions or countries (e.g. Palmyra Tour and its specialization in Middle-East & North Africa; agencies China Tours or Latintour). As the thematic focus regards, there are not only generally oriented travel agencies in the Czech Republic, but also a number of agencies specialized in luxury golf tours (e.g. S-Guide),



expedition and sightseeing tours (e.g. Inspira, CK Viva Travel or Orbis Link), as well as incentive and congress travels (e.g. Connea Travel).

The selected joint-stock company called Deluxea was already established in 1995 and has been recently very successful at the Czech market. It belongs to the major Czech travel agencies operating in the luxury sector in the Czech Republic and offering general worldwide journeys. It is exclusively specialized in tailor-made luxury tours and exotic destinations. It is also considered to be one of the largest Czech luxury travel agencies by revenue.

The questionnaire was based on the relevant theoretical-methodical grounds using professional literature and real experiences of the employers of the travel agency. Its content was adjusted to the segment of respondents who are assumed to be affluent and solvent. The questions were aimed to ascertain the general opinion of the clients on the luxury tourism and their concepts of the luxury holiday. One sector of questions examined the motivations of the travellers. The other sectors covered questions concerning financial costs involved with the luxury holidays, participants' preferences and methods of the management of the holidays.

For the purpose of our own survey, we have chosen a digital survey, which was underway from November 2016 until April 2017. The questionnaires were being sent to the clients of the travel agency that provided us with its database of 2,671 e-mail addresses. 425 fully completed questionnaires were received. The final number of the returned questionnaires represents approximately 16% of the entire number of the distributed questionnaires, which may be considered as a decent return. From the spatial point of view (Tab. 2), all regions of the Czech Republic were represented, yet there was a certain influence by the location of the Deluxea travel agency offices in the largest cities of the country, Prague and Brno. Almost one-third of the clients of the luxury travel agency who participated in the questionnaire survey indicated the capital city of Prague as their place of residence, more than 10% of the respondents were represented by the Central Bohemian Region (hinterland of Prague) and the South Moravian Region (Brno). We believe that this distribution and the number of respondents is sufficiently representative concerning the national level and the narrow segment of the survey.

**Table 2** Spatial distribution of the Czech respondents

Name of the region	share of the segment	Name of the region	share of the segment
Capital city of Prague	32.2%	Olomouc	3.5%
Central Bohemian	14.1%	Zlin	3.1%
South Moravian	12.9%	Hradec Kralove	2.8%
Moravian-Silesian	5.4%	Liberec	2.4%
South Bohemian	4.7%	Pardubice	2.4%
Usti nad Labem	4.0%	Vysocina	1.4%
Plzen	3.8%	Karlovy Vary	0.9%

*Source: authors' research*

To evaluate the results, mathematical-statistical and analytical methods were applied using mostly one-dimensional and two-dimensional statistical analysis. The data were processed with the help of MS Excel software and SPSS statistical programme.

## RESULTS

In the current competitive environment, there are growing demands for personalisation of the product for the target market. It is highly important to focus on the exact aim of the product and effective use of the marketing tools in order to segment the target customers. Therefore, the participant of the luxury tourism is classified according to socio-demographic characteristics of the researched segment, their concepts of the luxury holiday and motives for such travelling are determined. To create an overall concept of the Czech affluent clientele, the information is supplemented with time and financial aspects of the luxury tourism.

As far as the socio-demographic characteristics are concerned (Tab. 3), the category between 35 to 59 years of age is the most dominant one among the affluent clients (both couples and individuals) and it represents almost two-thirds individuals out of the entire number. By contrast, only an insignificant quantity of people under 25 years was found in the researched sample. The most frequent respondents were men between 35 and 49 years (21% of all respondents) and between 50 and 59 years (18%). Women were characterized by a lower age, while the age category was the same as with men, 35 to 49 years (15%), yet the second most numerous group were women between 26 and 34 years (12%). More than 60% of the participants in the luxury holidays who took part in the survey were tertiary-educated people. The results show that the participants of the luxury holidays are predominantly educated persons with tertiary or at least secondary education. As far as the

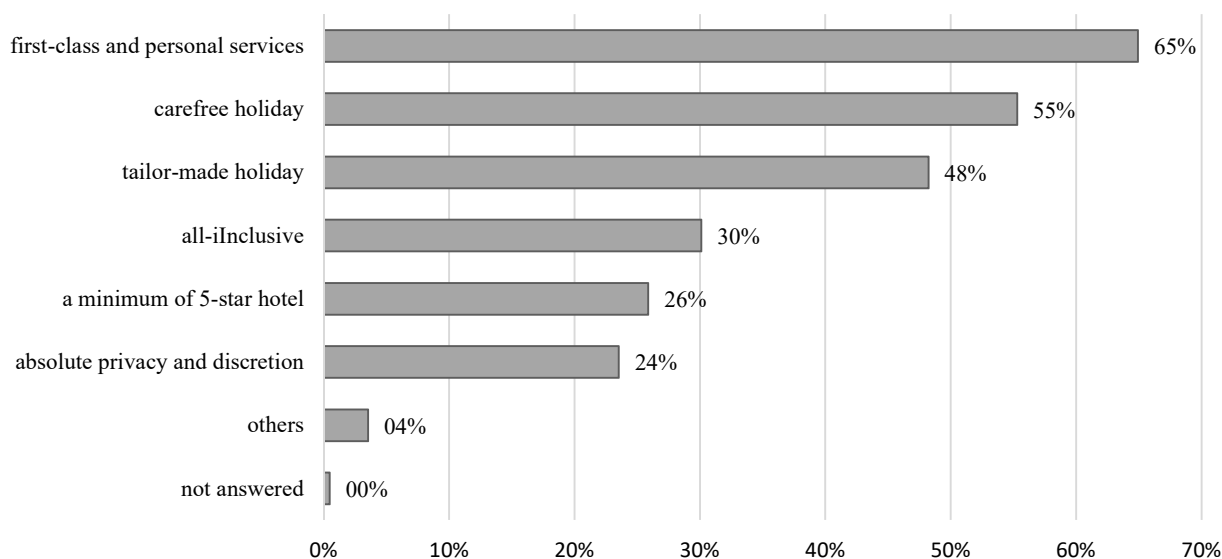
economic status is concerned, people with a regular income, or rather anybody with a regular employment, was among the most frequent respondents (more than 86%).

**Table 3** Socio-demographic characteristics of the respondents

<b>Characteristic</b>	<b>Absolute frequency</b>	<b>Relative frequency</b>
<b>Sex</b>		
Men	236	55.5%
Women	186	43.8%
Not answered	3	0.7%
<b>Age category</b>		
Up to 25 years	2	0.5%
26–34 years	74	17.4%
35–49 years	152	35.8%
50–59 years	126	29.6%
60 and more	71	16.7%
<b>Education</b>		
Primary	2	0.5%
Secondary without a school-leaving exam	17	4.0%
Secondary with a school-leaving exam	142	33.4%
Tertiary	257	60.5%
Not answered	7	1.6%
<b>Economic status</b>		
Employed/employer/self-employed	366	86.1%
Unemployed	4	0.9%
Maternity leave	12	2.8%
Retired	37	8.7%
Student	2	0.5%
Not answered	4	0.9%

Source: authors' research

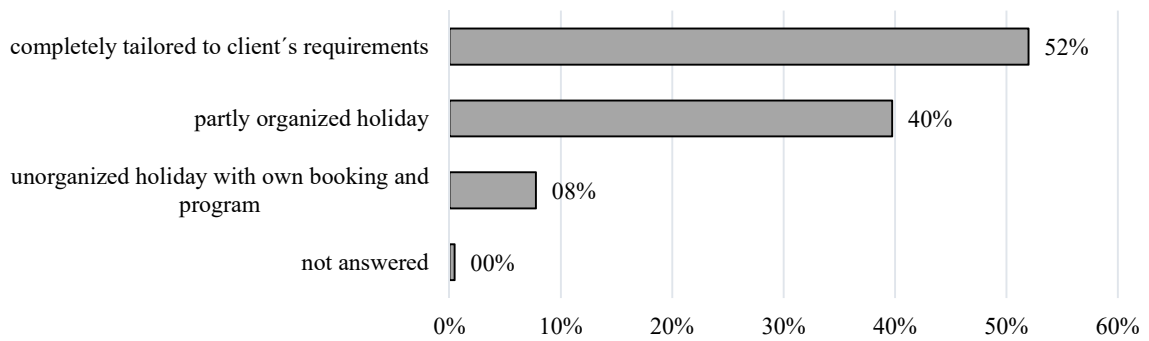
According to more than two-thirds of answers, respondents associate the term “luxury holiday” with first-rate and personalized services. An appropriate finding corresponds with the nature of the luxury tourism, as well as the second most frequent answer, which was an association with a carefree stay. It is common across the world that luxury holidays are often tailor-made for particular tasks and choices of the clients, which was confirmed by almost one-half of the respondents. Other options are mentioned in Fig. 3. It is interesting to mention that as far as the age category is concerned, especially younger respondents associate the luxury holiday with a carefree stay, while people over 50 years of age would opt for the tailor-made holiday.

**Figure 3** Preferences on a luxury holiday

Source: authors' research

Generally, the majority of the affluent clients whose travelling is costly with luxury attributes have their holiday tailor-made. Overall, we can state that a higher level of organization is typical for these types of holidays. In view of the above-mentioned findings from the questionnaire survey concerning the carefree stay and first-rate services, it is not a surprise that the Czech affluent clientele (52%) prefer all-inclusive (four or five-stars hotels) and tailor-made luxury holidays (Fig. 4). More than a half of the respondents are thus clients of travel agencies that guarantee ready-made holiday packages inclusive of the reservation, transport, trips, excursions and other activities. Two-fifths of the respondents are satisfied with partly organized holidays inclusive of e.g. hotel and flight tickets reservation. Other attributes of the stay are organised by the clients themselves. Only 8% of the respondents prefer to organize all tour by themselves.

Ready-made holiday packages are preferred by respondents including retired people, unemployed, women on maternity leave and students (64%) and respondents over 50 years (55%). In case of partly organized luxury holidays, the situation is the opposite, i.e. they are more preferred by employed people and people below 50 years. This is related to the fact that the more affluent the clients are, the more they tend to use tailor-made services.

**Figure 4** The level of organization of the luxury holiday

Source: authors' research

The board basis is also important for clients when choosing the holiday. For the majority of the respondents, comfort and carefree holiday are important, so almost 60% of them opt for the all-inclusive type of holiday. These participants of the luxury holidays prefer to choose such type of holiday where they need not be concerned about choosing the board basis. Only a minimum of respondents prefer full-board or self-catering holiday.

Regarding the motivation of the participants of luxury holidays, the numerical scale ranging from 1 to 5 was used to show which character of destination is most attractive for the respondents (value of 1 represents "the most important" and 5 "the least important"). According to the results, the respondents are most attracted by the beach and the sea. Almost 80% of the respondents assign it to the value of "the most important", which is much more than in case of other possible answers. The second most important factor is the nature and attractiveness, which is ranked among the most important character by more than a half of the respondents. Culture and history, too, play a significant role. By contrast, mountains and skiing, cruises and urban tourism or cities are less interesting for the respondents. Men tend to prefer culture and history, nature, mountains and skiing and luxury cruises, while women prefer the beach by the sea and urban tourism. Nevertheless, the overall preferences in Tab. 4 are similar to those mentioned by men or women. The median is also available, expressing the middle value of answers for individual sub-questions and dividing the set of answers into two equal halves.

**Table 4** The character of the destination

	mean	median	The percentage of total responses (1 "the most important" and 5 "the least important")					
			1	2	3	4	5	unanswered
beach and sea	1.39	1	79.8%	10.4%	3.5%	0.2%	5.2%	0.9%
nature	1.72	1	52.5%	23.1%	11.1%	2.8%	3.3%	7.3%
culture and history	2.44	2	18.6%	32.0%	24.2%	8.9%	5.2%	11.1%
mountains and skiing	3.38	4	13.4%	11.8%	14.8%	13.4%	28.0%	18.6%
luxury cruises and yachts	3.39	3	10.1%	12.9%	18.8%	17.2%	24.0%	16.9%
urban tourism and cities	3.48	4	4.0%	14.6%	22.4%	21.4%	20.2%	17.4%

Source: authors' research

For more than 90% of the participants of luxury holidays, the main reason to travel is relaxation, which includes exploring the nature and relaxation itself. For more than two-thirds of the respondents, the main reason is to explore the destination. This is also connected to the destination's history and culture. For almost 35% of the respondents, sports activities are an essential part of the holiday, for a little fewer people it is the health improvement, entertainment or celebration of an important anniversary. Only a few people travel for business, as it was mentioned only by several individuals.

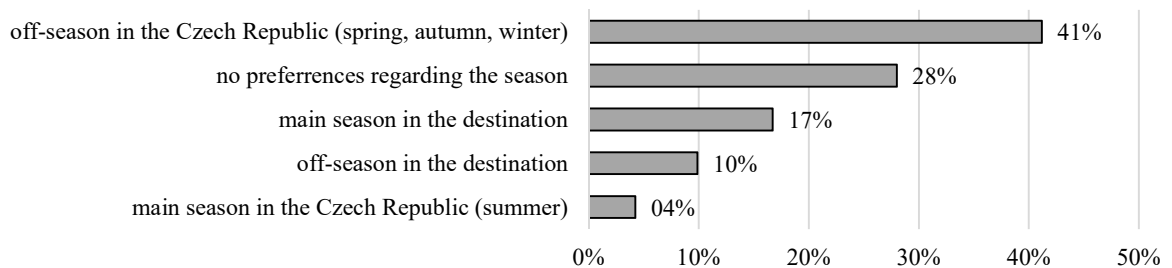
An expression of their motivation is depicted in the form of a "word cloud" (Fig. 5). This is a visual representation of the most frequently used answers of the respondents in the questionnaires. The frequency is described by the font size. The word "relaxation" is repeated in 94% of the cases in total, followed by the words "attractiveness", "history", and "culture" (68%).

**Figure 5** Motivations of luxury clients for travelling

Source: authors' research

The aim of the questions targeted at the time aspects of the luxury travelling was to ascertain which season is most preferred by the respondents for travelling. The Czech participants of luxury holidays prefer to travel in the off-summer months (Fig. 6), which represent the main season in the Czech Republic. During this season, one can enjoy the sunshine in the home country without the need to travel abroad. Yet, more than a quarter of the respondents do not have any preferences at all. Approximately 26% of the respondents' decisions are based on the season in the destination.

**Figure 6** Preferred season for travelling



*Source: authors' research*

The preference to travel off-season is also related to the fact that the participants of the luxury holiday prefer exotic places. According to the respondents, luxury holidays are mostly related to the places in the Indian Ocean, along with the Caribbean Sea and the Pacific Ocean (Fig. 7). We can conclude that luxury touristic places are typical for their tropical or exotic features and a great distance from the Czech Republic.

Figure 7 Luxury destinations according to the Czech respondents

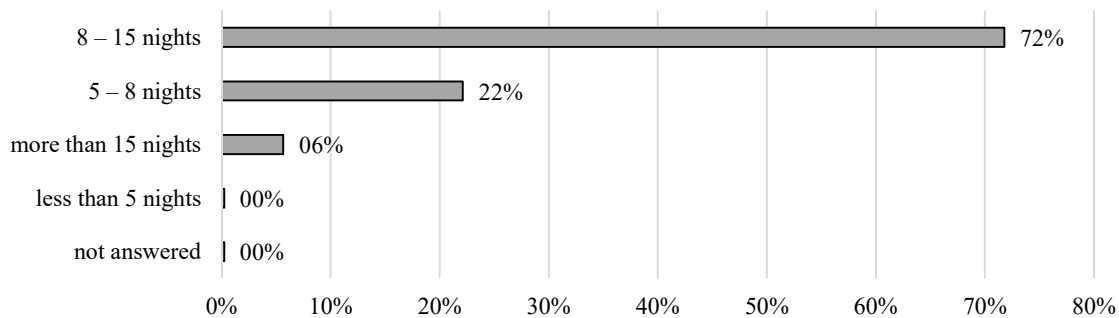


Source: authors' research



According to the next question dealing with the frequency of travels, the clients involved in the questionnaire survey take one luxury holiday per year in more than two-thirds of the cases. Among the main reasons may be included a lack of financial resources and a lack of time. The second frequent group involves participants who take a luxury holiday two or three times a year. Fewer than 3% of the respondents take more than four luxury holiday per year. As far as the time concept is involved, we must not forget the average length of the holiday spent by the participants of the luxury holidays (Fig. 8). In this case, almost three-quarters of the respondents chose the option of 8–15 nights. It corresponds to the fact that it is worthwhile to spend more nights when travelling to faraway destinations. At the same time, more than one-fifth of the respondents prefer to stay between 5 and 8 nights.

**Figure 8** Average time spent on luxury holiday



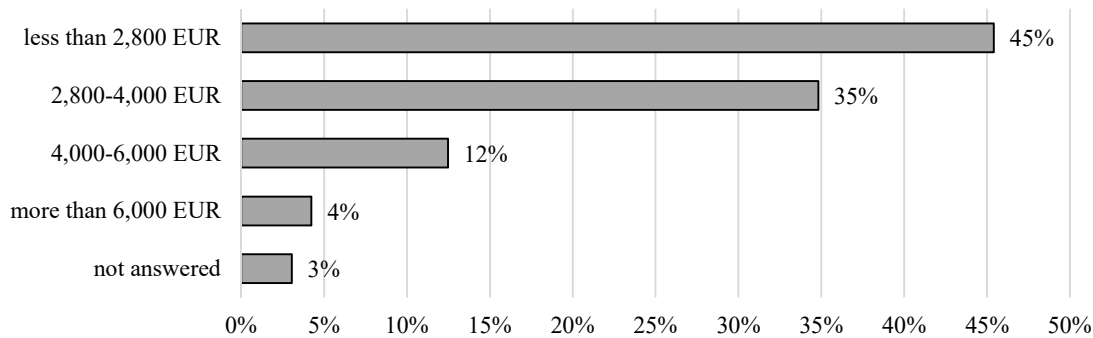
*Source: authors' research*

Two-thirds of younger people usually spend 8-15 nights on their holiday, and 27% of these respondents then 5–8 nights. The same order is observed with luxury tourists over 50 years of age, out of which 77% prefer to spend 8–15 nights on their holiday and merely 16% of them prefer luxury holidays with 5–8 nights. Younger luxury clients thus spend a fewer number of nights on their holiday, most likely due to their lack of time and workload.

