



SZENT ISTVÁN  
UNIVERSITY



FACULTY OF ECONOMICS AND SOCIAL SCIENCES,  
GÖDÖLLŐ

Acta Regionis Rurum

# Acta Regionis Rurum

SPECIAL ISSUE No. 1.

Multifunctionality and regional development

Challenges and potentials of the agrobusiness sector  
in the development of Visegrad rural areas

Special Issue

10.21408/SZIE.ACTAREG.2014.spec

**ACTA REGIONIS RURUM**  
**SPECIAL ISSUE**

Szent István University, Faculty of Economics and Social Sciences

**Multifunctionality and regional development**

Selected papers of the First Visegrad Scientific Doctoral Symposium,  
organized jointly with the Visegrad University Association

SPECIAL ISSUE

Gödöllő  
Szent István University  
2014

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ISSN: 1789-5588

Peer-reviewed journal.

Published by the Szent István Egyetemi Kiadó Nonprofit Ltd., Gödöllő

2014

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## PREFACE

This special issue contains peer-reviewed papers by authors who took part in the *First Visegrad Doctoral Symposium*, held in Gödöllő in October 2013. The authors are mainly PhD students and young researchers. The aim of the conference was to allow the young students and colleagues to present their research results in various sessions, chaired by well-known and nationally and internationally acknowledged professors and experts. The conference was organized under the auspices of the *Visegrad University Association (VUA)* and it was the first event of the series. More than 100 participants from over 20 countries including Hungary, Poland, Slovakia, Italy, Russia, Ukraine, Croatia, Germany, Afghanistan, Vietnam, Kazakhstan, Kyrgyzstan, Moldova, Kosovo, Macedonia, Ethiopia and Kenya were present and could enjoy the interesting and exciting discussions and the nice atmosphere of Gödöllő.



VUA was established in 2011 by a group of universities from the Visegrad region and beyond. The main aim of the association is to link partner universities in order to provide quality education and scientific environment and to promote development of closer cooperation among the Visegrad group as well as cooperating regions respecting the neighbouring countries policy of the International Visegrad Fund in the field related to all aspects of sustainability. The Szent István University joined the Association as a full member in 2012 because we believe that VUA can provide unique opportunity for creating cooperations, generating research projects, organizing joint scientific events, exchanging publications for not only the V4 countries, but for other universities in Europe, Asia and Africa as well.

VUA YOUTH memorandum was also signed during the conference. This initiative is a great step forward in bringing the young researchers closer to each other and to professors from other VUA member universities. The main objective of VUA YOUTH is to create an effective connection between the students and university management enabling easier and more flexible communication. VUA YOUTH will support the main objectives of VUA and offer space for ideas and suggestions of students from VUA partner universities.

I am very proud that the Faculty of Economics and Social Sciences of the Szent István University was the host of the doctoral symposium and that way we could take active role in the the realization of VUA objectives.

Finally, let me express my warmest thanks to the authors, editors, reviewers and all the people who contributed to the preparation of this special issue.

Wishing you an enjoyable reading.

Sincerely yours,

Prof. h.c. Dr. József Káposzta  
dean

**EDITORIAL**

The *Acta Regionis Rurum* was established at the Faculty of Economics and Social Sciences, Szent István University, Gödöllő in 2007. The aim of its creation was to publish the results of our annual rural fieldwork. As a result, we publish study volumes about our systematic research in the concerned Hungarian rural areas each year. On one hand, we wish to record the social, economic, environmental relations of the national rural areas so that we could understand their relationships more. On the other hand, we would like to give a hand for our students, the to-be rural development engineers, to improve their knowledge.

This special issue is also stick to the traditions: it is a collection of studies which represent the social, economic, environmental relationships of the rural areas. However, in this issue the common point is not a concrete spot on the map of Hungary, but articles which were presented during the First Visegrad Doctoral Symposium in Gödöllő, between 3 and 5 October, 2013. The papers have been peer-reviewed by an international committee. The intellectual products of this issue are closely related to the Visegrad University Association (VUA) which was established by the initiation and coordination of the Slovak University of Agriculture in 2011. The Szent István University has been a full member of the VUA since 2012 along with other 38 full and 11 joint members from several countries from even beyond the Visegrad borders.

Let me call the kind attention of the Reader to the papers of this issue, summarizing either international rural research results or concrete social and economic phenomena of a special rural area, prepared by PhD students, lecturers or researchers of partner universities.



# THE IMPORTANCE OF LIGHTING IN RETAIL FOOD STORES AND ITS ENERGY INTENSITY

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## Abstract

Over the last few years, topic of energy saving and issues related to the environment are becoming an important matter among traders. However, just bigger companies with transnational capital have devoted their attention to this issue yet. Generally, the energy costs make up 70% of operating costs in retail stores where the cooling system and lighting are the most energy consuming. Rational behavior in order to achieve energy reduction can bring appreciable savings in the operation of retailer's stores. It is the only factor that can be exactly measured and controlled. Lighting in modern retails is largely involved in the overall design and atmosphere in shops, and plays a crucial role in presenting the goods as well. Customer's eye immediately catches the brightest part of the store. The use of lights can draw the customer's attention to a specific part of retail space and achieve the overall harmonization in the store. However, it is necessary to find a compromise between effective lighting, the issue of energy saving and environment while designing and implementing of the lighting in retail grocery stores. Energy prices can fluctuate significantly unless their consumption is not sufficiently controlled as well as they could have a negative impact on the environment and reduce profit. Using a Colour and Lux Meters, we found out what kind of light source is used in domestic and foreign food store chains for different types of basic, accent (highlighting) and dramatic lighting. At the end we recommend options for energy-efficient, effective and spectacular lighting while using the optimal number of light sources and their logical organization, automatic control as well as using energy-saving LED lights or practical skylights. Improvements in energy efficiency of technical equipment could reduce the operating costs for retailers as well as improve customer satisfaction and thereby increase their sales. The amount of air pollutants that are released into the environment decreases by reducing energy consumption.