Financial resources (Fig. 9) play an important part in the context of the luxury holidays, considerably exceeding the price level of regular holiday packages. Almost one-half of the respondents stated that they are willing to pay no more than 2,800 Euros for their luxury holiday. The range between 2,800 and 4,000 Euros is the second most frequent amount of money invested in luxury holiday mentioned by more than one-third of the respondents. The smallest number of people is willing to spend more than 4,000 Euros. There are particular differences when analysing the expenses of men and women, when 56% of men are ready to spend more than 2,800 Euros on the luxury holiday of 7 nights, while only 46% of women are

willing to pay the same amount. This conclusion may also encourage the gender topics, when men usually earn more money and are afterwards willing to pay more for luxury holidays. Another issue concerning the detailed analysis is to what extent the education influences the amount of the expenses on holiday. It was found out that the share of the respondents who spend less than 2,800 Euros is falling with growing education.

**Figure 9** Costs per person on a 7-night luxury holiday



*Source: authors' research*

## DISCUSSION AND CONCLUSION

In the discussion, we would like to explain how the results relate to the relevant literature and suggest any implications they might have for the future marketing strategies. The growing number of affluent clients and their increasing wealth cause that the luxury segment is developing and expanding all the time, which provokes a response from the designers of the marketing strategy. The issue of the luxury travelling is, therefore, becoming a part of the research activities. Expert studies (mostly case studies), narrowly focused on affluent clientele and the luxury segment of the tourism, are often related to the research of the quality of the services offered (hotels, restaurants, etc.) as well as the environmental impacts of building and managing the luxury resorts in, for a European person, exotic destinations such as island states or city-states in the Caribbean, the Indian Ocean or Southeast Asia (e.g., Carey, 1989; Ka Wai Lai & Hitschcock, 2016; Chen & Peng, 2018; Cowburn, Moritz, Birrell, Grimsditch, & Abdulla, 2018; Novotná & Kunc, 2019). These are predominantly developing economies that depend to a great extent on tourism revenues.

The mentioned activities are at their very beginnings in the Czech Republic, as it has been only recently when the aspects of luxury started to be perceived by the Czech consumers in a similar way as by the affluent clients from traditional European countries such as France, Great

Britain or Germany. Our contribution reflects this fact and it defines the demand segment of luxury tourism in the Czech Republic, which might be considered unique within Central Europe. Such knowledge of sociodemographic characteristics of the Czech affluent clientele and their consumer behaviour may be a guideline to choose a suitable marketing strategy for this market segment. We may use e.g. the amount of the travelling expenses as a variable as a useful alternative instead of the general segmentation according to travelling activities.

Due to the limited possibilities of comparisons (see above), one of the most available comprehensive research of the demand for luxury holidays called *Luxury Travel Trends* from Pangea Network (2014, 2017) – which is an international organization of independent agencies specializing in consultancy, marketing and communication services in tourism - was chosen in order to compare the Czech affluent clientele and their profilation with other European participants of luxury tourism. The agency implemented its research, besides other things, in 6 European source markets, which are France, Germany, Italy, Spain, Netherlands and Great Britain. These markets may be regarded as relevant to the profilation of a participant of luxury tourism, also thanks to the fact that they belong to the main source markets concerning the demand in the luxury tourism.

As it can be seen from the Tab. 5, a typical Czech participant of luxury tourism is considerably different from the European one (representing all European countries), while at the same time similar consumers' behaviour, motivation and activities can be noticed. Czech participants in the luxury holidays are different as far as the financial possibilities are concerned, as they are usually willing to pay less amount of money for their luxury holiday. The frequency of travelling is lower, as well as the type of the preferred air transport. In these aspects, the Czech tourists are definitely falling behind the European luxury tourists. Yet, the situation is similar when regarding the organization of the holiday (the so-called "tailor-made" packages prevail), as well as the board basis (All inclusive), the choice of the holiday and the motives for travelling such as first-rate and all-inclusive services, comfort and relaxation. European luxury tourists are more focused on unique experiences and pay attention to eco-friendly goods and services. According to an expert on luxury tourism from Deluxea travel agency who has been recently interviewed by way of additional controlled interviews, it is obvious that requirements and possibilities of the Czech affluent clientele change rather quickly and in near future they will equal the clients from the developed European countries. The expert also mentions that this future progress means a bigger emphasis of the Czech clients on a certain added value of non-material character, which was now expected rather by the clientele from the developed countries.

**Table 5** A comparison of the consumption patterns and motivation

<b>Czech affluent clientele (Authors' research)</b>	<b>European affluent clientele (Pangea Network, 2014, 2017)</b>
The most frequent age group (years)	
35–59 (both couples and individuals)	36–55 (couples, generation X is the main target)
Influence on tour choice	
Information from friends and tour specialist	Information from friends, relatives, and online reviews
The choice of the holiday according to (expectation of)	
First-rate and personal services (65%)	Added value (65%)
Motivations to travel	
Relaxation, nature and attractiveness, culture, history, mountains and skiing	Comfort and rest, completeness of services, new destinations, authenticity, unique experiences, culinary experiences, and culture tours
The level of organization of the holiday	
“Tailor-made” (52%), Partly organized (40%)	“Tailor-made” (69%)
The preferred season for holiday	
Off-season in the Czech Republic (spring, autumn, winter) (41%)	Winter, summer (25%)
The preferred accommodation type	
Luxury hotels (four or five-stars)	Exclusive boutique hotels or the best international hotel brands
The most frequent length of the holiday	
8–15 days, 1 holiday (72%)	10 days, 4 and more holidays (47%)
The most frequent costs per person	
Up to 2 800 thousand Euros (45%)	5–10 thousand Euros (54%)
The character of the destination	
Beaches and sea (78%; the Indian Ocean, the Caribbean and the Pacific Ocean), Nature and attractiveness (52%)	the Caribbean and Brazil, the Indian Ocean Islands, East and South-east Asia, United Arab Emirates, South Africa, Australia
Special interest	
No special interest, just balanced price / quality ratio	pay attention to eco-friendly goods and services
Board-basis	
All Inclusive (60%)	All Inclusive (69%)

Source: authors' research

Based on the above-mentioned findings, we may find answers to the research questions stipulated in the methodical part of the presented contribution. In order to answer RQ1, it was necessary to define a Czech participant in the luxury tourism. Such a person is middle-aged with a tertiary education and employed. Typical features of the luxury holiday of such person include e.g. All inclusive, first-rate and personal services, and the possibility to relax in an exotic country during a period when it is the off-season in the Czech Republic (in the off-summer months).

RQ2 focused on the consumption patterns and motivation of the Czech demand segment to participate in the luxury tourism may be answered by using the above-defined push and pull

factors. The psychological incentives may be considered a primary motive, leading to the satisfaction of the needs for relaxation that implies push factors. While specific characteristics of the destination are the secondary motive for luxury tourism (pull factors), more than two-thirds of the respondents' state that getting to know the attractiveness of the destination is the motivation for taking their holidays.

From the findings found not only in the research, it is possible to confirm the indisputable importance and growth tendencies of luxury tourism, even though it is a form of travel adapted only for a limited range of participants and thus a combined offer (e.g. Radiant Insights, 2018; Adroit, 2019). The situation in more developed countries is still ahead of the state of luxury tourism in the Czech Republic. However, the signs of catching up and leveling the world standards in terms of domestic supply and travel habits of domestic demand are positive. These facts are also confirmed by expert studies of Pangea Network (2014, 2017) expecting that high-spending travellers will be very demanding, informed and increasingly sensitive to eco-friendly travel solutions. Generally, luxury travel is expected to increase by 6–10% over the next 2–3 years.

#### Acknowledgement

This contribution was supported by an internal grant of the Faculty of Economics and Administration, Masaryk University, entitled "Destination Sustainability under the Pressure of Global Tourism Trends" (MUNI/A/1166/2018).

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## **THE EFFECT OF SOCIAL REHABILITATION ON THE URBAN SEGREGATIONS**

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**Cite this article:** Fekete, D., Laczkovits-Takács, T. (2019). The effect of social rehabilitation on the urban segregations. *Deturope*. 11(2), 143-168.

### **Abstract**

The remarkable social urban rehabilitation effort of the Győr Municipality which has recently been implemented and is currently in progress led to the considerable development of Győr-Újváros, not only in the renewal of the actual built environment but also in the social improvement of the inhabitants. In our study we will look at the Győr urban development project in three dimensions. First we explore its feasibility. Why is it Újváros that needed rehabilitation? Strategic documents and relating statistics prove the choice feasible: it is the place where the most significant segregation can be found in Győr that needed intervention. Secondly, we analyse the intervention of the urban development. What were the changes, how did they affect the built heritage and the social status of the inhabitants of the area? Based on the available documents and reports we can state that significant results were achieved both concerning the built heritage and social adjustment and development. In the framework of empiric research, we examine through comparative analysis the conditions before and after the rehabilitation taking into consideration two aspects (modification of hard infrastructure and the modification of the soft factors) and 7 allocated indicators (I.1. Number of flats, I2 Number of businesses, I3. Level of convenience, I4. Surface area of the flats, I5. Rent prices, I6. Applicants receiving regular support, I7. Applicant receiving temporary support). Data are available partly from the feasibility study and partly from the data services of the Győr Municipality. Result show that regarding several factors, rehabilitation had a positive effect in the neighbourhood. As a result of the rehabilitation the built environment has gone through significant improvement in case of six blocks of flats. The number of businesses for rent has increased, the convenience level of flats has changed positively too, as all flats have all modern conveniences and in most cases the surface area has also risen, thus providing better housing. Parallel to this the social status of the inhabitants living in this area has also improved as both the regular and temporary applicant receiving support has dropped significantly. Due to rehabilitation the rents have tripled after renovation which can be put down to the significant rise in standards.

Keywords: social urban rehabilitation, housing policy, local social supply system, Győr, segregation

### **INTRODUCTION**

The study focuses on the topic of social urban rehabilitation. The rehabilitation and revitalisation of an urban area is often among the strategic goals of Hungarian and European cities. There are more ways to raise an impoverished area, in this case we will look at the social urban rehabilitation. After the introduction of the literature we will list our research questions, data resources and methodology.

The empirical examinations deal with the social urban rehabilitation of Győr. The first phase of the rehabilitation in Győr-Újváros has been finalised, which provides a possibility for comparative analysis in which we evaluate the procedures. We hope that the Győr case study



is able to summarise important experiences and publishing the good practice may serve as a beacon to other cities and also increase the number of published research results in the field of urban rehabilitation.

## **THEORETICAL BACKGROUND**

Győr in the recent years has been the centre of several scientific research projects. The key to the significant development of the city is the strong economic base which was a popular topic of research. Several researches looked at the Győr Model through which the procedures of a strong co-operation between the university, the industry and the city were examined. (Rechnitzer et al., 2016). Further examination of the Győr co-operation model highlighted the fact that strong co-operation plays an important role not only in the city's but also the region's competitiveness as well as in the development of its infrastructure. (Fekete, 2018b). Further analysis of the processes taking place in Győr identified the move towards economic governance. (Fekete, 2018c). The companies are significant participants of the Győr Model and have served as an important research topic in the past few years. The openness of companies (Czakó & Hajdu-Smahó, 2014), the mapping of the contact network of companies (Reisinger, 2014b) and the contribution of business organisations to economic development have also been analysed (Reisinger et al., 2017). Research in territorial capital has not avoided the present procedures in the city and these researches have also evidenced that the co-operation systems of the local economy significantly contribute to the economic development of the city. (Czakó & Dóry, 2016). Taking into account the theory of territorial capital, the analysis focused on the developmental stages of the city and the local economic, cultural and social characteristics. (Rechnitzer, 2016). The most prominent research of the last few years was the research programme on the vehicle industrial district of Győr in the framework of which they mapped using both theory and practice the effect on the city of a dynamically developing sector, in Győr's case the automotive industry. The research among others concentrated on the formation of the city's future image based on the examination of strategic documents (Fekete, 2014), and the track points of Győr's economy from the change of the regime up to today. (Rechnitzer, 2014). One of the most recent research examines social responsibility and the effect of AUDI on Győr's economy (Fekete, 2018a), and also looks at the contact points of five SMEs from the Győr micro-region to AUDI through case studies. Further research touched up the agglomeration of Győr (Honvári, 2014), and the analysis of urban-rural spacial interaction in the context of Győr region (Szörényiné, 2014). The research into the modified role of state role

with a special regard to Győr was also an interesting field in scientific work (Somlyódyné, 2014). Another locally focused research has dealt with the organisational and territorial efficiency of public services bringing examples from Győr (Dusek, 2014). Further research was done emphasizing the role of local resources with the analysis of Győr's funding strategy. (Kovács, 2014). Many new results have surfaced in the past years in connection to the tasks of human services in Győr. The appearance, effectiveness, fulfilment of basic human needs was also mapped and basic value preferences of the inhabitants of Győr were identified which can help social and health institutions providing human services to respond appropriately to changing needs. (Nárai, 2014a). Besides basic needs further research was conducted into higher activity needs of Győr inhabitants (Nárai, 2014b). In connection to the local health service system the analysis of the regional characteristics of attitudes relating to the health condition of Győr's inhabitants was also (Kovácsné, 2014), and a separate study was done on the provision of local health tasks (Laczkovits-Takács, 2018). The in depth processing of local co-operation was not only done in relation to the economic sector but this field was the centre of interesting research as one of the building blocks of social service activities. (Budai, 2014). Besides city co-operations research also focused on the social co-operation of the Győr area (Budai & Puli, 2014) and the network structure of the participants of the social institution system their internal, in between and external co-operation contacts (Csizmadia, 2014). The local, Győr society was analysed by several empiric research through which they examined the dimensions of the local society (Tóth & Ditrói, 2014), the social division of the districts and residential areas of Győr (Páthy, 2014), the Győr identity and their background factors (Bugovics, 2014) as well as the characteristics of social participation of the inhabitants (Reisinger, 2014a). Further studies looked at the structure of a Hungarian metropolis (Csizmadia & Tóth, 2014), and the social stratification and mobility of the inhabitants of Győr.

In addition to the scientific background from Győr we shortly observe the scientific foundation of the literature on urban rehabilitation. Urban rehabilitation or in other words urban reconstruction means the renovation of residential buildings, flats, social institutions and infrastructure of run down areas with the aim to maintain the characteristic structure, ways of building, and the valuable parts of the building stock (Egedy & Kovács, 2005).

Deterioration of the built environment usually goes together with the social decay of the area, so for this reason the positive effects of urban rehabilitation must not only be visible on the built environment but the social environment as well. In such cases we can talk about social type of urban rehabilitation which besides traditional tools (renovation of buildings and social spaces etc.), includes economic, social, environmental development programmes as well. In

the past era several case studies and scientific works were published (McGregor & McConnachie, 1995, Wrigley et al., 2002, Atkinson, 2003, Yung et al., 2014). Regarding rehabilitation of historical parts of cities several researches can be found in international context examining the practice for instance in United States of America (Anderson, 1967), in Lisbon (Mendes, 2013) or in developing countries (Steinberg, 1996). In European context further studies analysed the phases of urban regeneration in Europe (Stöhr, 1989, Lichfield, 1992), while other works touched the role of public administration in fostering urban housing rehabilitation (Cruz & de Brito, 2015). Other researches focused on the practices of urban regeneration activities in several European countries (Alpopi & Manole, 2013) or the comparison of urban regeneration projects (Aase & Holt-Jensen, 2003, Holt-Jensen et al., 2004, Holt-Jensen & Morison, 2000). Another research analysed the urban regeneration activities of the European Union (Tasan-Kok, 2003).

## DATA AND METHODS

In our research we focused on the changes brought about in the first phase of urban rehabilitation in Győr-Újváros area. To begin with our research questions referred to the justification of the rehabilitation. Why was social rehabilitation necessary in this area of the city? How unique is this area? We aimed to answer these questions by analysing the strategic documents of the city and collecting, studying relevant data from the Hungarian Central Statistical Office (KSH).

After this, in the second phase of our examination we looked at the main steps and measures of the urban rehabilitation. By analysing the strategic documents we outlined the most important interventions. As part of the empiric examination we were interested in what changes were brought about in the hard infrastructure and the soft factors by certain interventions? We allocated seven indicators to these two examined factors. (Tab. 1)

**Table 1** Examined factors and indicators

<b>Examined factors</b>	<b>Indicators</b>
Change of hard infrastructure	I1. Number of flats
	I2. Number of businesses
	I3. Level of conveniences of the flats
	I4. Surface area of the flats
Change of soft factors	I5. Rent prices
	I6. Applicants receiving regular support
	I7. Applicant receiving temporary support

Source: Own compilation

When selecting the indicators, we looked at six such reconstructed blocks of flats from which the necessary data were available both before and after the rehabilitation. The starting data were taken from the survey of the area involved before the rehabilitation, while the condition after the rehabilitation was reconstructed based on the data received from the Győr Mayor's Office. After the evaluation of data, we analysed the direction of the changes and examined the positive and negative moves of the indicators.

## **SOCIAL REHABILITATION OF GYŐR-ÚJVÁROS**

To understand the reason why Újváros was chosen as the primary area for urban rehabilitation in the recent years, we must look at the exact numbers, but before we do that we should look back on the short history of the area (Action Plan 2012). The Újváros area lies on the western edge of Győr which was the first area after the middle ages in the beginning of the 16th century that was populated outside the city walls. Development took off after the Turkish era and in the 19th century Újváros became an area redolent of age and kept its character until the 1940's. During the era of development, between the 17th and 19th century, the five denominations besides each other were established and most of buildings of architectural heritage in Kossuth Lajos and Bálint Mihály Street were built. Burgers, rich tradesmen, businessmen and people of handicraft inhabited the area. Unfortunately, during the years of socialism, the state neglected the area and did not spend on the maintenance of the buildings in and around Kossuth Lajos and Bálint Mihály Street so their condition deteriorated and parallel to this people who have leaved there for generations, owners who were made to rent their own property after 1949 and their descendants were forced to move out from the area in the 1970's and 1980's. At the same time the Roma settlements on the outskirts of the city were being eliminated and the council moved in people with lower social status, which process continued even after the change of regime and conserved this situation. After a long period of deterioration and stagnation no steps for improvement were made until 2012.

### **Main characteristics of the Újváros segregation**

The history of our research topic was examined with regard to two strategic documents, the Integrated Urban Development Strategy of Győr accepted in 2008 (resolution number 41/2008. (II.28.) GYŐR MJV Kgy) and the Integrated Settlement Development Strategy of Győr

accepted in 2014 (resolution number 162/2014. (IX.12.) GYŐR MJV Kgy). The Integrated Urban Development Strategy (hereinafter IUDS) based on the 2001 census identified the adverse areas of Győr with lower social strata. Using the data<sup>18</sup> of the situation analysis, the areas were ranked applying three processes<sup>19</sup> and the following statements were made (IUDS, 281):

- the segregation of social groups with lower status is most recognizable in Újváros, Gorkijváros and Gyárváros one which must be amended by the western part of Újváros and Sziget, where the concentration is less,
- the most deprived area is Újváros as three out of the four indices show the worst data (20% unemployment rate, the rate of inhabitants with low level of education is 61% quarter of the flats are without basic convenience or are emergency lodgings),
- Based on the population of the areas 2,2%, live in the three worst areas, if we look at the five worst areas of the city this number is already 6,8%. As a result of this we can say that the rate of segregated groups based on these parameters is low, but in case of Újváros the difference is especially big.

The document further examines the groups of low social status, the members of which have only primary school education and no regular income. If the rate of this group exceeds 50% in an area, it is regarded as a segregation. All in all, it was noted that in average 10% of the population of Győr can be regarded low status but in no area does it exceed 50%. However, arising from the division structure of the Győr areas, the concentration of low status inhabitants is the highest in Újváros. Based on the situation analysis of Újváros has the following characteristics:

- Cumulatively disadvantaged in the area,
- Concerning the age division the rate of children under 14 is outstanding which also reflect that the number is children is high,<sup>20</sup>
- In the kindergarten of Újváros the rate of cumulatively disadvantaged children exceeds 60%,

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<sup>18</sup>The used data were the following: convenience index for employment, unemployment, education and housing and the newest data of social support and rentals.

<sup>19</sup>The three applied procedures were the following: ranking, preparation of a unified development index with data reduction and cluster analysis

<sup>20</sup>Number of children per 100 families is 139 which is way above the city average

- There is a deficit concerning the number of active aged inhabitants and as a result their status on the labour market is also unfavourable,
- The number of flats without basic convenience is the highest in Újváros,
- The number of flats owned by the municipality exceeds 40%,
- Based on the two basic indices defined by the handbook of urban development the area is above the 50% criteria (rate of people with only primary school education is 61,4% while the rate of inhabitants without regular income is 62,8%),

All in all we can state that based on the 2001 census Újváros is a big, contiguous segregation, forming an area within the city characterized by disadvantageous situations in more than one dimension where if you take into account the guidelines of the anti-segregation plan the concentration of low status inhabitants is higher than 50 so it can be regarded as the city's primary target area together with the bordering areas of Sziget for the anti-segregation programme. The intervention areas of the programme focus on housing, education, labour market integration, improvement of services, and as part of a general development project, the rehabilitation of Újváros by forming a cultural quarter including the reconstruction of buildings, functional expansion and the development of roads and the utility network.

The relevant chapter of the Integrated Settlement Development Strategy (hereinafter ISDS) based on the 2001 data contains the analysis of the actual relations of areas marked segregated or in danger of segregation assisted by data from the 2011 census. Analysing these data we can formulate the following points:

- Improvement is detectable in the field of employment, in case of Újváros we can see a 5% growth in activity during the past 10 years and parallel to this the number of inhabitants without permanent income has dropped,
- However, the rate of unemployment is still high,
- Among the active inhabitants the percentage of people with only primary school education is still high but we can see a continuous upward shift,
- The rate of low convenience flats is still high especially in case of Újváros

Practically there has been a positive change in the past 10 years in all indices measuring development.

The Department of Welfare of the Central Statistical Office based on the 2011 census data, located three segregations (Tab. 2) and three areas in danger of segregation (Tab. 2). Based on

the segregation index we can talk about segregation when the rate of inhabitants between 15-59 with only primary school education and no regular income exceeds 35% (312/2012. (XI.8.) Government Decree).

**Table 2** Segregations in Győr (2011)

Name	Streets included
Segregation 1	Veszprémi Street, Szent Imre Street, Kismegyeri Street
Segregation 2	Majorok Street; Pásztor Street; Síp Street
Segregation 3	Bercsényi Grove, Erkel F. Street, Kossuth L. Street, Jakobinus Street, Bálint M. Street, Beér Close, Kossuth L. Street, Transzportház Street, Bálint M. Street, Budai N. A. Street, Selyem Street, Sütő Street, Budai N. A. Street, Cukrász Close, Rózsa Close, Kossuth L. Street, Budai N. A. Street, Festő Street, Városház Close

Source: Own compilation based on the General Assembly decision 142/2016. (IX.23.)

The 3rd segregation in the table is the biggest segregation in the city, in 2011 384 people were living in the involved streets which can be found in Újváros. From among the data characterizing the segregation we can point out the rate of inhabitants among the active population with only primary school education is 52,5%, the rate of inhabitants among the active population without regular income is 65% and the rate of low convenience flats, researchers 30%. Based on the data from 2011 we can say that Újváros is the area most affected by segregation.

As the source for the economic and demographic indices data from the census of 2001 and 2011 collected by the Central Statistical Office was used together with the foundation analysis prepared for the Settlement Concept and Integrated Settlement Development Strategy. Regarding certain indices there were precise data available in 2001, which are summarised in Table 3. In case of all the indices we can say that during these 10 years there were positive processes. The population of the area shows a very small, 1% growth which means 56 people. In case of the activity rate which shows the rate of the economically active population within the working population, we can see a significant positive change since 2001. In connection to this, the decrease of inhabitants without permanent income enhanced the positive tendencies. Concerning education, the rate of inhabitants with only primary school education is still high compared to the city's average but there has been a drop in these numbers as well. If we look at the rate of inhabitants with university education we can also see a salient, 9,9% increase. Examining the age distribution this area differs from the other areas because of its high rate of young inhabitants. Looking at the unemployment rate we can still see high figures. In Újváros

the rate of low convenience loggings as well as the rate of municipality owned flats is still high. (Tab. 4)

**Table 3** Change of certain indices of Győr-Újváros (2001-2011)

Name of the index	2011	Change compared to 2001 (%)
Inhabitants (per person)	5672	1,0
Rate of activity (%)	53,2	5,4
Rate of inhabitants without permanent income in the population between 15-59 (%)	43,7	-5,7
Rate of inhabitants with only primary school education in the working population.(%)	21,4	-6,0
Rate of inhabitants with higher education degrees in the population older than 25 (%)	19,6	9,9

Source: Own compilation based on the Central Statistical Office (KSH) census in 2001 and 2011

**Table 4** Győr-Újváros in relation to certain indices (2011)

Name of the index		2011
Age group (%)	0-14 years old	15,9
	15-59 years old	65,9
	above 60 years	18,2
Ageing index		1,15
Rate of households without any person employed		29,1
Rate of unemployed (%)		8,1
Rate of permanently unemployed within the unemployed (%)		60,9
Rate of low convenience level flats (%)		13,4
Rate of municipality owned flats (%)		13,9

Source: Own compilation based on the KSH census on 2011

### Measure of Urban Rehabilitation in Újváros

Both nationally and locally before the change of regime very little emphasis was put on the maintenance of the building stock, the necessary renovations, though in the 1980's there were experimental attempts but the problems of the built environment cumulatively appeared after 1990 and these areas with rundown buildings and building stock had a significant disadvantage on the property market. Before 2012 from among the urban rehabilitation actions performed in the action area, we must mention the renovation of the Synagogue in Kossuth Lajos Street and the construction of Rába Quelle Spa in the place of the old spa, performed in the vicinity of the action area (Action area plan 2012).



For the rehabilitation of Újváros the first bigger step was taken in the framework of the West Transdanubian Operative Programme in 2011 as part of the first round tender documentation (Decision of 38/2011. (II.25) the Győr General Assembly) then in the second round tender documentation in 2012 with the approval of the final Action Area Plan in the framework of the tender „Social Urban Rehabilitation in the Area of Győr-Újváros” (Decision 133/2012. (V.25.) of the Győr General Assembly) The first phase of the urban rehabilitation project was carried out between 01.11.2012. - 31.12.2014. The defining of the action area and other elements of the project are shown in Fig. 1. The project contained infrastructural, investment type and soft elements as well which have been implemented in the form of the below interventions:

#### 1. Infrastructural and investment type development elements

- Activities enhancing housing: 40 modern flats in 6 buildings were made as part of the social housing scheme (Kossuth Lajos Street 15., 19., 21., 22/B., 26., 28.),
- Community service activities: External renovation of the Szent József Roman Catholic church in Újvárosi,
- Developments in the public sector: Establishment of a police station on the ground floor of Kossuth Lajos Street 13; Renovation of the facade of Kossuth Lajos Primary School (Kossuth Lajos Street 13.),
- Development of public spaces: Rehabilitation of the public space in Bercsényi Grove (between Híd Street and Jakobinus Street) – establishing a park, a playground, a traffic park, waste in Bercsényi Grove ,
- Service providing units of economic function– 5 shops were established on the ground floor of the buildings number 15, 19 and 26 in Kossuth Lajos Street.

#### 2. „Soft” elements supplementing the infrastructural, investment type developments

- Medical actions targeting the inhabitants of this area: Medical screening
- Providing community developing, free-time services, courses, training programmes: training experts, adult and children (trainings helping adult integrate and/or reintegrate into the labour market, involving disadvantaged youth training programmes, school programmes (Kossuth Lajos Primary School),
- Activities enhancing and forming local environmental friendly, sustainable attitudes,

- Expanding family welfare services on the on the premises and implementing extra beyond the compulsory social and child welfare services
- Programmes for crime prevention, trainings to strengthen crime prevention and public safety, attitude forming programmes, preparation of local crime prevention strategies and action plans (neighbourhood police programmes, professional prevention programmes, youth protection service)
- Soft activities in indirect policies in the form of mini projects. (these are connected to the soft topic and are restricted to one service, action and do not span through the full period of the project, with the help of civil organisations)

**Figure 1** Action area and project elements of the first phase of the social urban rehabilitation project of Újváros



Source: Action area plan page 159

## RESULTS OF THE EMPIRIC STUDY

### *Situation before the rehabilitation*

For the foundation of the project an action area survey was conducted in January and February 2010, which consisted of a question and answer survey and an interview with residential,

organisational and institutional focus groups. During the survey 72 households were involved, 31 households were not accessible mainly because the flats were uninhabited and people have moved out previously. Concerning house number 6 in Kossuth Street the results were collected and analysed which were supplemented by data provided received from the Mayor's Office of Győr. Table 5 below shows how many households were asked in the question and answer survey. Altogether 15 households in 6 buildings were examined, in case of the other flats they were mostly inaccessible and abandoned. The surface area of the flats was checked in connection to which we can say that the surface area of 1 flat was above 100m<sup>2</sup> 30 flats were under 50m<sup>2</sup> while 15 flats were between 50 and 100m<sup>2</sup> (Tab. 6). The biggest flat can be found under Kossuth Street 26. It is 120m<sup>2</sup> and 6 people live in it, the smallest flat is also at Kossuth Street 26, it is 19m<sup>2</sup> and it was uninhabited. To sum up we can say that most of the flats belong to the less than 50m<sup>2</sup> category. In the survey the number of people per household was also looked at in connection to which a mixed picture was received. It was interesting to see that 5 households consisted of 2 members, 3 households had only 1 member and the rate of large or multi-generation families was rather low, 3 families consisted of 6 members and 1 family of 7 members (Fig. 2). The classic 4 and 5 member families were totally missing from the sample.

**Table 5** Number of flats per building and the number of households surveyed (2010)

<b>Number of the house<sup>21</sup></b>	<b>Number of flats in building/piece</b>	<b>Number of households surveyed</b>
House 1	3	3
House 2	5	2
House 3	5	0
House 4	7	4
House 5	7	5
House 6	19	1

Source: Own compilation based on the action area survey and data from the Mayor's Office of Győr.

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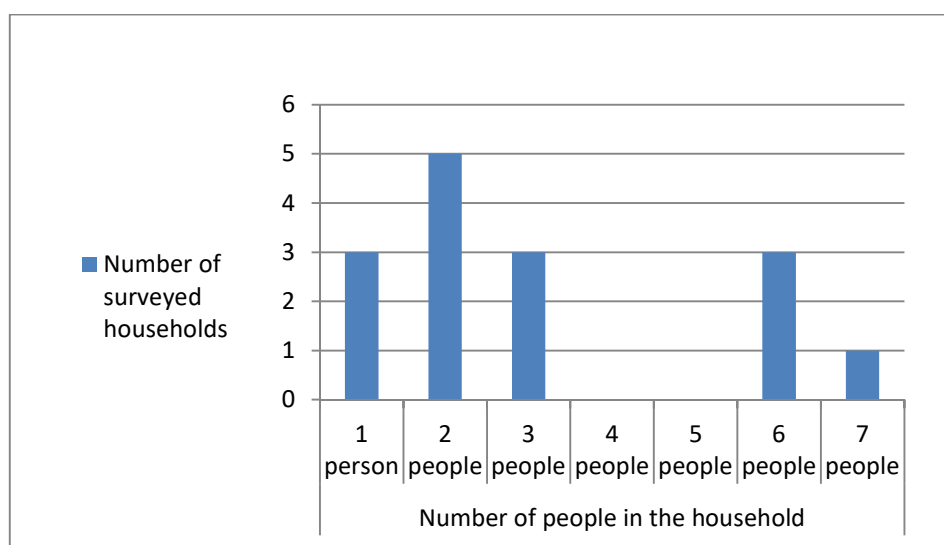
<sup>21</sup> Because of anonymity we indicate the buildings not with house numbers but with indications of House 1, House 2, etc.

**Table 6** Number of flats by surface area and the number of empty flats (2010)

Number of the house	Number of flats based on surface area (per piece)			Number of empty flats
	less than 50m2	50-100m2	more than 100m2	
House 1	1	2	0	0
House 2	2	3	0	2
House 3	4	1	0	1
House 4	3	4	0	1
House 5	5	1	1	2
House 6	15	4	0	15
<i>Total</i>	<i>30</i>	<i>15</i>	<i>1</i>	<i>21</i>

Source: Own compilation based on the action area survey and data from the Mayor’s Office of Győr.

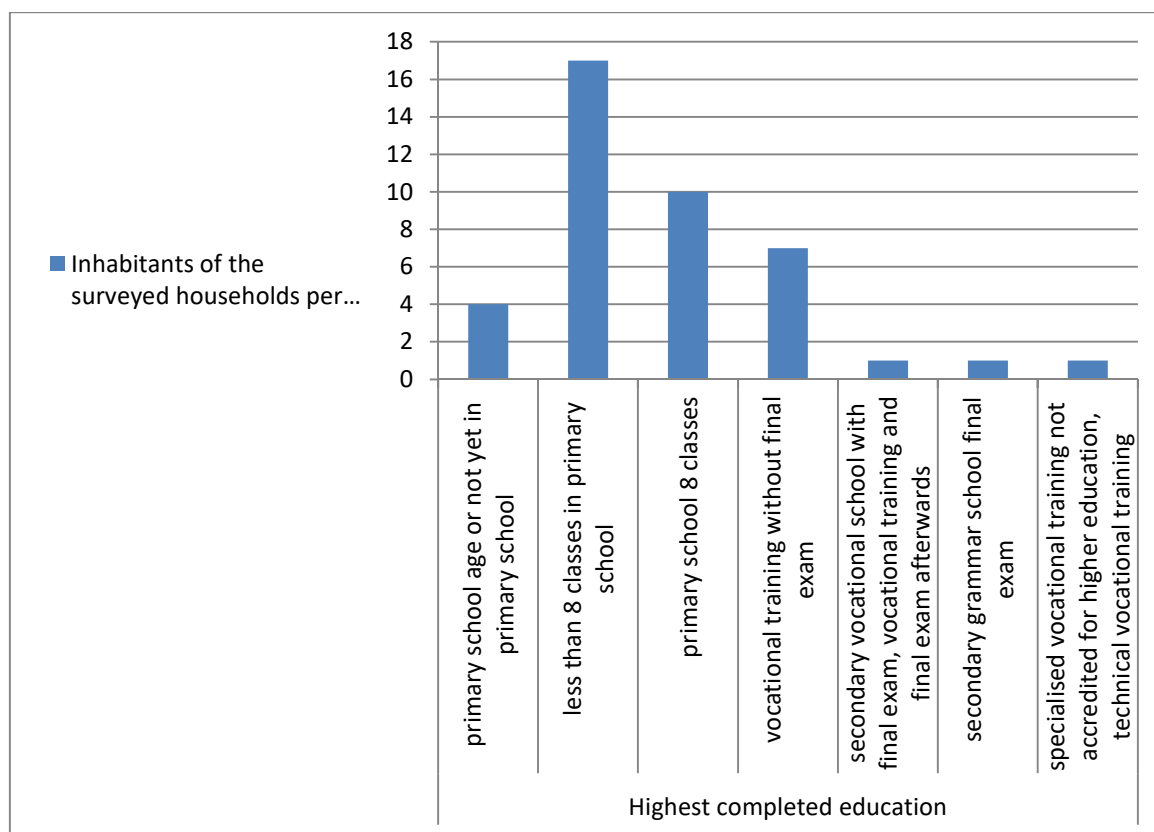
**Figure 2** Number of household members (2010)



Source: Own compilation based on the action area survey

Similarly to the area data, a negative picture is painted when looking at the highest qualification in the surveyed households (Fig. 3). As the highest qualification 1 person was a qualified, technician, 1-1 has achieved a secondary grammar school or secondary vocational school final exam. 7 people have taken part in vocational training. The number of people with only primary school education was 10 which is very high but the number of people with less than primary school education is even higher. 4 people were not yet in school or attended primary schools.