**Keywords:** energy saving, lighting, innovations, retail, environment

## Introduction

One of the key requirements for the operation of modern stores is a safe extraction of energy resources, providing of a wide range of products, offering daily fresh food and creating refined shopping environment that results in high energy consumption. Rising energy prices and the impact of changes in Earth's climate increasingly forcing the European retailers to solve this problem; so their energy efficiency improve. On average, three quarters of the total energy consumption in the store represents electricity for powering consumer devices. Electricity is mainly used for lighting, air conditioning / heating and cooling of food.

## *Lightening*

Good business design and attractive presentation of goods are increasingly becoming a competitive factor. All stores use basic lighting, which is in many stores supplemented by accents lighting that can play a decisive role, especially in the textile, furniture, as well as in the food industry.

### ***Ventilation systems***

Almost all retail establishments use the ventilation systems to ensure the air exchange, especially for reasons of hygiene. Ventilation systems that provide continuous flow of fresh air are controlled powerful electric motors. Heating / air conditioning is a commonplace for today's customer who expects that the shopping environment will have a comfortable temperature.

### ***Food cooling***

Strict requirements of the European food law and growing consumers' demand for convenience and fresh products require an extensive food cooling. Cooling of fresh and frozen products makes up 50 percent of energy consumption in store dealing with sell of food. Regardless of whether the shops use separate cooling units or cooling systems to maintain the quality and freshness of products, 365 days a year, 24 hours a day, it always represents high energy consumption.

One of the key requirements of operating equipment of modern retail stores is good quality lighting that enhances the image of these stores, attracts potential customers as well as focuses their attention on the displayed products what results in increasing of sales. A study case of Areni and Kim (1994) found out that clearer interior store lighting act more positively on consumer perception in the form of time spent by browsing the goods in the store. Characteristics of the lighting used in the retail food stores can be designed in various ways. They contribute to make an impression about the visual quality of the environment in stores, but can also be used to disguise poor quality of products offered. Lighting is used not only for food accents lighting products, but also to create a photometric reactions in products to be sold in the stores (Borusiak, 2009).

Good business design and attractive presentation of goods are increasingly becoming the competitive factors in business (Ůrgeová, 2009). All the stores are using basic lighting which is in many stores combined with the accents lighting. This one can play a decisive role, especially when selling the fresh products. Selecting the appropriate combination of different types of lighting in grocery stores undoubtedly contributes to building the image. One could say that the image is considered as the generalized and simplified symbol which is based on the interplay of ideas, attitudes, views and experiences of man in relation to a particular object (Kleinová, Kretter, 2011). The image means that the thing is able to break out of the stereotypical average and become original, unique and different (Banyar, 2006).

All the domestic and multinational food store chains are equipped with the basic lighting which is mostly in larger retails combined with the accent lighting. Basic lighting does not essentially vary among the stores operating on the Slovak food market (Nagyová, Machajová, 2008). Even though, the accent lighting is significant and the only one strong marketing tool for some types of unpackaged fresh food (fruits, vegetable, bakery products and meat products) there are still food store chains which do not attach to this element as much importance as they should do.



To choose strategy of presenting new launched as well as already existing products in retail grocery stores correctly by using the optimal mix of marketing tools, it can significantly contribute to the growth of retail turnover (Kubicová, Kádeková, 2011). The matter of effective presentation of goods in retail stores is closely related to the issue of efficiency and energy consumption. Especially while using the lightning as a significant marketing tool it is necessary to take into account the energy consumption since lighting is one of the major cost items in retail stores. On the food market retailers should focus not only on the impressive presentation of the displayed goods but it is important to seek a compromise between the energy consumption of light sources and their effect on consumer perceptions.

Energy consumption of stores may greatly vary depending on their format and segment. The largest energy consumption is in food retailing because of the constantly keeping food cool and presentation of goods in area of fresh products.

(Baldwin, 2009) notes that climate changes make felt to humans and the environment worldwide. Global warming changes the climatic conditions as well as the natural environment. Combat against the climate changes has become one of the challenges of today. Progressively more retail stores mainly with multinational capital ties operate with this idea.

Based on the (Jongen, Meulenberg 2005) opinion, foreign and domestic retailers are increasingly aware of the need of environment and climate protection, which conduct their business projects. Therefore they try to build projects of so-called green stores with the use of energy-saving initiatives. Some of them are equipped with new-efficient technologies such as solar panels, wind turbines and geothermal wells, of course, according to the specifics of each store. Generally, energy makes up 70% of the retail store operating costs, cooling and lighting consume the most energy. Theme of energy saving is becoming recently a frequented matter. However, so far only bigger players with more international exposure pay their attention to it. A well-designed lighting not only can contribute to a significant energy savings, but also to increase the sales.

## **Material and methods**

The paper is part of the research projects KEGA 010SPU-4/2013 "Content Innovation of teaching the courses of European consumer and consumer behavior, marketing, marketing communication and market research by supplementing with theoretical and practical knowledge from the area of neuromarketing" and VEGA 1/0874/14 "The use of neuromarketing in visual food merchandising" conducted at the Department of Marketing at the Slovak University of Agriculture in Nitra.