**Figure 3** The highest completed qualification of the household members surveyed (2010)

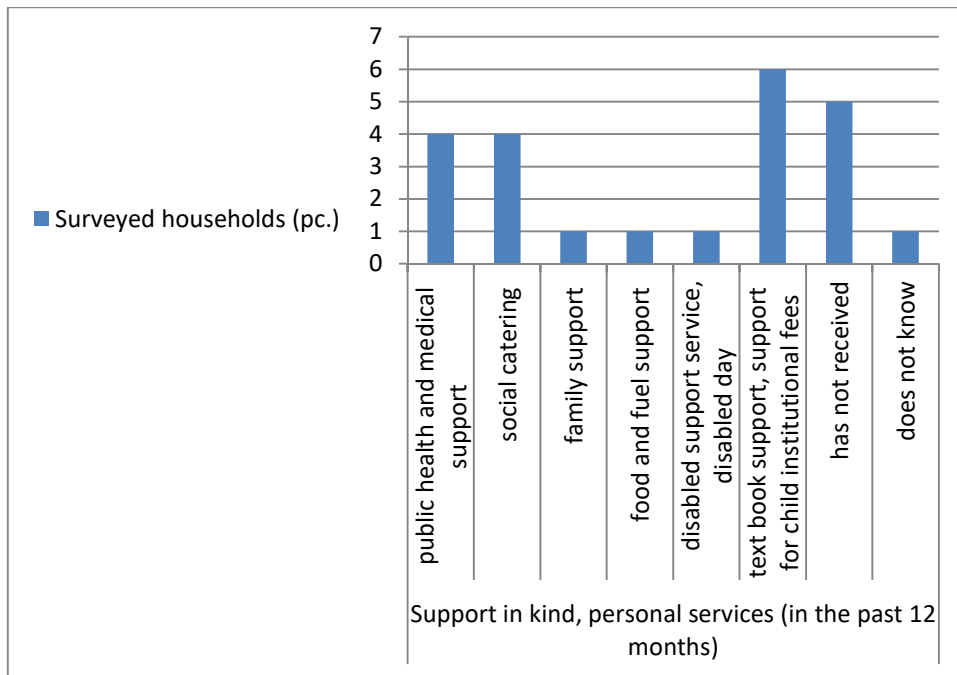


\* There is no available data in case of 5 people

Source: Own compilation based on the action area survey

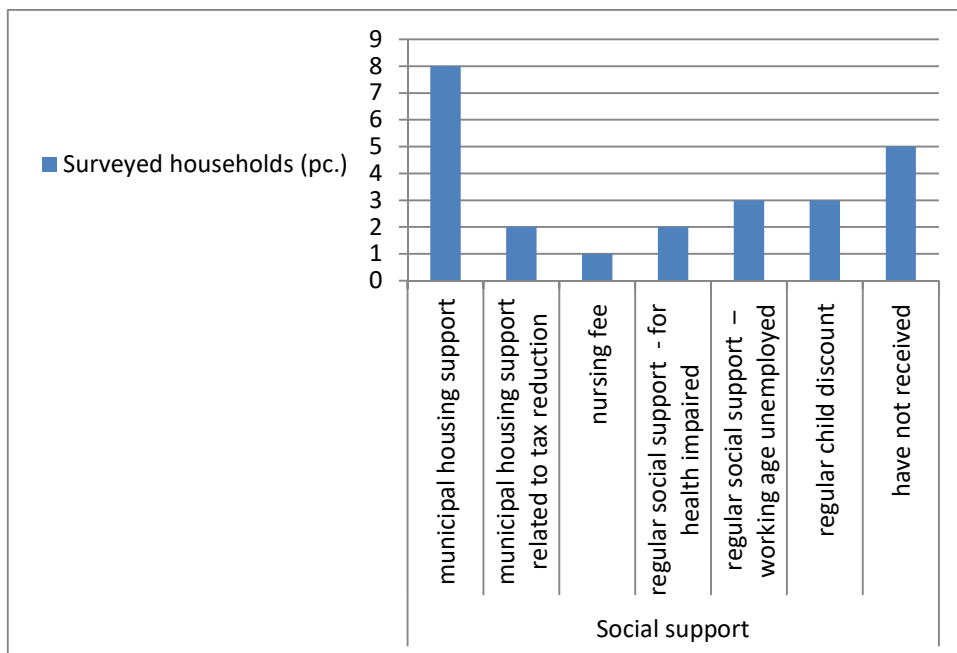
They also examined whether any member of these households received any support in kind or has used any personal services in the past 12 months. Results show that most households (6) got support for schooling, textbooks or child benefit support, in second place was the public health and social catering support, 4-4 households have received such support and in third place 1-1-1 household mentioned that they received family benefit, food, fuel and disability support (Fig. 4 ). 1 household could not answer the question while 5 households have not used any services and did not receive any support. Receiving financial support was also surveyed and here we experience a much more intensive attitude towards the application for these supports. 8 households declared that they have received municipal housing support and 2 households have received housing support for tax reduction purposes. Regular child protection benefit was given to 3 families and 3 families received social support for a member being of working age but unemployed. 2 households got regular social support for disability while one household received nursing support (Fig. 5 ).

**Figure 4** Support in kind, personal service in the last 12 months (2010)



Source: Own compilation based on the action area survey

**Figure 5** Social support (2010)



Source: Own compilation based on the action area survey

**Characteristics after rehabilitation**

Concerning the inhabitants asked in the action area survey and the building renovated in the first round of the social urban rehabilitation, out of interest we looked at the situation in 2018 including the parameters of the flats, their usage and the municipal support the inhabitants in

these flats receive. The data are shown in Table 7-8. All in all there were 42 flats constructed, 40 of them are operated by the municipality for social housing, while two of the flats (address Kossuth Street 26) are specially designed for disabled people.

One flat from among the reconstructed flats is more than 100m<sup>2</sup> in surface area while a little bit more than 69% of these flats are between 50-100m<sup>2</sup>. The smallest of them is 32m<sup>2</sup> on size. Furthermore, we examined the social status of the people moving into these flats through the mirror of the social support they receive (Tab. 8). We looked at the regular supports for 2018, including housing, nursing, pedagogical and medical/pharmaceutical support (Municipal Decree of Győr 5/2015. (II.27)). 17 families receive regular support. We also looked at the special settlement support which has been provided 11 times.

**Table 7** Number of reconstructed flats by square area (2018)

Number of the house	Number of flats based on surface area			Total
	less than 50m <sup>2</sup>	50-100m <sup>2</sup>	more than 100m <sup>2</sup>	
House 1	2	3	0	5
House 2	1	3	0	4
House 3	3	2	0	5
House 4	2	4	0	6
House 5	0	6	1	7
House 6	4	11	0	15
<i>Total</i>	<i>12</i>	<i>29</i>	<i>1</i>	<i>42</i>

Source: Own compilation based on data provided by the Mayor's Office of Győr

**Table 8** Municipal support provided to the inhabitants of the reconstructed houses (2018)

Number of the house	Support provided by the municipality (pc.)	
	Regular support (household)	Special settlement support (occasion)
House 1	5	2
House 2	0	0
House 3	4	1
House 4	2	4
House 5	3	1
House 6	3	3
<i>Total</i>	<i>17</i>	<i>11</i>

Source: Own compilation based on data provided by the Mayor's Office of Győr

### Comparative analysis

Based on the above we attempt to make a comparative analysis of the situation before and after the first round of urban rehabilitation examining the conditions in 2018 with respect to the 6 reconstructed houses. Concerning the number of flats in the involved buildings we can say that before the rehabilitation there were 46 run-down flats in poor condition with low

convenience level and after the rehabilitation the municipality had 42 modern social housing facilities, which meant a small decrease in number of flats (Tab. 9) and the number of inhabitants as well. In one building the number of flats increased, in three buildings the number of flats became less and on two buildings the number of flats did not change. Concerning the usage of the flats, prior to the rehabilitation all the flats were operated as social housing facilities. After the reconstruction two flats were turned into modern dwellings with disabled accessibility. In case of all the buildings the dominant factor before and after the rehabilitation was the living function. Three buildings have mixed functions, they possess both living and business function. The business function earlier was represented by four business premises, shops, while after reconstruction this number was increased by one (Tab. 10) and similarly to the flats, the reconstruction both along an increase in quality as well. Under the address Kossuth Street 19 besides the four municipal flats and a shop, public function is represented by a new police station. The positive changes in the convenience level of the flats are shown in Tab. 11. Before the reconstruction more than 24% of the flats were without bathroom or lavatory convenience, a little bit more than 26% had washing facilities, more than 45% were normal convenience level and only two flats had full convenience level. After the reconstruction all 42 flats moved up to be on full convenience level, which practically means that in 95% of the flats there has been a positive increase in the convenience level. Comparing the size and the surface area of the flats we can see that though the number of flats became less, the average surface area of the flats has increased. While before, 30 flats were under the surface area of 50m<sup>2</sup>, after the reconstruction only 12 had such size surface area. The number of flats with surface areas between 50-100m<sup>2</sup> has increased significantly (15 to 29) which also means a change in the positive direction. (Tab. 12 )

**Table 9** Change in the number of flats

Number of the house	Number of flat (pc.)	
	2010	2018
House 1	3	5
House 2	5	4
House 3	5	5
House 4	7	6
House 5	7	7
House 6	19	15
<i>Total</i>	<i>46</i>	<i>42</i>

Source: Own compilation based on the action area plan



**Table 10** Change in number of shops

Number of the house	Number of shops (pc.)	
	2010	2018
House 1	1	1
House 2	1	1
House 3	0	0
House 4	0	0
House 5	2	3
House 6	0	0
<i>Total</i>	<i>4</i>	<i>5</i>

Source: Own compilation based on the action area plan

**Table 11** Convenience level of flats before and after the first phase of the social urban rehabilitation

Convenience level of the flats	Number of flats (pc)	
	2010	2018
Without running water, sanitation and basic services	11	0
Some basic services are available	12	0
Individual heating system and all basic services are available	21	0
Central heating system and all basic services are available	2	42
<i>Total</i>	<i>46</i>	<i>42</i>

Source: Own compilation based on data provided by the Mayor's Office of Győr

**Table 12** The surface area of flats before and after the first phase of the urban rehabilitation

Surface area	Number of flats (pc)	
	2012	2018
less than 50m <sup>2</sup>	30	12
50-100m <sup>2</sup>	15	29
more than 100m <sup>2</sup>	1	1
<i>Total</i>	<i>46</i>	<i>42</i>

Source: Own compilation based on data provided by the Mayor's Office of Győr

The modifications of the rental fees were also part of our examination. In case of municipal rental fees, it is important to state that several factors are taken into consideration when calculating them. By basic principle the rental fees are defined by product of the surface area of the flat, the numeric rate of the flat's use value and the unit fee (18/2004. (IV.16.) Municipal decree of Győr) When defining the use value of the flat, the level of convenience, the method of heating and construction, the level modernity as well as the flat's location within the residential area has to be taken into account. Before the start of the urban rehabilitation, in 2012 we got data from 19 flats concerning the rental fees because the rest of the flats were empty. The lowest rental fee was HUF 2 880 for a 27m<sup>2</sup> flat without bathroom or lavatory facilities and the highest was HUF 14 196 for a 120m<sup>2</sup> flat of full convenience. As a result of the

reconstruction the use value of the flats has risen significantly so naturally there is an increase in rental fees as well. After the reconstruction the rental fee of the smallest 32m<sup>2</sup> flat became HUF 12 544 and for the biggest 124m<sup>2</sup> flat HUF 43 613 must be paid. So the rental fee of the highest quality flats has roughly tripled since the start.

We also compared the social status of the inhabitants of the 6 buildings examined, analysing the number of people receiving regular and temporary municipal support. Table 13 shows that while there is a small decrease in the number of people receiving permanent support, a significant drop has been experienced in the number of people receiving temporary support. Here we must note that in the involved flats the inhabitants have changed because not all inhabitants living there before the rehabilitation moved back after the rehabilitation. Many of the inhabitants living there chose to move into other municipal accommodation offered to them before the start of the reconstruction.

**Table 13** Municipal support before and after the first phase of the urban rehabilitation

<b>Support provided by municipality</b>	<b>2012</b>	<b>2018</b>
Regular support (household)	13	12
Temporary support (occasion)	14	9

Source: Own compilation based on data provided by the Mayor's Office of Győr

The summary of our comparative analysis is shown in Table 14. The changes in the hard infrastructure mainly show a positive picture, during the rehabilitation the built environment has significantly developed in case of these 6 houses. The number of shops for rent have risen which meant a sustainable income for the apartment buildings and also contributed to the variety of retail possibilities in the area. We can see that the level of convenience in these flats have changed positively, as all the flats reached the level of full convenience and in most cases the surface areas have increased as well thus providing higher quality living. Inevitably due to these changes the number of flats show a small decrease compared to the period before the rehabilitation.

**Table 14** Result of the comparative analysis

<b>Examined factors</b>	<b>Indicators</b>	<b>Evaluation</b>
Change of hard infrastructure	I1. Number of flats	-
	I2. Number of businesses	+
	I3. Level of conveniences of the flats	+
	I4. Surface area of the flats	+
Change of soft factors	I5. Rent prices	-
	I6. Applicants receiving regular support	+
	I7. Applicant receiving temporary support	+

Source: Own compilation

During the period after the rehabilitation the development of the soft factors are contradictory. We have to evaluate the fact that the number of both the permanent and temporary support users dropped positively and come to the conclusion that the social status of the area has improved. This is a positive for the people living in the area even if this change was brought about by the municipality in a way that not all inhabitants were allowed to move back to their original dwellings (this is justified by the decrease of the number of flats). Looking at things from the social aspect however, we must draw our attention to the fact that the rental fees have tripled since the reconstruction. The reason for this was that the flats without basic facilities were turned into flats of full convenience with access to all services. This higher quality of service obviously meant higher prices. We also have to emphasise that these prices are still only a fraction of the real market price, so the inhabitants in these flats receive a significant discount which greatly helps them ensure their living near the city centre.

## DISCUSSION

Every municipality in Hungary has had the opportunity to take part in social urban rehabilitation activities like Győr. Although we are at the moment in the phase of data collecting about practices of others, it is visible that other municipalities choosed for the place of rehabilitation predominantly housing estates with block of flats in contrast to rehabilitation activities in Győr that are realized in a historic part of the city. Because of this in our future researches it will be a hard work to make a comparison. But if we look previous findings regarding urban rehabilitation activities in Hungarian context we can also state the same. A comprehensive research from the early 2000s examined several sample area of urban rehabilitation in Hungary from the viewpont of the rehabilitation's effects (Egedy, 2005). The research focued and examined parts of Budapest (Ferencváros, Józsefváros, Kőbánya, Újpest) and parts of other bigger Hungarian cities like Győr, Pécs, Szeged and Debrecen. With the exception of Kőbánya where the urban rehabilitation activities focused on the renewal of historic city centre with eclectic and secessionist buildings, the others preferred the rehabilitation of housing estates (Egedy at al., 2002). The findings of this research stated that the rehabilitation makes a positive change in the residential situation of the population and in the housing mobility, furthermore we can witness a slow restructuring of social composition in the renovated parts of cities. It is important to highlight that these projects have focused on the physical renovation of the buildings and were not linked to social programs.

## CONCLUSION

In our study we strived to give a comprehensive picture of the social urban rehabilitation activity of the Győr Municipality, which really took off from the year 2012 even though there was need for the renovation and reconstruction of Újváros a run-down area of Győr way before this time. Choosing the social type of urban rehabilitation proved to be a very well-founded decision, as in the area not only the building stock needed reconstruction and renovation but the renewal of the local society, economy, environment all need to be focused upon by the project, primarily with the help of soft activities. Besides the examination of the empiric data proving the necessity of urban rehabilitation, great emphasis was put on the justification of urban rehabilitation. In the framework of the rehabilitation instead of the old flats that were in bad condition, the municipality is now able to offer 40 modern social dwellings for inhabitants in need providing flats of full convenience which definitely meant an increase in quality. Parallel to the development of the hard infrastructure, the soft activities offered by the social urban rehabilitation projects complement A and provide extra services to the inhabitants of the area. Our study was conducted using two aspects and seven indicators assigned to them. Over all positive changes were experienced during the urban rehabilitation project concerning both the hard infrastructure and the soft factors as well. There were definitely changes in quality in the area, the landscape became more aesthetic, the flats more comfortable and the status of the inhabitants strengthened. Undoubtedly in many cases this meant the moving away of the original inhabitants and the appearance of new inhabitants and the increase in rental fees. In the next part of our study after the end of the second phase of the urban rehabilitation project which is currently in progress we will strive to analyse it using similar aspects and indicators.

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**VESZPRÉM MEGYE TELEPÜLÉSEINEK TÁRSADALMI ÉS  
GAZDASÁGI FEJLETTSÉGE**  
**SOCIAL AND ECONOMIC DEVELOPMENT OF SETTLEMENTS  
OF VESZPRÉM COUNTY**

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**Cite this article:** Molnár, T., Molnár-Barna, K. (2019). Veszprém megye településeinek társadalmi és gazdasági fejlettsége. (Social and Economic Development of Settlements of Veszprém County). *Deturope*. 11(2), 169-184.

**Abstract**

In Hungary, there have been strong changes in economic and social life since the change of regime. The significant differences within the country have further increased. However, this is not typical only for Hungary but also for the EU. However, there are differences not only between the regions but also at county level and even within the counties. The study shows the development differences in Veszprém County at settlement level. With the help of the so-called Complex Development Indicator the development order of settlements was established. Six of the ten most developed settlements are located on the shore of Lake Balaton, one of them belongs to the category of background settlements (Óbudavár), and there are also three other settlements (Veszprém, Pápa, Megyer). At the end of the ranking, there is no Lake Balaton settlement. Besides that only two background settlements (Barnag and Uzsza) can be found at the end of the list. The other lagging settlements belong to the category of other settlements. Differences between the settlements located on the shore of Lake Balaton, background settlements and other settlements is significant on the basis of ANOVA analysis. According to the results, Lake Balaton settlements are the most developed in Veszprém County.

Keywords: social development, economic development, Veszprém county

**Absztrakt**

A magyar társadalmi és gazdasági életben a rendszerváltás óta markáns változások történtek. A már addig is jelentős - országon belüli - különbségek tovább nőttek. Ez azonban nemcsak Magyarországra jellemző, hanem az Európai Unióban is természetes jelenség. A különbségek azonban nem csak a régiók között, hanem a régiókon belül, a megyék szintjén, sőt a megyéken belül is jelentkeznek. A tanulmány szerzői arra vállalkoztak, hogy településszinten vizsgálják meg Veszprém megyében a fejlettségbeli különbségek alakulását. A települések fejlettségét mérő úgynevezett Komplex Fejlettségi Mutató segítségével település fejlettségi sorrend került megállapításra. A 10 legfejlettebb település közül hat található a Balaton parton, egy tartozik a háttértelepülések kategóriájába (Óbudavár), valamint három egyéb település (Veszprém, Pápa, Megyer) lelhető még fel. A rangsor végén szereplő települések esetében nem találunk Balaton-parti települést, háttértelepülések közül is csak kettő található a listán (Barnag és Uzsza), a többi pedig az egyéb települések kategóriájába tartozik. A part menti települések, háttértelepülések, illetve egyéb települések közötti gazdasági fejlettségi különbséget az ANOVA vizsgálatok alapján szignifikánsnak tekinthetjük. Ez alapján kimondhatjuk, hogy a part mentén elhelyezkedő települések számítanak a legfejlettebbeknek Veszprém megyében.

Kulcsszavak: társadalmi fejlettség, gazdasági fejlettség, Veszprém megye

## BEVEZETÉS

A magyar társadalmi és gazdasági életben a rendszerváltás óta markáns változások történtek. A már addig is jelentős - országon belüli - különbségek tovább nőttek. A fejlett és elmaradott tagolódás bármely társadalom állandó kísérője. Az egyes területek között mutatkozó, különböző szintű fejlettség egy bizonyos határig nem okoz problémát, de ha egy szintet meghalad, akkor arra már figyelemmel kell lenni, mert társadalmi szempontból káros és visszafordíthatatlan folyamat indul meg. A társadalmi, gazdasági és kulturális fejlettségbeli eltérések kialakulása törvényszerű, hiszen az egyes országrészeknek más és más az ökológiai, a gazdasági és a társadalmi potenciáljuk. A tapasztalatok azt mutatják, hogy a fejlődésben elmaradott térségekből a fiatal és képzetesebb munkaerő elvándorol a fejlettebb országrészek felé, ebből következően ezekben a régiókban romlik a korstruktúra, a képzettségi színvonal, a külföldi tőke beáramlása csekély, vagy visszaesik, nő a munkanélküliségi ráta, csökken a foglalkoztatási ráta, ezeken kívül pedig számos gazdasági, társadalmi és infrastrukturális mutató értéke romlik. A különbségek mérséklése az Európai Unióban már a kezdetek óta központi kérdés volt, hiszen arra már a Római Szerződésben is utaltak a döntéshozók.

### **A területi különbségek alakulása az EU-ban és Magyarországon**

A sokszínű Európai Unióban még a legfejlettebb országokban is vannak olyan térségek, amelyek valamilyen okból hátrányba kerülnek a fejlettség szempontjából. A különbségek természetesen az országok között is jelentkeznek, amely miatt gazdasági szempontból az EU tagolttá vált (Lóránd, 2009). A kezdeti intézkedések (főként a kereskedelem liberalizálása) a fejlettségbeli különbségeket nem csökkentették érezhetően, sőt egyes időszakokban inkább további divergenciát lehetett tapasztalni a régiók között. Erre a káros folyamatra a tagországok önálló regionális politikával válaszoltak, amelyek azonban – magától értetődően – eszközeikben és mechanizmusaikban is különböztek az egyes tagállamokban, így nem hozták meg a kívánt eredményt. Az 1970-es évek elején indokolttá vált a regionális politika közösségi szintre való emelése. Létrejöttek – többek között – az úgynevezett Strukturális Alapok és a Kohéziós Alap, amelyek jelentős pénzügyi forrásokat biztosítottak a konvergencia célok megvalósítására, a különböző gazdasági fejlettségű régiók között (Rechnitzer & Smahó, 2011).

A jelenlegi 2014-2020 programozási ciklusban csak a konvergencia program támogatási összege megközelíti a 352 milliárd eurót. Ez az összeg a munkahelyteremtés és a növekedés elősegítésére áll rendelkezésre. Jelentős szerep jut még az innovációnak, illetve az agrárgazdaságnak, de megjelenik új elemként az éghajlatváltozáshoz történő alkalmazkodás is

(Bitáné Bíró & Molnárné Barna, 2013). A tagállamok saját hozzájárulásait is figyelembe véve a fenti összeg valószínűleg meghaladja az 500 milliárd eurót (Regional Policy, 2014).

A hazai koncepció teljes mértékben harmonizál az EU-s célkitűzésekkel, amelyeket úgynevezett operatív programokként (Partnerségi Megállapodás, 2014) valósulnak meg, ebben az uniós tervezési ciklusban összesen több mint 21,9 milliárd EUR-ból.

Ahogy az Európai Unió többi térségében, úgy hazánkban is történelmi múltja van a területi differenciáknak. Ezeknek a kezelése az adott területi egységek gazdasági és társadalmi potenciáljához hivatott alkalmazkodni, azonban az 1970-es évek centralizációs politikájának következtében a területi egyenlőtlenségek felerősödtek és a rendszerváltás idejére már igen látványossá váltak (Horváth, 2005; Enyedi, 1996). A hazai területpolitika a válságkezelés irányába fordult, amely azonban nem járt sikerrel, mert megfelelő koncepció és intézményrendszer nélkül csak az ország keleti részeire koncentrált. A kedvezőtlen területi folyamatok és az EU-hoz való csatlakozás előkészítése életre hívták a területfejlesztésről és rendezésről szóló 1996. évi XXI. törvényt, amely már meghatározta a területfejlesztés feladatait, a szükséges intézmény- és eszközrendszert. Ettől kezdve beszélhetünk arról, hogy a magyar területpolitika az Európai Unió jogrendszerének megfelelő jogi háttérrel rendelkezik (VÁTI, 2002). A területfejlesztés stratégiai célja közé tartozott a területi egyenlőtlenségek mérséklése, valamint a Budapest központúság oldása. A folyamat ezt követően sem állt meg, a törvény 1999. évi módosításával megerősödött a regionális szint (Rechnitzer, 2000). A törvény további két változtatást (2004-ben és 2011-ben) követően legutóbb 2013-ban került módosításra a területi önkormányzatok szerepének, és a területi tervezés integráló tevékenységének erősítése céljából (Dániel, 2016). Emellett fontos szempont a hazai területfejlesztési célok és az EU-s források felhasználása közötti összhang megteremtése is (2013. évi CCXVI törvény).

A kérdés az, hogy mennyire sikeres a hazai regionális politika, azaz érezhető-e, mérhető-e a területi differenciák mérséklődése az elmúlt időszakban. Több szerző is megállapítja, hogy bár hazánk **az egy főre jutó GDP tekintetében** közelít az Európai Unióhoz, azonban a területi differenciák elmélyültek és jellegzetessé váltak a nyugati és keleti országrészek között. Mindeközben Közép-Magyarország, mint legerősebb régió, centralizáló szerepe állandósult (lásd például Lengyel & Rechnitzer, 2004, Lukovics, 2006; Pitti 2008; Nemes Nagy, 2009; Dorgai, 2010; MKIK VGI, 2014; Rechnitzer, 2016; Péter, Németh, Molnár & Molnárné Barna, 2015). A fenti folyamatok eredményeképpen Magyarország térszerkezetét napjainkban a következők jellemzik:

- a főváros vezető szerepe, kiterjedő gazdasági és agglomerációs tere;

- az észak-nyugati és észak-közép-dunántúli térségek erős feldolgozóipara, így nagyobb gazdasági teljesítménye;
- a nagyobb városokra jellemző, munkaerő elszívó hatás;
- a vidéki térségek leszakadása; különösen ott, ahol a mezőgazdaság népességeltartó szerepe csökkent, valamint
- a hátrányos helyzetű népesség területi koncentrációja.

A különbségek azonban nem csak a régiók között, hanem a régiókon belül, a megyék szintjén, sőt a megyéken belül is jelentkeznek. A tanulmány szerzői arra vállalkoztak, hogy településszinten vizsgálják meg Veszprém megyében a fejlettségbeli különbségek alakulását.

Fejlettséget érintő kutatások esetén mindig előkerül az a kérdés, hogy mely **mutatószámok** elemzését tekintjük fontosnak. A társadalmi-gazdasági fejlettség mérésére nagyon sok mutatószám szolgál. Ezek a mérőszámok objektív és szubjektív mérésre is alkalmasak (Gáspár, 2013). Az objektív mérések között példaként említhető a bruttó hazai termék (GDP), a humán fejlettségi index (HDI), az élet anyagi minőségének indexe (LPI), a komplex fejlettségi mutató (KFM), a boldog bolygó index (HPI) stb. A szerzők célja az volt, hogy olyan mérőszámok segítségével elemezzék a területi kiegyenlítődés mértékét, amelyek könnyen és mindig elérhetőek, megyei szintre lebontva. Így tehát a nyomon követés, a kutatás időszakos megismétlése a későbbiekben sem ütközik akadályba. Ezért annak ellenére, hogy a fejlettség leírása sokféle mutató alapján lehetséges, a szerzők elsődleges mutatószámának a napjainkban a legelterjedtebb mérőszámként alkalmazott egy főre jutó GDP-t választották. Ismert, hogy a GDP-t nagyon sok kritika éri. Ennek oka, hogy a bruttó hazai terméknek több olyan összetevője is van, ami nem jelent társadalmilag hasznos tevékenységet, ugyanakkor számos társadalmilag hasznos tevékenység nem jelenik meg a mutatószámokban. Mivel a GDP az egy év alatt, egy országban megtermelt és végső felhasználásra kerülő termékek, és szolgáltatások összességét jelenti pénzben kifejezve, nem tesz különbséget a költségek és hasznok, a produktív és destruktív, vagy a fenntartható és fenntarthatatlan tevékenységek között. Más megközelítés alapján a GDP figyelmen kívül hagyja a társas kapcsolatok világát, a háztartások és a közösségek gazdasági szerepét. Ezeken a területeken ugyanis nincs pénz transzformáció, ezért az itt kifejtett tevékenységek nem mérhetők a közgazdaságtan eszközeivel. A bruttó hazai termék tehát nem mutatja meg, hogy a társadalom elmozdult-e és ha igen, akkor milyen mértékben a kitűzött célok irányába. A mutató azt sem veszi figyelembe, hogy elég-e a rendelkezésünkre álló természeti erőforrás, illetve a valóságban ezek mennyibe kerülnek számunkra (Dabóczi, 1998).

Ennek ellenére a GDP a leginkább elfogadott és a leggyakrabban alkalmazott fejlettséget leíró mutató, amely indokolttá teszi az alábbi kutatásban történő alkalmazását is. A mutatószám jelentőségét ugyancsak bizonyítja, hogy az Európai Unió regionális politikája az egyes tagállamok fejlettségéhez igazodik. A fejlettségi szintet pedig a GDP alapján határozza meg az új kohéziós politika (1. táblázat).

**1. táblázat:** A régiók fejlettségi szintjének besorolása a GDP %-ában, 2014 és 2020 között

Régiók fejlettsége	GDP mértéke
kevésbé fejlett régiók	<EU átlag 75%-a
átmeneti régiók	EU átlag 75-90%-a
fejlettebb régiók	>EU átlag 90%-a

Forrás: Regional Policy, 2014.

A GDP empirikus vizsgálatba történő bevonása mellett szól az is, hogy a módszertan követi a gazdasági változásokat. Így jelenleg a 2014-ben bekövetkezett módszertani változásoknak megfelelő bruttó hazai termék adatait közli a Központi Statisztikai Hivatal (KSH, 2015).

A konvergencia elemzésekor előtérbe kell helyezni a **területi kutatások módszertanát**, amelynek igen széles spektruma és szakirodalma van (lásd például Nemes-Nagy, 2005; Molnár, 2015; Molnár & Barna, 2004, Sánta, Szakálné Kanó & Lengyel, 2015). A módszerek általában két részre oszthatók.

Egyrészt beszélhetünk azokról a metodikákról, amelyek az **általános statisztikai eszköztár** keretein belül találhatóak (például arányváltozás, területi összehasonlító viszonyszám, aritmetikai közép, geometriai átlag, dinamikus viszonyszámok), de területi elemzésekre is felhasználhatóak.

Másrészt, megkülönböztetünk olyan mutatókat, amelyeket kifejezetten területi elemzésekre használunk. Ebbe a csoportba a **területi megoszlások eltérését mérő indexeket** soroljuk, ilyen például a Hoover-index (Hoover, 1941), a Robin-Hood index, a Lorenz-görbe és a Gini-mutató (Pénzes, 2007, Molnár, 2015.).

## A KUTATÁS CÉLJA

A területi fejlődési egyenlőtlenség nemcsak a különböző régiók között, hanem a régiókon, sőt a NUTS 3. szintű területi egységeken belül (hazánkban ez a megyei szintnek felel meg Budapesttel kiegészülve) is megfigyelhető. Ebben a tanulmányban a megyei szintű különbségek Veszprém megye példáján kerülnek bemutatásra, 2017-re vonatkozóan.

- A szerzők elemezték a megyében tapasztalható településszintű különbségeket, a gazdasági és társadalmi fejlettség tekintetében.
- Az elemzés részét képezte a településnagyság és a fejlettség közötti összefüggés vizsgálata.
- A kutatás legfontosabb része pedig a part menti települések, a háttértelepülések illetve az egyéb települések közötti fejlettségbeli differenciák szignifikáns meglétét vizsgálta. A szerzők feltételezték, hogy e három településcsoport között statisztikailag igazolható eltérés mutatható ki a gazdasági és társadalmi fejlettség tekintetében. A feltételezett különbségek igazolására a variancia-analízis módszerét alkalmazták a szerzők, annak ellenére, hogy Veszprém megye valamennyi települése a vizsgálat tárgyát képezte. Habár az egyes mutatók településtípusonkénti átlaga között különösebb elemzés nélkül is jól látszik a különbség, a szórások nagy értéke miatt szükségessé vált az átlagok „jószágát” és az átlagok közötti különbségek okait tesztelni.

## ADATBÁZIS ÉS MÓDSZERTAN

Az elemzés az Országos Területfejlesztési és Területrendezési Információs Rendszer (TeIR) adatbázisban fellelhető adatok alapján történt. A TeIR jogszabályi alapját a területfejlesztésről és területrendezésről szóló 1996. évi XXI. törvény és a területfejlesztéssel és területrendezéssel kapcsolatos információs rendszerről és a kötelező adatközlés rendjéről szóló 31/2007. (II. 28.) Kormányrendelet adja. A rendszerben olyan 35 adatkezelő szervezet által rendelkezésre bocsátott adatok találhatóak meg, amelyek az említett Kormányrendeletben részletesen meghatározásra kerültek. Az elemzésbe bevont változók kiválasztása a 67/2007. (VI.28.) Országgyűlési Határozatba foglalt mutató lista alapján történt.

Az Országgyűlési Határozat megnevezi a kistérségek és települések társadalmi-gazdasági és infrastrukturális elmaradottságát/fejlettségét mérő komplex mutató kiszámításánál használt adatok körét (32 db mutatószám). Az Országgyűlési Határozat a mutatószámokat 5 csoportba sorolja: gazdasági mutatók, infrastrukturális mutatók, társadalmi mutatók, szociális mutatók, foglalkoztatási mutatók. Az elemzéshez, az Országgyűlési Határozatban megnevezett mutatószámok közül – kisebb korrekcióval – az alábbiak kerültek kiválasztásra:

A **gazdasági mutatók** közül, a GDP településszintű „helyettesítésére” a működő gazdasági szervezetek 1000 főre jutó száma és az 1 főre jutó SZJA bevétel került be az elemzésekbe. A mutatók közé került az 1 főre jutó idegenforgalmi adóbevételt (IFA) is, az idegenforgalom Veszprém megyében betöltött kiemelten fontos szerepe miatt.

A **társadalmi és szociális mutatók** körét a települések vonzerejét kifejező népsűrűség, az odavándorlások száma és a fiatalodási arány képviselte.

A komplex fejlettségi mutató (KFM) alkalmazási területe és a számításánál figyelembe vett változók új, a szerzők saját ötletének eredménye. Mivel a változók különböző nagyságrendű és mértékegységű adatokat tartalmaznak, ezért azokat közös nevezőre kellett hozni az első lépésben. Az adatok (változók) nem azonos nagyságrendűek és mértékegységűek, ezért először egy úgynevezett skála-összehangoló transzformációt kellett végezni az együttes kezelhetőség miatt.