The main objective of this article is to highlight the efficiency and energy consumption of the lighting in retail grocery stores in Slovakia and also to highlight the environmentally friendly solutions in retail sales. The target is to highlight the different basic and accents lighting in selected grocery stores operating at the Slovak market as well as to give some suggestions for optimal and energy bargain lighting in these stores.

By elaborating this article following sources were used:

- available literature resources, i.e. literary professional works of domestic and foreign authors,
- print (magazines),
- information from Internet webpages,
- publications available in libraries, etc.

To determine the underlying data we used:

- digital luxmeter - brand: Mastech, type: MS 6612
- digital colormeter - Brand: Minolta II

The method of comparison, selection and graphic representation were used as the basic methods for processing data. By calculating the energy initiatives followed relationship was used:

$$S = \frac{P * t * d * m}{1000} \text{ v (€)}$$

P – power of the electrical device (W)

t – time of use of the appliance during the day (hours)

d – number of days

m – price per 1kW

## Results and discussion

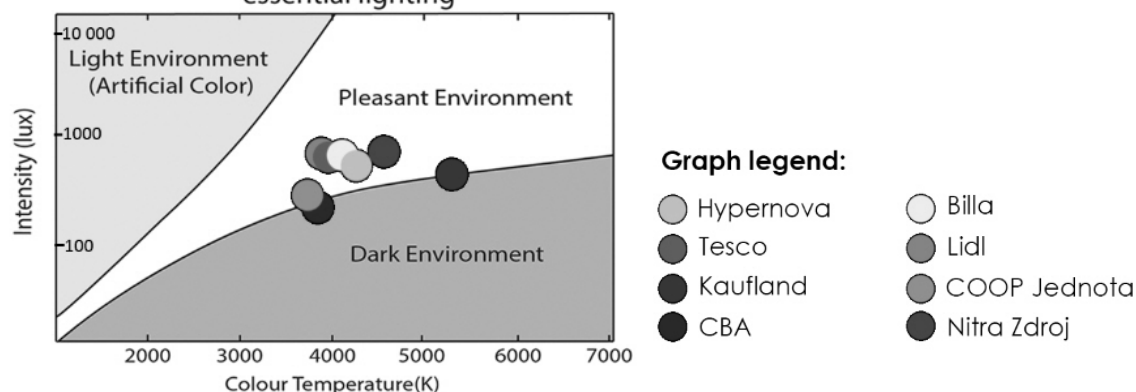
**Tab.1. The intensity and chromaticity temperature in selected food retail chains**

Retail chain	Basic lighting (intensity) lx	Basic lighting (colour temperature) K	Accents lighting – fruits and vegetables (intensity) lx	Accents lighting – fruits and vegetables (colour temperature) K	Accents lighting – bakery (intensity) lx	Accents lighting – bakery (colour temperature) K
Billa	605	4300	1682	3480	1425	4050
Tesco	620	4100	1002	3050	1122	2680
Lidl	740	3960	1520	3730	240	3420
Hypernova	485	4450	1660	3420	300	2530
Kaufland	440/695	5600	1004	3250	1759	2790
COOP Jednota	450	3830	486	4450	236	3780
CBA	369	4000	397	4200	285	4200
Nitra Zdroj	638	4450	930	3810	394	3780

Source: Own measurements and processing

**Fig.1. Light comfort in grocery shops in the SR – essential lighting**

Graph of a light comfort in grocery shops in the SR – essential lighting



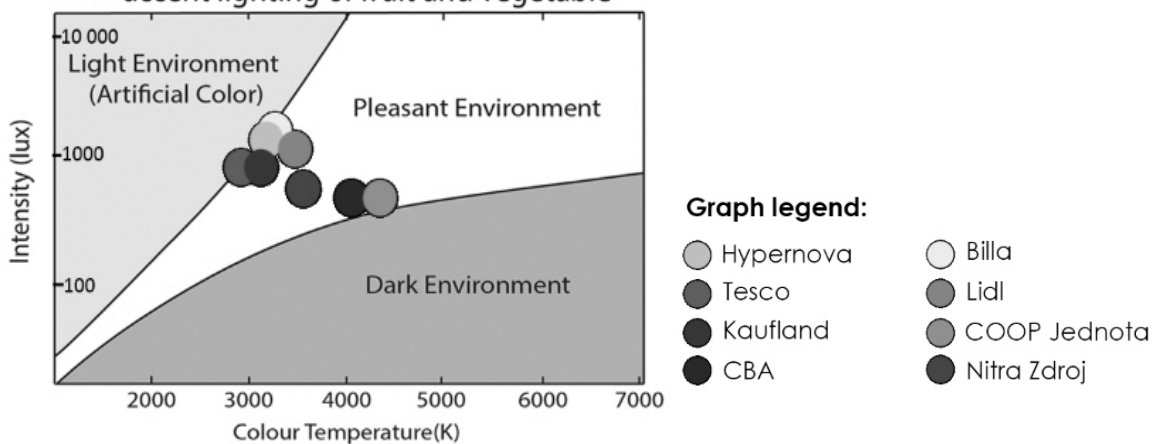
Source: Own measurements and processing

The measurement results are presented in a summary table Tab. 1, which shows the basic and accents lighting (fruit, vegetables and bakery products) in selected retail chains. Compared intensity and temperature of lightening chromaticity in five foreign and three domestic chains formed the basis for the compilation of charts of lighting comfort for basic and accents lighting in these retail grocery stores.