A skálaösszehangoló transzformációval az adott változó – a települések között előforduló – legkisebb értékét kell kivonni az adott településhez tartozó értékből. A különbség és a változó – településekre vonatkozó – terjedelmének hányadosa 0 és 1 közé eső szám, amely az eredeti mértékegységtől és nagyságrendtől megfosztva összehasonlíthatóvá válik bármely más hasonló módon transzformált változóval:

$$kfm_x = \frac{x_i - x_{min}}{x_T}$$

$kfm_x$  = adott változó skálaösszehangoló transzformáció szerinti értéke

$x_i$  = adott változó adott településhez tartozó értéke

$x_{min}$  = adott változó a települések közötti legkisebb értéke

$x_T$  = adott változó terjedelme (a települések közötti legnagyobb és legkisebb értéke közötti különbség)

Az eljárással minden változó azonos mérőskálára kerül, lehetővé válik az összehasonlítás, illetve az átlagolás, hiszen minden változó esetén minden település egy nullától 1-ig terjedő tartományba esik. A változónként így képzett mutatók egyszerű számtani átlagaként állítottuk elő a társadalmi-gazdasági fejlettség komplex mutatóit Veszprém megye összes (217 db) településére vonatkozóan. Ez alapján a komplex fejlettségi mutató számítási módja (Molnár, 2001):

$$KFM_{település} = \frac{kfm_{Gazdasági\ szervezetek\ száma} + kfm_{SZJA\ bevétel} + kfm_{IFA} + kfm_{Népsűrűség} + kfm_{Odavándorlások\ száma} + kfm_{Fiatalodási\ arány}}{6}$$



$KFM_{település}$  = az adott település fejlettségét leíró komplex fejlettségi mutató

A komplex mutató megfelel a kívánalmaknak, hiszen értéke 0 és 1 közé esik, és 1-hez közeli értéke magas fejlettséget mutat, tehát egyenes aránnyal jellemzi a települések fejlettségi szintjét egy adott időpontban.

Lényeges megemlíteni, hogy a vizsgálatban a települések három csoportba kerültek besorolásra, ezek szerint vannak az úgynevezett **part menti települések**, amelyek közigazgatási területének bármekkora része a Balaton partján található. A második csoportot alkotják a **háttértelepülések**, amelyeknek nincs közvetlen partszakasza, de közel vannak a tó partjához. A harmadik csoportba tartoznak azok a települések, amelyek ugyan a megyében találhatóak, de az előző két csoportba nem tartoznak bele, ezek az **egyéb települések** elnevezést kapták. A települések csoportba sorolásának alapja a 2000. évi CXII törvény 1/2. számú melléklete, amely a „Balaton kiemelt üdülőkörzetébe tartozó parti és partközeli települések” listáját tartalmazza (2000. évi CXII. törvény).

A fent vázolt mutatószám alapján leíró statisztikai elemzések készültek (átlag, szórás, relatív szórás), egyszerűbb elsődleges eredményeket kapva. A relatív szórás az adatsor változékonyságát mutatja meg azáltal, hogy az adatsor szórását és átlagát veti össze. A relatív szórás 10% alatti értéke az adatsor állandóságára utal, tehát ebben az esetben az alapadatok egymáshoz és a belőlük kiszámított átlaghoz közel állnak, így a középérték tipikus és értelmezhető. A 10 és 20% közé eső relatív szórás közepesen változékonny adatsorra utal. Az adatsor erősen változékonny, ha a mutatószám 20 és 30% közötti értéket vesz fel. 30% felett már szélsőséges változékonyságú (heterogén) adatsorról beszélünk, ebben az esetben az átlag már nem jellemzi jól az adatsort (Molnár, 2005). A Veszprém megye településeihez tartozó komplex fejlettségi mutatók relatív szóródása szélsőséges változékonyságot mutat (35,31%), ami azt jelenti, hogy nem elegendő csak az átlagok eltérése alapján következtetéseket levonni. Az erős differenciáltság nemcsak a teljes adatsorban, hanem a településcsoportokon belüli is megmutatkozott.

Ennek alapján az elemzés lényeges része annak feltárása volt, hogy a 3 településcsoport (part menti, háttér- és egyéb települések) között jelentkező különbség szignifikánsnak mondható-e. Ennek alapján a szerzők azt feltételezték, hogy a fejlettség mértékét (kfm átlagok) a település típusa befolyásolja, nem pedig a véletlen hatásaként alakultak az átlagok. A feltételezés igazolására a hipotézisvizsgálatok közül a szórástényezők felbontásán alapuló egytényezős variancia-analízis (ANOVA) került alkalmazásra SPSS szoftver segítségével, természetesen a módszerhez szervesen kapcsolódó, úgynevezett post-hoc tesztek közül az LSD (Least

Significant Difference) metodikát használva. A post-hoc teszt elvégzésének előnye az, hogy alkalmazásával arra is fény derül, hogy mely csoportok között mutatkozik szignifikáns eltérés.

Szigorúan véve következtetési hipotézisvizsgálati módszerek alkalmazása akkor indokolt, ha a vizsgálat során egy minta jellemzőiből kívánunk következtetni a teljes sokaság jellemzőire. Mi a jelen vizsgálatban viszont Veszprém megye valamennyi településének adataival végeztük az elemzést, tehát nem mintával dolgoztunk. Számításaink azonban a 2017-es év adatain alapultak, viszont úgy gondoljuk, hogy a kapott eredmények nem csak 2017-ben jellemzőek a vizsgált településekre, hanem azoknak általánosabb, legalább a 2008-2017 időszakra vonatkozóan jellemző sajátosságai. Ebben az értelemben a 2017-es adatbázis értelmezhető egy hosszabb időszaktól vett mintának is, és ennek megfelelően a következtetési hipotézisvizsgálati módszerek alkalmazása is indokolt. Megjegyezzük, hogy a 2017-es év teljes sokaságra vonatkozó számítási eredményei is a hipotézisvizsgálati számítások értékei alapján kaphatók meg legkönnyebben, amint azt a 4. táblázatból felhasznált értékeknél be is mutatjuk.

## EREDMÉNYEK

A települések fejlettségét mérő komplex fejlettségi mutató számítása alapján település fejlettségi sorrendet lehet megállapítani. A 2. táblázat a 10 legfejlettebb, illetve a 10 legkevésbé fejlett települést mutatja be.

**1. táblázat:** A 10 legfejlettebb és 10 legkevésbé fejlett település a megyében

A 10 legfejlettebb település	A 10 legkevésbé fejlett település
Alsóörs	Barnag
Balatonalmádi	Dáka
Balatonfüred	Kisberzsény
Balatonfüzfő	Kisszőlős
Megyer	Oroszi
Óbudavár	Somlójenő
Paloznak	Szentimrefalva
Pápa	Uzsa
Tihany	Zalaerdőd
Veszprém	Zalameggyes

Forrás: A szerzők saját szerkesztése

A 10 legfejlettebb település közül hat található a Balaton parton, egy tartozik a háttértelepülések kategóriájába (Óbudavár), valamint három egyéb település (Veszprém, Pápa, Megyer) lelhető még fel. A legfejlettebb három település Balatonfüzfő, Paloznak és Veszprém. A top 10-ben lévő települések lakosság száma magas a megyében, csak Megyer és Óbudavár lakossága van 500 fő alatt.

A rangsor végén szereplő települések esetében nem találunk Balaton-parti települést, háttértelepülések közül is csak 2 található a listán (Barnag és Uzsa), a többi pedig az egyéb települések kategóriájába tartozik. A legfejletlenebb három település: Kisszőlős, Somlójenő és Szentimrefalva. Az utolsó tíz település lakosság száma egy kivétellel 500 fő alatti, csak Dáka lélekszáma több valamivel, mint 600 fő.

A leíró statisztikákat illetően a megye településszerkezete került először górcső alá. A település nagyságot illetően az 1000 fő alatti, az 1000 és 5000 fő közötti, valamint az 5000 fő feletti települések száma azok elhelyezkedése szerint a 3. táblázatban található.

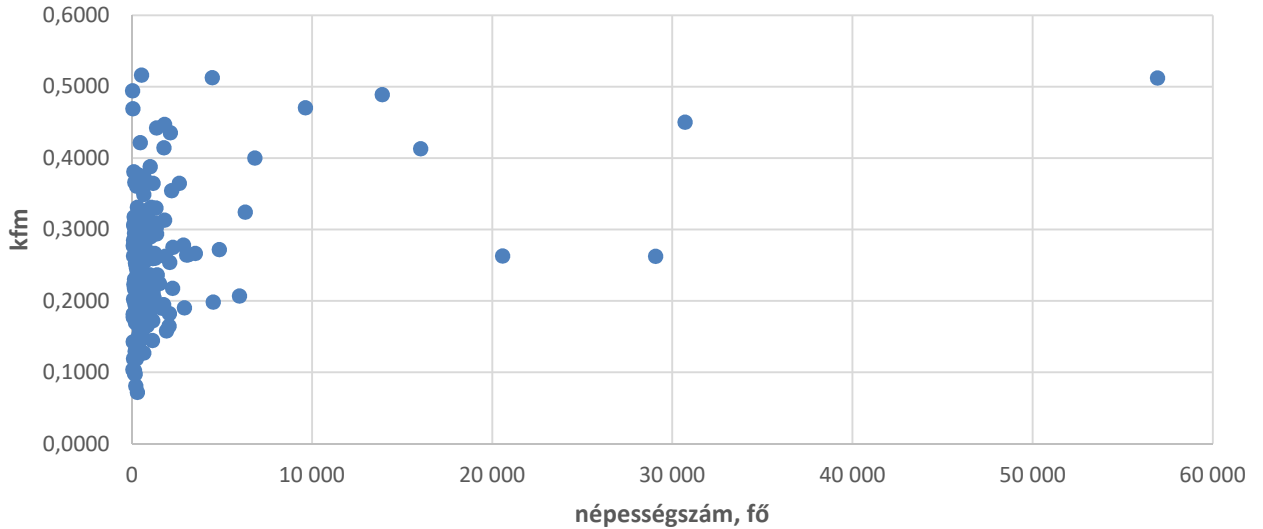
## 2. táblázat: Veszprém megye településeinek mérete és elhelyezkedése

Település nagyság/elhelyezkedés	Part menti	Háttér	Egyéb	Összesen
<b>1000 fő alatti</b>	12	40	108	<b>160</b>
<b>1000 és 5000 fő közötti</b>	10	7	30	<b>47</b>
<b>5000 fő feletti</b>	2	1	7	<b>10</b>
<b>Összesen</b>	<b>24</b>	<b>48</b>	<b>145</b>	<b>217</b>

Forrás: A szerzők saját szerkesztése

A település nagyság (lakosság szám) és a KFM értékek között pozitív szignifikáns kapcsolat mutatható ki, a Pearson-féle korrelációs együttható értéke +0,34, ahol az elsőfajú hiba 1% alatt volt. Ez a laza összefüggés egyébként már valószínűsíthető volt a 10 legfejlettebb és 10 legfejletlenebb település alapadatainak vizsgálatakor is. A laza kapcsolat arra mutat rá, hogy a népességszám alakulása befolyásolja az adott település fejlettségét, ugyanakkor nem túl erős mértékben határozza meg azt. A korrelációs együttható alapján kiszámolható determinációs együttható szerint 11,6%-os mértékben befolyásolja a népességszám a kfm értékét.

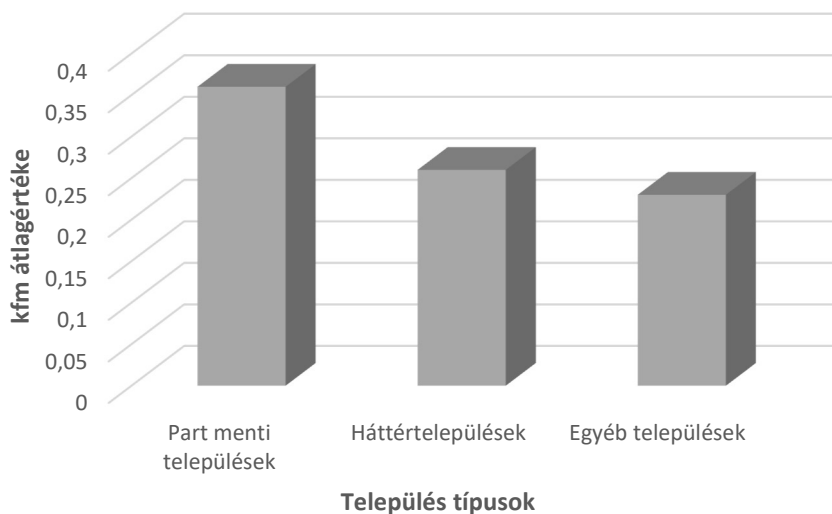
**1. ábra:** A népességszám és a kfm értékek alakulása Veszprém megye települései esetén, 2017



Forrás: A szerzők saját szerkesztése

A Veszprém megyei települések gazdasági fejlettsége – a kutatás hipotézise szerint – függ attól, hogy milyen az elhelyezkedésük a Balatonhoz képest. Az előzőekben kifejtett megfontolás alapján három fő településcsoport került elkülönítésre: part menti települések, háttér települések, illetve egyéb települések. A három településcsoport komplex fejlettségi mutatóját számszerűsítve minden településre egy nullától egyig terjedő mutatót lehet számszerűsíteni. A településkategóriák átlagának alakulása a 2. ábrán követhető nyomon.

**2. ábra:** A településcsoportok fejlettségének átlagai a számolt komplex fejlettségi mutató (KFM) alapján



Forrás: A szerzők saját szerkesztése

A 2. ábra jól szemlélteti, hogy a part menti települések átlagos fejlettsége nagyobb értéket vesz fel többi településtípushoz képest. Az egyes településkategóriák alapstatisztikáit a 3. táblázat tartalmazza.

### 3. táblázat: A településtípusok leíró statisztikai jellemzői

Település típus	N	Átlag	Szórás	Variációs koefficiens, %	Minimum	Maximum
Part menti	24	0,36	0,08	22,61	0,23	0,52
Háttér	48	0,26	0,07	28,93	0,10	0,47
Egyéb	145	0,23	0,08	33,84	0,07	0,51
<b>Összesen</b>	<b>217</b>	<b>0,25</b>	<b>0,09</b>	35,31	<b>0,07</b>	<b>0,52</b>

Forrás: A szerzők saját számítása

Az alapstatisztikák (főként az aritmetikai átlagok) azt mutatják, hogy a part menti települések gazdasági fejlettsége meghaladja, mind a háttér-, mind az egyéb kategóriába tartozó települések átlagát, utóbbi kettő átlaga nem különbözik markánsan egymástól. A továbbiakban megvizsgáltuk, hogy az elhelyezkedés miként határozza meg a települések fejlettségét. Ehhez a szórásstényezők felbontásán alapuló determináció számítását, illetve az ehhez kapcsolódó „H” szorossági mérőszámot. A mutatóhoz az ANOVA táblázatot (4. táblázat) használtuk. A külső determináció szerint a települések elhelyezkedése 24,1%-ban magyarázza a települések fejlettségét, ami közepes mértékű szorosságot jelent ( $H=0,49$ ) (4. táblázat).

A H érték a következőképpen számítható ki:

$$H^2 = \text{Between Groups SQ} / \text{Within Groups SQ} = 0,398 / 1,651 = 0,24 \text{ azaz } H = 0,49$$

### 4. táblázat: Településcsoportok fejlettségének ANOVA outputja

	SQ	DF	Mean Square	F	Szignifikancia
Between Groups	0,398	2	0,199	33,97	0,000
Within Groups	1,253	214	0,006		
Total	1,651	216			

Forrás: A szerzők saját számítása

## KÖVETKEZTETÉSEK

A szerzők Veszprém megye példáján keresztül vizsgálták a gazdasági fejlettséget településszinten. A szerzők 217 település esetén a hatályos jogszabályokat is figyelembe véve

a főbb gazdasági-társadalmi változók alapján egy skála-összehangoló transzformáció segítségével kiszámítottak egy fejlettségi mutatót (komplex fejlettségi mutató), amely alapján megállapítottak egy település-fejlettségi sorrendet. A szerzők azt feltételezték, hogy a települések fejlettsége függ a település nagyságától (lakosságában mérve), amit korreláció-analízis segítségével igazoltak is. Ennek következményeként megállapításra került, hogy a népesebb települések statisztikailag igazolhatóan fejlettebbek a kistelepüléseknél. Azonkívül megállapítást nyert, hogy a települések fejlettségében meghatározó tényező az, hogy milyen az elhelyezkedésük. Ezzel kapcsolatban a szerzők három fő településcsoportot különítettek el: a Balaton parti-, a háttér-, illetve az egyéb településeket. A kapott eredmények egyértelműen rámutattak arra, hogy a part mentén elhelyezkedő települések a legfejlettebbek, ezeket követik a háttértelepülések, a leggyengébb fejlettségi szintet pedig az egyéb települések alkotják. A vizsgálatok alapján megállapítható tehát, hogy a Balatonhoz közeli fekvés a fejlettség szempontjából előnyként jelentkezik. A számítási eredménye egyetlen év, 2017 adataira támaszkodva mutatták ki ezt a hatást, de az eredmények statisztikai mutatói alapján ez az eltérés nem tekinthető csupán egyetlen évben véletlenszerűen fellépő sajátosságnak, hanem egy hosszabb időszak általánosítható sajátosságaként értelmezhető.

## SUMMARY

In Hungary, there have been strong changes in economic and social life since the change of regime. The significant differences within the country have further increased. However, this is not typical only for Hungary but also for the EU. However, there are differences not only between the regions but also at county level and even within the counties. Different levels of development between some territorial units do not cause problem up to a certain limit. After a certain limit socially harmful and irreversible process starts. This is why it is extremely important to continuously analyze this phenomenon.

This study shows the development differences in Veszprém County at settlement level. The different types of variables have been unified by the Complex Development Indicator (CDI).

The authors have analysed the correlation between the settlement size and development. One of the most question of research was that whether there are development differences between the so-called settlements located on the shore of Lake Balaton, the background settlements and other settlements (see below). In the analysis 6 variables were included: number of active corporations per thousand people, rejuvenation ratio, population density, number of emigrants, personal income tax per capita, tourist tax income per capita. Based on variables mentioned above the authors have calculated simple arithmetic averages for the settlements of Veszprém county (217 pieces).

The complex indicator meets the criteria because it describes the development level of settlements in straight ratio at a given date. With the help of Complex Development Indicator (CDI) development list of settlements can be determined. The 10 most developed settlements: Alsóörs, Balatonalmádi, Balatonfüred, Balatonfűzfő, Megyer, Óbudavár, Paloznak, Pápa, Tihany, Veszprém. The 10 least developed settlements: Barnag, Dáka, Kisberzsény, Kiszőlős, Oroszi, Somlójenő, Szentimrefalva, Uzsá, Zalaerdőd, Zalameggyes. After determining the order, the settlements were classified into three groups:

- Coastal settlements: any part of its administrative area is located on the shore of Lake Balaton.
- Background settlements: they have no coastline but are close to the shore of Lake Balaton.
- Other settlements: they are located in the Veszprém County, but are not included in the previous group.