Figure 1 gives an overview of the intensity and colour chromaticity of the basic lighting in the examined stores. The highest intensity of basic lighting in retail was measured in a German company Lidl - in some parts of store up to 740 lux. The colour of basic lighting in this store is typical for fluorescent lamps that produce so-called cool white daylight with value of 3960K. The second highest value of intensity of the basic lightening was measured in Austrian company Billa (605lux). Almost all chains operating in the Slovak food market use lighting creating pleasant surroundings, based on the graph of the light comfort. The minimum value of light intensity (only 369 lux) was measured in company CBA. The reason was that the lighting was not in full operation at the time of measurement due to the save of costs. The majority of stores use for basic lighting the fluorescent lamps, which are characterized by a relative savings of electric energy but the lack of basic lighting intensity invoked a gloomy atmosphere in the shop.

**Fig.2. Light comfort in grocery shops in the SR – accent lighting of fruit and vegetable**

Graph of a light comfort in grocery shops in the SR  
– accent lighting of fruit and vegetable



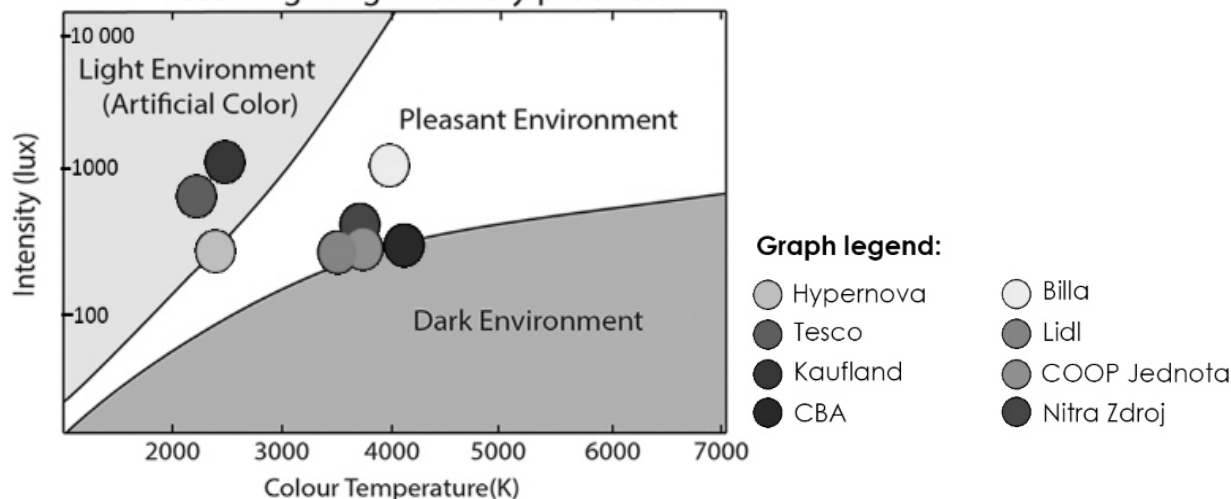
Source: Own measurements and processing

Diagram 2 illustrates overview of light comfort of the fruits and vegetables accent lightening. Accent lighting is used to additional light of fruits, vegetables and bakery products.

The accent lighting is often not only the one, but also a powerful marketing tool used by fresh and packaged goods. The highest intensity of accent lighting (1682lux) was measured in a store of company Billa. This store disposes of an overall accent lightening system that produces 32480K by fruit and vegetables and 4050K by bakery products. Based on the graph, we can state that the most powerful accent lighting for fruits and vegetables is used in companies Tesco, Hypernova and Billa. It follows that the energy costs for this type of lighting will be the highest. On the other hand, the lowest costs of this type of lighting are spent in CBA and COOP Jednota.

**Fig.3. Light comfort in grocery shops in the SR – accent lighting of bakery products**

Graph of a light comfort in grocery shops in the SR  
– accent lighting of bakery products



Source: Own measurements and processing

Higher values of accent lightening of bread and bakery products were measured in stores of companies Tesco, Kaufland and Hypernova, That represents higher energy consumption in comparison to other grocery stores. Some shops are not equipped with accent lighting of bakery products and therefore there is no further increase in energy consumption.

A trader can achieve appreciable savings in the operation of the store with reduction of the energy consumption expended on the store lighting. Lighting of a modern retail is largely involved in the overall design and the resulting atmosphere of the shop. The amount and type of used lighting is therefore always very different. In any case, individual sales operators are able to regulate their own expenses using the optimal number of light sources, the logical arrangement of them, automatic management according to the time settings and sensors, and finally using the low-cost lamps, e.g. LED lamps.

Table 2 contains of the most widely used lamps in our grocery stores. Fluorescent lighting is the most widely used type of lighting in Slovakia. It is characterized by relatively low acquisition costs. There is the second largest cost saving within the compared types of lamps by calculating the energy consumption for four years. The negative side of this type is the fact that mercury and heavy metals can be used by their manufacturing; what in no way contributes to the environment save. Based on the test results, the LED lightening is the most preferred type due to the energy savings. It is characterized by higher acquisition costs, whose return will result in 4 years of use. The other two types of lighting are used mainly for accent lighting, where the more importance is attached to their marketing effect than the energy efficiency.

**Tab.2. Energy consumption of different types of light sources**

Type of light source	Halogen	Metal-halide	Fluorescent x 2	LED
Power (W)	160	70	72	60
Luminous flux (lux - lx)	650	580	540	620
Initial costs (€)	8	53	35	100
The cost of replacing the light body (€)	4.9	13.5	5.3	0
The cost of 30,000 hours operation (€)	73.5	67.5	42.4	0
Lifetime (hours)	2000	6000	8000	35000
Ecology	higher energy consumption	complicated accessories	mercury, heavy metals	ok
Energy consumption per 1 hour (€)	0.032	0.014	0.0144	0.012
Energy consumption per year (€)	187	82	84	70
Total cost after 4 years (€)	826	408	379	280

Source: Own measurements and processing 2013

## Conclusion

In the context of environmental protection and energy saving, we recommend to replace traditional fluorescent tubes by LED diodes in retail stores, or even in parking lots in front of shops. The investment is indeed higher, but with well adjusted project of lighting renovation it will return in time. For accent lighting in the fresh goods segments, we propose to retain halogen and metal-halide lamps. In these sections, the lighting fulfills its specific task and not each type of lighting meets these preconditions (color temperature, color rendering index). Possibility for this type of lighting is also the location of automatic sensors and dimmers in underused retail space or during less traffic.

The most expensive, but at the same time the most efficient solution is to build practical skylights on the roofs of retail stores. Such an arrangement would not only contribute to significant energy saving, but also to create the most natural shopping environment. The cost of building practical skylights will return in the form of reduced energy consumption and also satisfied customers making purchases will contribute to an increase in sales of the company.

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# ADVISING THE 'PERSUADABLE CLUSTER' OF HUNGARIAN COMPANIES ON TALENT MANAGEMENT

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## Abstract

Based on the Hungarian data of the Visegrad funded project titled „Integrated talent management-challenge and future for organisations in Visegrad countries” (Visegrad Fund / number 21220142), a pilot cluster analysis was conducted to find out the main characteristics of talent management. The recent appreciation of the human capital has contributed to the application of new management procedures in the HR practice. One of them is talent management whose aim is to find and recruit talented people as well as to develop and retain those talents who have already been employed. We have found that there is a close relationship between the economic situation of the Hungarian companies and their talent management. Our paper also aimed at providing practical advice to Hungarian companies, which are open for talent management.

**Keywords:** Talent management, Cluster analysis, HR

**JEL classification:** J24

## Introduction

In course of our cluster analysis, we used the database of the Visegrad Fund Project "Integrated Talent Management - Challenge and Future of Organizations of Visegrad Countries" and we summarized the result of the case studies - conducted within this framework- as the qualitative part of the research. A selective survey was used as a method of data collection. The selective file was determined randomly in each country. The individual items of the questionnaire were scaled according to the Likert scale from 1 to 5. In the database created in this way, each respondent represents one business object. We examined the responses given by 49 Hungarian companies in our present research.

Economists say that talent is crucial and it is the greatest advantage in competition. Companies should choose to find talented employees instead of making their choices based on technology, factory or even capital (Tucker-Gandossy-Verma, 2007. p. 10)

In our research into talent management, we formulated our questionnaire keeping the following conceptual definition in view:

Global talent management is more future oriented and is defined in terms of human resource planning and projecting employee/staffing needs. Here the focus is on the types of individual level capabilities needed in the future. (Lewis -Heckman, 2006.)

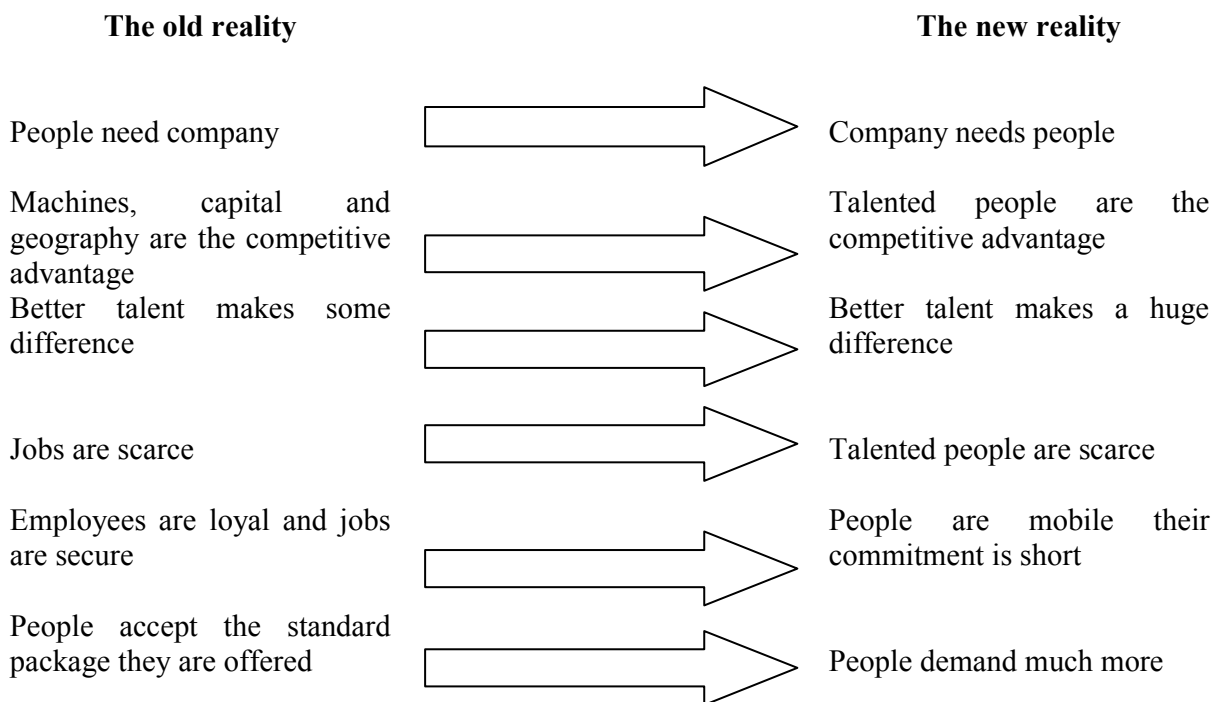
The real history of talent management started at the end of the 1990s, when the McKinsey Organisation conducted a research into this topic. The research involved more than 6,000 companies.