Based on the Complex Development Indicator (CDI) descriptive statistical analyzes were made, giving simpler primary results. The most important part of the research was the step in which the significant

differences have been analysed between the three settlement groups. The used method was the single factor variance analysis (ANOVA), which based on resolution of scatter factors. During the analysis authors used post-hoc test with Least Significant Difference (LSD) method.

On the basis of the above, it is concluded that there are significant differences between the settlements of Veszprém county in terms of economic development. Settlements located on the shore of Lake Balaton are the most developed. These difference are particularly high in case of number of active corporations per thousand people, personal income tax per capita and population density.

#### Acknowledgement

This publication/research has been supported by the European Union and Hungary and co-financed by the European Social Fund through the project EFOP-3.6.2-16-2017-00017, titled "Sustainable, intelligent and inclusive regional and city models".

Jelen publikáció az Európai Unió, Magyarország és az Európai Szociális Alap társfinanszírozása által biztosított forrásból az EFOP-3.6.2-16-2017-00017 azonosítójú "Fenntartható, intelligens és befogadó regionális és városi modellek" című projekt keretében jött létre.

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*Törvények, rendeletek, beszámolók*



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## **CLIMATE CHANGE HAZARDS MITIGATION POLICIES IN THE FRAME OF THE ADMINISTRATION LEVELS IN EGYPT**

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**Cite this article:** Aboelnaga, S., Tóth, T., Neszmélyi, G. I. (2019). Climate change hazards mitigation policies in the frame of the administration levels in Egypt. *Deturope*. 11(2), 185-201.

### **Abstract**

Much more evidence has accumulated over the past ten years to indicate that changes in many physical and biological systems are linked to global warming. Then, needing an action for mitigating the climate change impacts through regional development policies target all regions (urban, rural and undeveloped areas) and cities in order to support job creation, business competitiveness, economic growth, sustainable development, and improve citizens' quality of life. And to make it easy to be implemented, so it has to be integrated with the administration levels to achieve the final aim for those objectives. Awareness of the need for a new approach is driven by the observation, in the frame of administration levels on all levels national, regional and local levels. Defining the legal policies and rules to mitigate climate change on regional level by supporting the environment and achieve development on local and regional levels parallelly. Therefore, the research seeks to offer some proactive applicable policies that can dispense with one of the challenging problems. The problem deals with the threats that climate change could have on the development potentialities and natural resources of developing states in the skeleton of the administrative layers. The research aims to utilize the development policies and projects for mitigating the risk level for climate change hazards in the frame of administration levels in Egypt.

Keywords: Climate Change, adaptation, mitigation, administration, Egypt

### **INTRODUCTION**

Lots more evidence has piled up over the past ten years to show that changes in many physical and biological systems relate to global warming. Then, needing an action for mitigating the climate change impacts through regional development policies target all regions (urban, rural and undeveloped areas) and cities in order to support job creation, business competitiveness, economic growth, sustainable development, and improve citizens' quality of life. The final aim to achieve those objectives that has to integrate the administration levels (Adger, et al., 2005).

Understanding of the demand for a raw approach is pushed by the observation that past policies have broken to reduce regional disparities significantly and have not been able to help individual lagging regions to capture up, despite the allocation of significant public financing. The result is under-used economic potential and weakened social cohesion. It is reflected in the country competitive dynamic regions aiming to achieve their economic, social and environmental objectives (Stern, 2007). Regional development policies complement national macroeconomic and structural policies. In this context, the regional outputs aim at helping countries get regions and cities “right” through the adaptation of policies to the specificities of where people live and work and so improve citizens’ well-being. (Eversole and Martin, 2005)

Egypt’s administration system is composed of two levels, the central and local levels. The central level consists of ministries, central agencies, and public enterprises. The local level consists of governors, which in turn are classified into two types of hierarchies, those with a complex structure and those with a simple structure. The simple structure governors are composed of three levels: governors, city and district levels. The structure governors consist of four levels: governorate, Markaz, city/village and district levels. The local administration system is currently governed and ruled by law 43 issued in 1979, which was based on the previous 1971 constitution (Ahmed, 2016)

The Main Components of the Local Administration System in Egypt; According to act 43/1979 and its amendments, Egypt is divided into (27) major units called governors. These governors are classified into either fully urban governors of simple structure, or mixed urban and rural governors of complex structure, consist of three levels: governorate, city, and district.

## **THEORETICAL BACKGROUND**

Confronting the impact of climate change requires local, regional and international cooperation. This is a tremendous and sophisticated challenge which humanity is faced with, for the current and future generations. The government of Egypt undertakes its activities based upon the principle of common responsibilities at the domestic level. In collaboration with the international community, the government implements the key objectives, while considering the social and economic indicators, as well as the social dimension. The government adopts its national policies and measures, based on the fact that these are vital for the protection of existing investments, and simultaneously secures growth and sustainable development (Aaref, 2015)

The National Strategy aims at achieving the following goals 1. Increasing the flexibility of the Egyptian community in dealing with the risks and disasters caused by climate change and

its impact on different sectors. These sectors include the coastal zones, water resources and irrigation, agriculture, health; urban areas, housing & roads and tourism. This goal can be achieved by carrying out an in-depth analysis of the current situation in different sectors of the community (Bulkeley, 2006). These are the facilities that are available and required to raise the degree of preparedness of confrontation and flexible interaction with developments (Friesecke, et al, 2012).

2. Enhancing the capacity to absorb and contain climate-related risks and disasters. This is attained through the development of specialized sectorial programs and action plans to meet the needs of the community at large, and to adapt to the new conditions through various means, ranging from basic fundamentals to the use of state-of-the-art technologies (Bulkeley,2006). In this manner, systems are set up for adaptation to potential climate changes, namely temperature increase and water scarcity, and the adverse expectations on the increase and decrease of precipitation and sea level rise (ESPACE, 2008).

3. Reduction of climate change- related disasters. This is feasible through accurate scientific calculations; field and theoretical observation of the different sectors of the community; appropriate support of the existing projects; selection of the most convenient and appropriate locations and designs for new projects; and strengthening the infrastructure in a manner that would help reduce the disasters related to climate change. (Azab, 2009)

The population distribution is 94% of the population along 7% out of all areas, and the area of Egypt is around 1 million m<sup>2</sup>. Egypt's population in 2017 was approximately 100 million and had increased by 2.3% per year over the last 10 years (EEAA, 2010). Egypt is a developing country with a growing population and a growing economy. Egypt's population would reach 119 million by 2030.

## **DATA AND METHODS**

In the course of elaboration of the present study the research methodology we applied was the interpretation and understanding in a comprehensive way for what are the mitigation policies for climate change hazards in Egyptian regions according to the administrative laws. The novelty of our examinations also derives from the fact that as far as we know it, there has not been any research on this issue to determine the mitigation policies on the Egyptian regions from the legality perspective. The main method was qualitative research study through documents and reports reviews such as the administration laws and environmental reports of Egypt. The aim of developing and acceptance of adapting inquiry as understanding deepens and the situations change; analysing existing data – on inductive way – involve in detail to discover

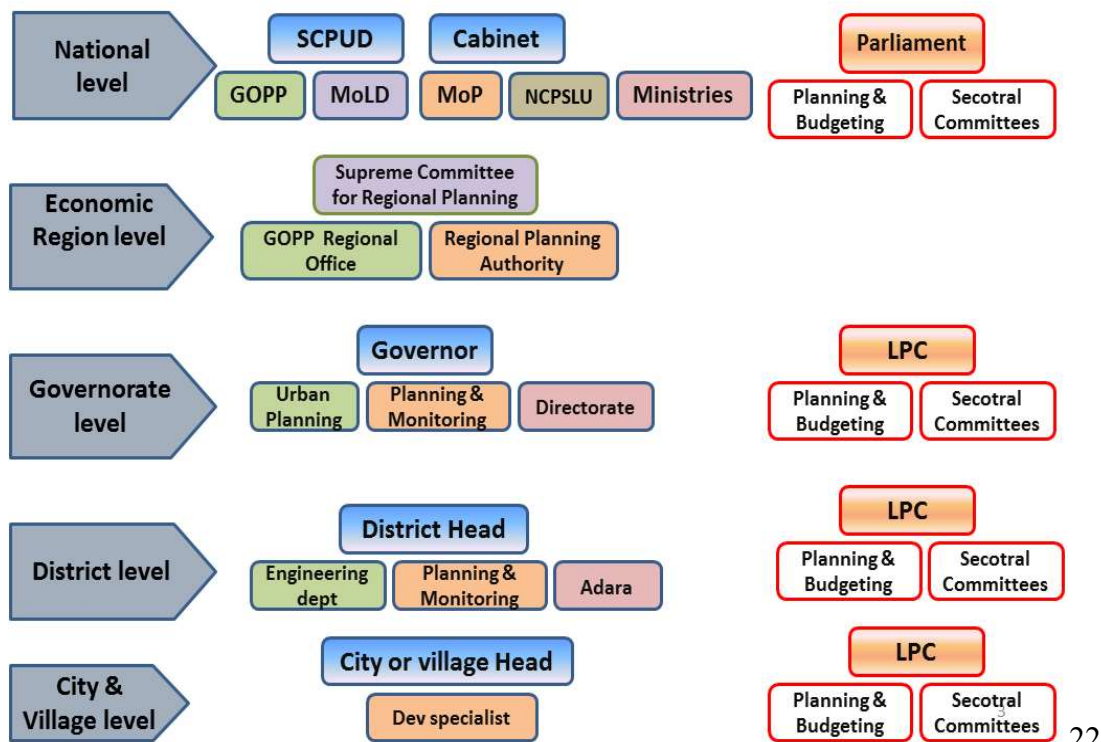
important patterns, themes, and interrelationships to investigate the effective policies through theoretical perspective. At first we had an overview on the climate change hazards in Egypt. Next, we determined the major environmental issues in Egyptian administration levels. Finally, we discussed certain policies which aim to adapt and mitigate climate change within Egyptian regions.

## RESULTS AND DISCUSSION

### Governmental actors involved in administration levels in Egypt

The key administrator and legislative entities involved in territorial governance at the different levels according to the 1971 constitution and the different objects of legislation is the most prominently planning law no. 70/1973, Local administration law no. 43/1979 and the Building Law no 119/2008, (Fig. 1).

**Figure 1** Key governmental entities involved in planning at the different levels



Source: (Ahmed, 2016)

<sup>22</sup> \* **SCPUD** Supreme Council for Planning and Urban Development, \* **GOPP** General Organization of Physical Planning, \* **MoLD** Ministry of Local Development, \* **MoPIC** Ministry of Planning and International Co-operation, \* **NCP SLU** National Centre for Planning State Lands Usage, \* **LPC** Local Popular Council

a) National level:

Key National-level institutions in Egypt are involved in territorial governance and planning for regional economic development. There are four main entities within the central government that are directly involved in territorial governance at the national level, these entities are: The Ministry of Planning and International Co-operation (MoPIC); the General Organization of Physical Planning (GOPP); the National Centre for Planning State Lands Usage (NCPSLU); and the Supreme Council for Planning and Urban Development (SCPUD), headed by the Prime Minister. (Ahmed, 2016)

b) Economic regions and regional institutions:

Economic regions were not mentioned in the Egyptian constitution, however, according to the article no. 161 of the constitution, administrative units could be created if there is a need. Economic regions were created by presidential decree in 1977. In 1979, the local administrative law was issued with a chapter dedicated to the economic regions and the regional planning authorities. All the same, these changes did not provide economic regions with any actual power as they are without real planning powers and budgetary authority and do not bear the strong executive machinery that connects to the deconcentrated offices of central ministries. (Ahmed, 2016)

There are currently seven economic regions each with a capital: 1) Cairo Region: Cairo is the capital; 2) Alexandria Region: Alexandria is the capital; 3) Delta Region: Tanta is the capital; 4) Suez Canal Region: Ismailia is the capital; 5) Northern Upper Egypt Region: Menia is the capital; 6) Asyout Region: Asyout is the capital; 7) Southern Upper Egypt Region: Aswan is the capital.

c) Local administrative units:

The Local Popular Council (LPC), according to the constitution, is part of the executive authority and is formed for each administrative unit (Governorate, Markaz, city, District, and village local administration), by direct election. The constitutional amendments of 2008 explicitly mentioned decentralization and empowerment of administrative units and stipulated that a gradual transfer of competences from the central level to the local popular council should be granted. The local administration law stipulates in article 27 that the governor is the *“representative of the President in the governorate, and shall take charge of supervising the execution of the State General Policy, and s/he has a complete authority over all services utilities and production within the scope of the governorate.”* (Ahmed, 2016)

### **The administrative challenges for the environmental issues in Egypt**

Since the mid-1980s, Egypt has introduced different components and measures in its economic reform and structural adjustment programmes to reduce the budget deficit, sustain economic

growth and improve the standard of living. From the beginning of the 21<sup>st</sup> century until the 25 January revolution, a rapid acceleration in growth took place, making Egypt one of the Middle East's fastest-growing economies and resulting in the creation of record numbers of jobs. Also, investor confidence remained relatively high. (Azab, 2009)

The expansion in economic activities was mainly in the fields of energy, construction, and telecommunications as well as labour-intensive sectors such as agriculture and manufacturing. In 2005, the Egyptian Competitiveness Report (ECR) records notable improvements in Egypt's competitiveness rankings, reflecting the impact of these significant economic reforms (Condon, et al, 2009). This was reflected in an impressive leap of Egypt's ranking in the third pillar of the Global Competitiveness Index, "macro-economy index", from 81<sup>st</sup> to 50<sup>th</sup> place. Having said that, Egypt did not perform as well on Michael Porter's Business Competitiveness Indicator (BCI), which focuses on the "micro foundations of competitiveness" which include the quality of the business environment operations and the sophistication of company strategy. The results indicate that major work must be done at the macroeconomic level to improve the business environment if growth is to be sustainable. (Mahmoud, 2012)

The main challenges facing environmental issues in Egypt are:

**(a) Confusion in the Legal Framework Governing Planning for Regional Economic Development.** The legal basis for planning in Egypt stems from two key laws: the planning law no. 70/1973 which regulates the process of developing the national socioeconomic plan; and the Building Law no. 119/2008 which regulates the process of undertaking the strategic planning process at different levels (national, regional, governorate, cities and village levels) (Betsill,2005).

Both laws offer two parallel, conflicting and contradicting approaches to planning. While the methodology adopted in the Building law is more in line with decentralization, both plans are managed centrally (ESPACE, 2008).

This has led to confusion about: who is leading the planning process (MoPIC<sup>23</sup>, GOPP<sup>24</sup>, or line ministries-but it is clear it not local government); who is responsible for integrating between different sectors (MoPIC or GOPP –Not local government); at which level this integration should occur (at the national level as in the Planning Law or at each and every level as in Building Law). (Ahmed, 2016)

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<sup>23</sup> MoPIC Ministry of Planning and International Co-operation

<sup>24</sup> GOPP General Organization of Physical Planning

The presidential decree contradicts with the roles given to the GOPP in the building law with respect to planning outside the settlements' Zamam.

**Planning Law No 70 for the year 1973:** The national socioeconomic plan:

- Aims at raising the standard of living, melting differences between classes through the increase of the national income, expansion of the services scope till reaching a sufficient and just community.
- Should ensure the comprehension and integrity of the plan which guarantees for it the use of all national physical, natural and human resources.
- Should ensure the economic, administrative and geographical distribution of projects in a way that guarantees the establishment of economic regions beside the local administrative units.
- Done centrally with safeguarding the widest participation by the local ruling units, the economic units and the public in the preparation of the plan and its execution.
- Is a long-term general national plan which gets divided into time phases of medium terms, and these, in turn, are divided into annual detailed plans. (Mahmoud, 2012)

**Strategic Planning According to the building Law No 119 for the Year 2008:** The Strategic Plan (Ahmed, 2016):

- It is the plan which defines the future vision for urban development.
- It could be on the national, regional, governorate, city, or village's level.
- It exhibits the objective, policies, economic and social development plans, and the urban environment necessary for sustainable development.
- It defines future requirements for urban expansion, use of diverse lands, programs, priorities, execution mechanisms, and financial resources for each planning level.

**The National Centre for Planning State Land Uses (Presidential decree number 153 for the year 2001)** (Aaref, 2015)

- Counting and the reformation of the state lands outside the reins and the preparation of the general planning for their development within the framework of the general policy of the country.
- The preparation of the maps of the uses of the state lands outside the reins in all the purposes in coordination with the Ministry of Defence.
- Giving each ministry the maps of the lands specified for the uses of its activities, known that it will have complete and free authority in the specialization and the supervision of the uses of these lands and how to develop them.