The summary of the research issued in 1997 included the results of the survey (questionnaires) and the case studies of the most closely observed 18 companies. It shows that efficient companies have better adjusted Human Resource Management.

The managers of these companies think that in the long run, there is a connection between successful performance and talented people.

Talent management is definitely related to the attitude towards talents, which is known as Talent Mindset. It was also an interesting finding that most companies recognise talents and their special performance but they neglect them.

Talent management went through a dramatic development from the 1980s to the end of the 20th century. This is clearly shown in Figure 1.



**Figure 1. Comparison of the priorities of the environment in the past and in 2001**

Source: Michaels, Hanfield-Jones, Axelrod: *The War for Talent*, 2001, p. 6.

However, we must note that there have been some changes concerning reality described in Figure 1 (Bersin, 2010; Hatum, 2010; Schuler, Jackson and Tarique, 2011; Collings and Mellahi, 2010).

Partially due to globalization, the rapid changes in business and the economic crisis, people generally seek a safe environment in the labour market, too.

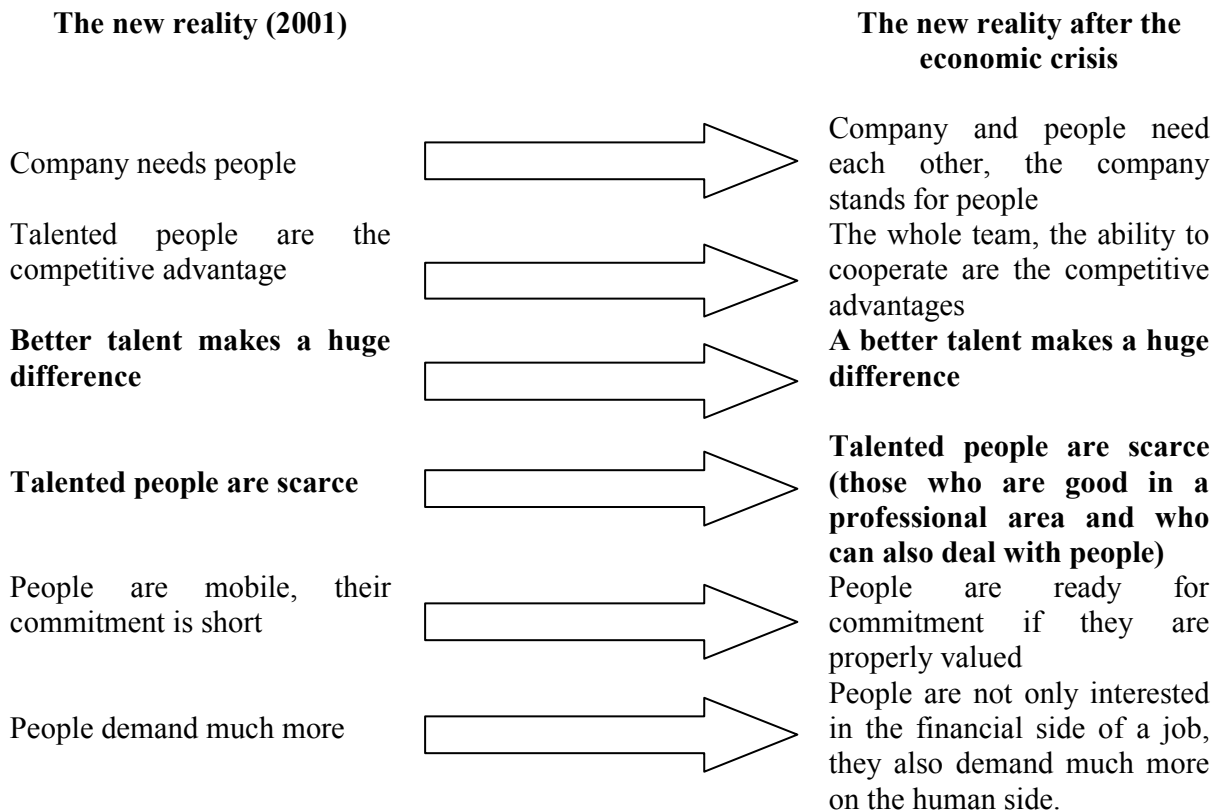
Talented people also value a stable, predictable work environment. They are ready to commit if they are duly valued. Thus, the human aspects of the work environment are becoming more and more important.

These thoughts are summarized in Figure 2.

The only issue which has not changed is the importance of talented people and the fact that there are not too many of them. Consequently, companies and organizations should value



them properly, because they are the key people for them and the future of the organization depends on their commitment and performance.



**Figure 2. Comparison of the priorities of the environment in 2001 and at present**

Source: Based on Michaels, Hanfield-Jones, and Axelrod: *The War for Talent*, 2001, p. 6. own design

### **Materials and methods**

The practical advice is based on the summary of the case studies conducted by the Project Team<sup>1</sup> in the Visegrad countries. The similarities of the historical backgrounds of the four countries allow us to use each other's good practices. At first, we prepared the cluster analysis to find the group of companies which should be convinced on the implementation of talent management.

Classification or clustering is an important area of research in the statistical, analytic methodology. It is a multidimensional method used for exploring the structures among the objects, the respondents. We chose the cluster analysis method in order to form groups (clusters) which are relatively homogenous inside, and at same time, they can be easily distinguished from one another, i. e. they are heterogeneous. Clustering has three requirements in statistics (Hunyadi-Vita, (2004): 1. each object of the variable must belong to a cluster, 2. each object belongs to exactly one cluster, 3. the clusters must be homogenous.

<sup>1</sup> Slovak University of Agriculture in Nitra, University of Presov in Presov, Szent István University, Gödöllő and Poznan University of Banking

## Results and discussion

The organisations and the respondents completing the questionnaire have the following characteristics:

- 42.9% of the companies are large, 30,6% of them are medium-sized.
- The majority of the respondents (69,4%) work in the service sector (4 respondents gave no information about their core activities).
- The questionnaire was mainly completed by employees holding 'other' positions (53.1%). However, the percentage of those holding HR positions is quite significant (24.6%).
- 57.1% of the companies have a HR Department or position.
- In 40.8% of the companies the economic conditions improved, 28.6% of them showed no change and 30.6% of the companies stated that their economic conditions had worsened.
- In 40,8% of the companies the rate of administrative workers is 20%, in 22.4% of them, it is 50% and in 36,7 % of the companies the rate is 9% or lower.
- 53.1% of the examined organisations have no foreign capital, 46.9% of them have.
- 83.7% of the responding organisations are privately owned.

In course of the cluster analysis, we wanted to know what characterises the clusters created from the respondents in terms of talent management strategy, talent identification, benchmarking, talent development and talent retention.

We used WARD's method in our cluster analyses. The number of clusters was determined on the basis of the 'elbow-criterion' As a result, we got two-or three-cluster solutions. We continued analysing the clusters with the help of cluster centroids (means). We compared the means through variance analyses. The dependent variables were the topics of the questionnaire, while the independent variables were Talent Management with a two-cluster solution (clu2\_1) and Talent Management with a three-cluster solution (clu3\_1) (hereinafter the Talent Management variable). In the case of the three-cluster solution, the members of one of the clusters regularly gave neutral responses to the questions. We decided to choose the three-cluster solution because it allowed us to separate the following three characteristic groups of companies:

- - those who are involved in talent management,
- - those who definitely don't deal with talent management,
- - those who do not reject talent management.

It will be worth contacting the third group in order to give them recommendations on the basis of the results of this project and to describe them the good practices mentioned in the project. It is important to note that dispersions were lower (to a small extent) in the case of the three-cluster solution, i.e. they better reflect the properties of the individual clusters.

We assigned the following names to the clusters in our research:

1. **COMMITTED TO TALENT MANAGEMENT – DEVELOPMENT-ORIENTATED:**  
Talents enhance their competitiveness, they gain competitive advantage, which results in higher business incomes and higher profits.
2. **THE PERSUDABLE:**  
They are open to talent management (they don't reject it), however, they are not deeply involved with the topic (e.g. because of the lack of professional knowledge or resources).

### 3. **IGNORING TALENTS – STATUS QUO –ORIENTATED:**

For some reason, the predictable changes brought about by talents are undesirable for them; it is difficult to persuade them of the importance of talent management.

After that, we conducted the cross-table analysis in respect to the basic information about the companies and to the Talent Management Variable. (Cross-table analysis examines the relationship between the variables and shows their combined frequency distribution.)

The analysis shows that there is a significant relationship between the size of a company and the Talent Management variable. It means that we discarded the zero-hypothesis because there is a relationship between the variables. In the other cases, the zero-hypothesis is fulfilled because there is no relationship between the variables. However, cross-table analysis is not easy to use if in any of the cells the value expected on the basis of marginal distributions is lower than 1, or if in more than 20% of the cells this value is lower than 5. This can be seen in each cross-table in our research. This problem can be solved by further data collection, as marginal frequencies and the expected values can increase in this way.

Table 1 gives a summary of the characteristics of each cluster.

**Table 1. Cluster characteristics**

	<b>Cluster 1</b> Talent Managers – development orientated	<b>Cluster 2</b> The Persuadable	<b>Cluster 3</b> Ignoring talent – status-quo orientated
Size of company	large	large	medium
Core activity	service	service	service
Ownership	private	private	private
Foreign capital	not significant	no	yes
Rate of administrative workers	10-49%	10-49%	less than 9%
Economic situation	improved	hasn't changed	worsened
HR team	yes	yes	no
Respondent's position	other	other	other
Agreement with the strategy	yes (4.3)	neutral (3.1)	no (2.0)
Talent identification and recruitment	neutral (3.10)	neutral/don't agree (2.89)	don't agree (2.45)
Benchmarking	neutral (3.14)	neutral/don't agree (2.65)	definitely don't agree (1.77)
Talent development <sup>1</sup>	neutral/don't agree (2.61)	neutral/don't agree (2.64)	neutral/don't agree (2.73)
Retention <sup>2</sup>	definitely don't agree (2.31)	neutral (2.70)	neutral (2.90)

Source: Own editing, 2013.