- The restriction and handling of the annual programs of the development and the uses of the lands of each ministry and budgeting the revenues and expenditures of these developments.
- The coordination between the ministries concerning the land pricing rules and the system of their sale and the collection of their value and organizing their protection.
- Assuring that the Treasury of the state gets the net income from the land development that was allocated to each ministry.
- Preparing special studies for the state lands outside the reins that have not been previously allocated, and coordinating with the different state authorities to plan the ideal use of these lands.
- The coordination with the Ministry of Defence regarding the different uses of the lands outside the ruins of what does not contradict the affairs of defending the country.
- Keeping all of the data related to the state lands outside the reins and what has been allocated for them to each ministry and the annual uses of these lands and what remains of them without being used.
- Preparing detailed maps for planning the state lands that are outside the reins, according to the general map of planning.
- Expressing the opinion in the ministries' and the different state authorities' requests for the modification of the lands that have been previously allocated or the lands that have been added to them.
- Expressing the opinion in the disagreements that arise between the ministries and the public authorities and the local administration units or between these authorities and the individuals about specifying the authority responsible for managing and using the disputed lands outside the reins.
- Preparing the studies and the technical and environmental researches necessary for the state land uses outside the reins in coordination with the ministries and the concerned authorities in the country. (Wiesel and Modell, 2014)

**(b) Weak Institutional Relationship Between Public Research Institutions and Universities and Regional and Local Actors Engaged in Economic Development;**

According to the Local Administration Law, the governor shall act to support cooperation between the governorate institutions, universities and research institutes which are located within the governorate area, to serve the environment and promote the local society. However, the governor role in practice is very limited in the coordination of research endeavours and

economic development at the local level since such research efforts are predominately either executed at or planned by the central level. (Ahmed, 2016)

### **The main environmental challenges in the administration levels**

As highlighted in the challenges above, Egypt, predominantly follows the hierarchical and top-down approach to territorial governance. The lead organization for managing territories is the central government (in planning for regional development, regional policy setting, land administration, implementation of development projects, and financing) (Betsill, 2005). In this situation, ministries and central agencies mandated with economic development follow an administrative decentralization model whereby they create deconcentrated offices at the regional level, which do not coordinate with each other and are not accountable to the regional institutions or local administrative units. (Ahmed, 2016)

### **Clarify the planning approach that will be adopted at the regional level.**

The different institutional actors, including the RDAs<sup>25</sup>, will have different roles in the planning process. The reforms' ultimate goal is to enable the RDA to lead the planning for economic and urban development, in accordance with the state general policies and a framework for regional planning drafted by the central government highlighting key regional policies and guidelines. This envisioned reform will not be achieved instantly, but will require a gradual shift of planning competences from national level institutions to the RDAs. (Eversole and Martin, 2005)

### **The staged approach towards reforming territorial governance**

Lessons learned from international experience suggest that the best way to approach territorial governance is to introduce the reform based on a long-term vision combined with gradual and incremental actions. Enabling the RDA is not an easy fix and would require continuous efforts on the ground to enhance the organizational capacity at the regional level. Likewise, in this new setting, new roles will be assigned to the government at the central level, which will require time and tailor-made capacity building interventions. (Denhardt and Denhardt, 2009)

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<sup>25</sup> The RDA model means that there is a specific set of regional institutions established that are still under the oversight of the central government, but which possesses a set of competences and resources that allow it to develop policies appropriate to its territory.

**A national policy framework for regional development** by the MoPIC, GOPP, and NCPSLU to specify the Egyptian government's vision for sustainable development and how this would impact on economic, environmental, and social planning policies. The framework will provide parameters within which regions can produce their own Regional Strategic Spatial Plan for Economic Development. These strategic plans specify the vision for the economic development of each region (Greiving & Fleischhauer, 2012). They spell out the major economic development interventions that will be carried out at the regional level. The plans will cover a long-term period (20-30 years) but with a detailed 5 year plan which is linked to the budget. During the first phase, the planning process will be facilitated by the central level, however, with strong engagement of the RDA and regional partners. (Wiesel and Modell, 2014)

The strategic planning department at the RDA will work closely with MoPIC, GOPP, NCPSLU, and the National Planning Institute to draft the strategic plans. In addition, the department will be drafting a midterm and annual investment plans based on the regional strategic plans as well as the state general policies and the policy framework for regional development prepared by the central government.

**Ensure Stakeholder engagement with the RDA through different mechanisms:** The regional law should highlight different mechanisms that enable the engagement of the different stakeholders within the region with the RDA and its board. Among these mechanisms could be a regular stakeholder consultation process; reinforcing the engagement of different actors during the environmental and social impact assessment; engagement during the planning process; consultation process on the progress of key performance indicators; among others. For the stakeholders' engagement to be meaningful, access to information should be granted, including information about proposed regional plans and strategies, regional competitiveness reports, regional budget and the report of the Central Agency for Accounting. (Eversole and Martin, 2005)

### **Sectoral impacts of climate change**

Climate change - with its many dimensions (social, environmental, economic and political) - is expected to lead to multiple impacts at various scales and levels. The impacts on natural ecosystems will be reflected on all socioeconomic levels, affecting livelihoods and human well-being. The prevailing climatic conditions in the Arab region have highly significant impacts on the different components of the ecosystems. Major impacts could be attributed to the inherent

fragility of the dominating arid ecosystems of the region. These arid ecosystems are generally characterized by inferior physiochemical properties, the weak resilience of soil resources and relatively-limited availability of surface/ground-water resources. (Burton et al, 2002)

**1. Water resources:** Nine out of fourteen countries in the Middle East and Nord African (MENA) region already have an average per capita water availability below the water scarcity threshold. A warming climate is expected to place additional stresses on water resources in the MENA countries, whether or not future rainfall is significantly altered (Hume et al., 2015). Per capita renewable water resources in the region, which in 1950 were 4,000 m<sup>3</sup> per year, are currently 1,100 m<sup>3</sup> per year. Trends of reduced surface water availability, reduced groundwater reserves, and increased occurrence of drought and flood events have been observed in several countries (e.g. in Morocco over the last 30 years). Projections indicate that per capita renewable water resources will drop by half, reaching 550 m<sup>3</sup> per person per year in 2050 (World Bank, 2006). Countries expected to experience decreased precipitation include: Egypt, Jordan, Lebanon and the Occupied Palestinian Territory (IPCC, 2007).

Rising temperatures and changes in runoff patterns will influence the flow of rivers upon which countries in the region depend.

**2. Agriculture and food security:** Agricultural production and food security are closely linked to the availability of water. Climate change is expected to affect food security through its impact on agriculture and food production systems. At the global level, aggregate agricultural output potential will be less affected by climate change, with significant variations between regions. According to the (IPCC, 2007), by the 2080s, agricultural potential could increase by 8% in developed countries, primarily as a result of longer growing seasons, while in the developing world, it could fall by 9%, with sub-Saharan Africa and Latin America projected to experience the greatest losses. (Mueller and Rynne, 2009)

The majority of Arab countries are considered among the world's most water scarce, and in many places demands for water have already exceeded supply. Higher temperatures and less rainfall will reduce the flow of rivers and streams, slow the rate at which aquifers recharge, and make the entire region more arid (Greiving & Fleischhauer, 2012). These changes will have a series of effects, particularly on agriculture, energy and food security.

The main climate change risks in the North African and Middle East region will largely be linked to long-term desiccation and drought associated with climatic variability. Water stress is of huge importance and decreases in water availability may have severe impacts on food security (Sanchez -Rodriguez, 2009). Some projections indicate that under moderate increases

in temperature, water flow will be largely impacted. This is true for the Euphrates and Jordan Rivers, which could shrink by 30% and 80%, respectively, by the end of the century. (Adger et al, 2005)

**3. Sea level rise, coastal inundation and erosion:** The extremely low elevation of arable cropland in the Nile Delta in Egypt makes sea level rise a clear threat for the country, as most of the 50 km wide land strip along the river is less than 2 m above sea-level and is protected from flooding by only a 1 to 10 km wide coastal sand belt. Erosion of this protective sand belt, which is essential for the protection of the lagoons and the low-lying reclaimed lands, could be a serious problem (Watts, et al., 2015). The impacts would be very serious, as one-third of Egypt’s fish catch is made in lagoons. Erosion could also affect the water quality and productivity of agricultural lands.

Infrastructure, roads, and recreational tourism, beach facilities would be endangered, and essential groundwater would be contaminated with salt. Based on the UN-Habitat’s State of the World’s Cities 2008/09, by 2070 coastal cities that could be severely affected by rising sea levels include Alexandria (Egypt). (IPCC, 2007)

**Climate Change hazards mitigation policies of the administration levels in Egypt:**

According to administration levels and their relation to mitigating the climate change hazards, the following Tab. 1 illustrate how could mitigation policies work on the regional level. And Tab. 2 shows how this mitigation policies work for the different regions in Egypt according to their hazards.

**Table 1** mitigation policies for climate change hazards along Economic regions and regional institutions in Egypt

Level	Climate Change Mitigation Policies		
	Water resources	Agriculture and food security	Sea level rise, coastal inundation and erosion
Regional (Economic regions)	– organization for managing territories (in planning for regional development, regional policy setting, land administration, implementation of development projects, and financing)		
	– New irrigation techniques – Water recycle usage	– Use different water resources	– Create bumpers in the highlands
Sub-regional (Regional institutions-Governmental)	– highlighting key regional polices and guidelines		
	– Water recycle usage for garden irrigations	– Use the new agriculture techniques – Develop the crop cycles	– Rocky barriers, sea walls, wave barriers – Beach maintenance

Source (Authors)

**Table 2** mitigation policies for climate change hazards along economic regions in Egypt

Region	Climate Change Mitigation Policies		
	Water resources	Agriculture and food security	Sea level rise, coastal inundation and erosion
1) Cairo	– Water recycle usage for garden irrigations	–	–
2) Alexandria	– Water recycle usage for garden irrigations	–	– Rocky barriers, sea walls, wave barriers – Beach maintenance
3) Delta	– New irrigation techniques – Water recycle usage	– Use different water resources – Develop the crop cycles – Use the new agriculture techniques	– Rocky barriers, sea walls, wave barriers
4) Suez Canal	– Water recycle usage for garden irrigations	–	– Rocky barriers, sea walls, wave barriers
5) Northern Upper Egypt	– New irrigation techniques – Water recycle usage	– Use different water resources – Develop the crop cycles – Use the new agriculture techniques	– Create bumpers in the highlands
6) Asyout	– New irrigation techniques – Water recycle usage	– Use different water resources – Develop the crop cycles – Use the new agriculture techniques	–
7) Southern Upper Egypt	– New irrigation techniques – Water recycle usage	– Use different water resources – Develop the crop cycles – Use the new agriculture techniques	– Create bumpers in the highlands

Source (Authors)

## CONCLUSION

Climate change impacts through regional development policies target all regions and cities in order to support job creation, business competitiveness, economic growth, sustainable development, and improve citizens' quality of life. The government adopts its national policies and measures, based on the fact that these are vital for the protection of existing investments, and simultaneously secures growth and sustainable development.

**The National Strategy aims at achieving the following goals:** 1. Increasing the flexibility of the Egyptian community in dealing with the risks and disasters. 2. Enhancing the capacity to engage and contain climate-related risks and disasters for adapting temperature increase and water scarcity, and the precipitation and sea level rise. 3. Reduction of climate change-related

disasters; field and theoretical observing the different sectors of the community; appropriate support of the existing projects; locations and designs for new projects.

**The main challenges facing environmental issues in Egypt are:**

(a) Confusion in the Legal Framework Governing Planning for Regional Economic Development; The legal basis for planning in Egypt stems from two key laws: 1. Planning Law No 70 for the year 1973: The national socioeconomic plan; 2. Strategic Planning According to the building Law No 119 for the Year 2008: The Strategic Plan; 3. The National Centre for Planning State Land Uses (Presidential decree number 153 for the year 2001): Counting and reforming the state lands and preparing the general planning.

(b) Weak Institutional Relationship Between Public Research Institutions and Universities and Regional and Local Actors Engaged in Economic Development; According to the Local Administration Law, the governor shall act to support cooperation between the governorate institutions and universities and research institutes which are located within the governorate area, to serve the environment and promote the local society. However, the governor role in practice is very limited in the economic development at the local level that efforts are predominately either executed at or planned by, the central level.

**For the environmental issues;** Clarify the planning approach that will be adopted at the regional level: The different institutional actors, will have different roles in the planning process. The reforms' goal to lead the planning for economic and urban development, in accordance with the state general policies and a framework for regional planning drafted by the central government.

**Sectoral impacts of climate change:** Climate change - with its many dimensions (social, environmental, economic and political) - is expected to lead to multiple impacts at various scales and levels. The impacts on natural ecosystems will be reflected on all socioeconomic levels, affecting livelihoods and human well-being. The prevailing climatic conditions in the Arab region have highly significant impacts on the different components of the ecosystems. Major impacts could be attributed to the inherent fragility of the dominating arid ecosystems of the region. These arid ecosystems are generally characterized by inferior physiochemical properties, the weak resilience of soil resources and relatively-limited availability of surface/ground-water resources.

## SUMMARY

Climate change impacts through regional development policies target all regions and cities in order to support business competitiveness, economic growth, sustainable development, and improve citizens' quality of life. Understanding of the demand for a raw approach is pushed by the observation that past policies have broken to reduce regional disparities significantly and have not been able to help individual

lagging regions to capture up, despite the allocation of significant public financing. It is reflected in the country competitive dynamic regions aiming to achieve their economic, social and environmental objectives. Egypt's administration system is composed of two levels, the central and local levels. The central level consists of ministries, central agencies, and public enterprises. The local level consists of governors, which in turn are classified into two types of hierarchies, those with a complex structure and those with a simple structure. The simple structure governors are composed of three levels: governors, city and district levels. The structure governors consist of four levels: governorate, Markaz, and district levels. Confronting the impact of climate change requires local, regional and international cooperation. The government of Egypt undertakes its activities based upon the principle of common responsibilities at the domestic level. In collaboration with the international community, the government implements the key objectives, while considering the social and economic indicators, as well as the social dimension. The government adopts its national policies and measures, based on the fact that these are vital for the protection of existing investments, and simultaneously secures growth and sustainable development.

**The National Strategy aims at achieving the following goals:** 1. Increasing the flexibility of the Egyptian community in dealing with the risks and disasters. 2. Enhancing the capacity to engage and contain climate-related risks and disasters for adapting temperature increase and water scarcity, and the precipitation and sea level rise. 3. Reduction of climate change-related disasters; field and theoretical observing the different sectors of the community; appropriate support of the existing projects; locations and designs for new projects.

**Governmental actors involved in administration levels in Egypt** according to the 1971 constitution and the different pieces of legislation (most prominently planning law no. 70/1973, Local administration law no. 43/1979 and the Building Law no 119/2008). a) National level: involved in territorial governance and planning for regional economic development. b) Economic regions and regional institutions: the local administration law was issued dedicated to the economic regions and the regional planning authorities. c) Local administrative units: (Governorate, Markaz, city, District, and village local administration).

**The administrative challenges for the environmental issues in Egypt:** From the beginning of the 21<sup>st</sup> century until the 25 January revolution, a rapid acceleration in growth took place, making Egypt one of the Middle East's fastest-growing economies and resulting in the creation of record numbers of jobs. Also, investor confidence remained relatively high. The expansion in economic activities was mainly in the fields of energy, construction, and telecommunications as well as labour-intensive sectors such as agriculture and manufacturing. Egypt did not perform as well on Michael Porter's Business Competitiveness Indicator, which focuses on the "micro foundations of competitiveness" which include the quality of the business environment operations and the sophistication of company strategy. The results indicate that major work must be done at the macroeconomic level to improve the business environment if growth is to be sustainable.

**The main challenges facing environmental issues in Egypt are:**

**(a) Confusion in the Legal Framework Governing Planning for Regional Economic Development;**

The legal basis for planning in Egypt stems from two key laws: **1 Planning Law No 70 for the year 1973:**

The national socioeconomic plan: Aiming to raise the standard of living, melting differences between classes; ensuring the comprehension plan which guarantees for it the use of all national physical, natural and human resources; ensuring the economic, administrative and geographical distribution of projects in a way that guarantees the establishment of economic regions beside the local administrative units; and, getting divided into time phases of medium terms, and these, in turn, are divided into annual detailed plans;

**and 2 Strategic Planning According to the building Law No 119 for the Year 2008:** The Strategic Plan:

defines the future vision for urban development; on different levels national, regional, governorate, city, or village's; exhibits the objective, policies, economic and social development plans, and the urban environment necessary for sustainable development; and, defines future requirements for urban expansion, use of diverse lands, programs, priorities, execution mechanisms, and financial resources for each planning level. Both laws offer two parallel, **3 The National Centre for Planning State Land Uses (Presidential decree number 153 for the year 2001):** Counting and reforming the state lands and preparing the general planning for their development within the framework of the general policy of the country; giving each ministry the maps of the lands specified for the uses of its activities; Preparing special studies and detailed maps for planning the state lands that are outside the reins; Expressing the opinion between the ministries and the public and local administration units or between these authorities and the individuals about specifying the authority responsible for managing and using the disputed lands outside the reins; and, Preparing the studies and the technical and environmental researches necessary for the state land uses outside the reins in coordination with the ministries and the concerned authorities in the country.

**(b) Weak Institutional Relationship Between Public Research Institutions and Universities and Regional and Local Actors Engaged in Economic Development;** According to the Local Administration Law, the governor shall act to support cooperation between the governorate institutions and universities



and research institutes which are located within the governorate area, to serve the environment and promote the local society. However, the governor role in practice is very limited in the economic development at the local level that efforts are predominately either executed at or planned by, the central level.

**The main environmental challenges in the administration levels:** predominantly follows the hierarchical and top-down approach to territorial governance. The lead organization for managing territories is the central government. Here, the ministries and central agencies mandated with economic development follow an administrative deconcentration model whereby they create deconcentrated offices at the regional level, which do not coordinate with each other and are not accountable to the regional or local administrative units.

**Clarify the planning approach that will be adopted at the regional level:** The different institutional actors, including the RDAs, will have different roles in the planning process. The reforms' goal to lead the planning for economic and urban development, within the state general policies and a framework for regional planning by the central government highlighting key regional policies and guidelines, which will not be achieved but will require a gradual shift of planning competences from national level to the RDAs.

**Sectoral impacts of climate change:** Climate change with its many dimensions (social, environmental, economic and political) - is expected to lead to multiple impacts at various scales and levels. On natural ecosystems will be reflected on all socioeconomic levels (livelihoods and human well-being). The prevailing climatic conditions in the MENA region have highly significant impacts on the different components of the ecosystems. Major impacts could be attributed to the inherent fragility of the dominating arid ecosystems. These arid ecosystems are generally characterized by inferior physiochemical properties, the weak resilience of soil resources and relatively-limited availability of surface/ground-water resources.

**1 Water resources:** Nine out of fourteen countries in the MENA region already below average per capita water availability. A warming climate is expected to place additional stresses on water resources in the MENA countries. **2 Agriculture and food security:** closely linked to water availability. Climate change is expected to affect food security through its impact on agriculture and food production systems. At the global level, aggregate agricultural output potential will be less affected by climate change, with significant variations between regions. **3 Sea level rise, coastal inundation and erosion:** The extremely low elevation of arable cropland in the Nile Delta in Egypt makes sea level rise a clear threat for the country, as most of the 50 km wide land strip along the river is less than 2 m above sea-level and is protected from flooding by only a 1 to 10 km wide coastal sand belt.

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