1 -2. There are several negative questions within the topics of talent development and retention. That is the reason why Cluster 3 got higher values in these questions.

The cluster topics were evaluated on the basis of the case summary reports retrieved for each topic. The means of the responses within one cluster were averaged by clusters.

### *Textual evaluation of the clusters*

1. The characteristics of the **COMMITTED TO TALENT MANAGEMENT – DEVELOPMENT-ORIENTATED** Cluster:  
Its members are typically privately owned, large companies in the service sector where the presence of the foreign capital is not decisive. The rate of administrative workers is 10-50%. Their economic situation has improved, and each of them has a HR team or a specialist. They agree on the strategic importance of talent management and its assessment; however, their talent identification and benchmarking are in embryonic stage. The same could be said of the processes of talent development and retention, but at least they have been introduced and have been operating. The topics of talent development and retention contain several negative questions, that is the reason why the magnitudes changed during the evaluation of the clusters.
2. The characteristics of the **PERSUADABLE** Cluster:  
Its members are typically privately owned, large companies in the service sector where there is no foreign capital. The rate of administrative workers is 10-50%. Their economic situation has not changed, and they have a HR team or a HR specialist. They do not deal with the strategic importance or the assessment of talent management, and their talent identification and benchmarking as well as talent development and retention are rudimentary. At least these processes have been introduced and have been operating in these companies.
3. The characteristics of the **IGNORING TALENTS – STATUS QUO -ORIENTATED** Cluster:  
Its members are typically privately owned, medium-sized companies in the service sector. Foreign capital is represented in these companies. The rate of administrative workers is 9% or lower. Their economic situation has worsened. They do not have a HR team or a HR specialist. They do not deal with the strategic importance or the assessment of talent management. Talent identification and benchmarking have not been implemented; neither have the processes of talent development or retention. The topics of talent development and retention contain several negative questions, that's the reason why the magnitudes changed during the evaluation of the clusters.  
The members of this cluster almost reject talent development and behaviour.

### *Advising the Persuadable Cluster*

In order to support the companies, which are open for talent management, we prepared the following implementation guide:

1. Identify the employees who the company considers to be talented and find out why.  
Mostly, they will be the possible successors of (top) managers. They are key persons for the company, who are able to drive the business forward.
2. Integrate talent management into the HR strategy (the HR Strategy is integrated into the overall strategy of the organization.)
3. Talented people can be recognised during the process of recruitment if the staff dealing with recruitment is aware of the definition and the common values of talents.

4. Performance management has to be established or revised, if it already exists, and talent management should be fitted into it as an integral part of performance management.

The Talent matrix categorises the employees into groups each of which have different needs (Table 2.). In Box 1, there are the best performers, in Box 9 there are the low performers, who are not able to adapt to the new, changing situations.

**Table 2. Talent Matrix example**

Potential	4 Unusual  Coach	2 Rising Stars  Invest: Increase challenge	1 Rising Stars  Invest: High Risk Assignment
	7 Low Performers  Identify Mismatch/move	5 Key Contributors  Strech & Test	3 Adaptable Professionals Retain, Appreciate & Leverage
	9 Low Performers  Up or out	8 Contributors/ Professionals Retain and Strengthen	7 High Professionals Retain & Appreciate
Level of Performance			

Source: Integrated Talent Management (2013), p. 111

5. Inform your employees on the new process. If it is possible, leave them a reasonable period to get to know and understand that the selected colleagues will contribute to the success of the organisation, which will ensure the security of all the employees.
6. The process should be easily accessible; the employee can be trained on using it.
7. Talent management should be based on Education, Experience and Exposure.
  - a. allow the involvement in the process on voluntary basis and
  - b. on the basis of the supervisors' or team's proposals
  - c. take into consideration the performance evaluation and
  - d. the person's character, e.g. whether he/she
    - i. thinks over problems from a fresh point of view
    - ii. knows him/herself well, learns from experience
    - iii. treats others constructively
    - iv. has a passion for ideas
    - v. inspires others beyond normal
    - vi. his/her presence builds confidence in others
  - e. Informal and formal mentoring, coaching are very valuable parts of the activity, because they can strengthen the relationship between the employees. In addition, they may improve efficiency.
  - f. Provide chance for the employee for job rotation (also on international level) to get experience in as many fields as possible

8. Pay due attention to the retention of talented people. Get to know them, find out what is important for them. It is not only salary that counts. For a talented employee, as for anyone else, sometimes the working environment- furniture, lighting, social activities, support to professional education, holiday opportunities, etc. - is more important.
9. Follow-up (the process has to be worked out) is very important in the case of each activity and it has to be part of the company's quality management, which supports the sustainability of the operation.

Transparency and the human point of view are very important parts of the process, because this framework ensures a safe environment for the employees' development.

## **Conclusions**

To answer the question of this cluster analysis we can say that talent management counselling should be aimed at companies (Cluster 2, Persuadable) whose economic situation has not changed according to their report and which don't have any foreign capital investments. In addition to that, they should have a HR specialist or a HR department, which makes cooperation easier. Besides the questionnaires, case studies are also being prepared in the participating countries. As the cultures of the Visegrad countries are very similar to one another, good, positive practices can be applicable everywhere. We are sure that the first most important step is the development of the talent management strategy and its adjustment to the corporate strategy. The next steps will depend on the characteristics of the organisation. However, we provided a general further guide to support and assist the advisors or the decision makers of the relevant organizations.

The core messages of the advice are:

- the human point of view of Talent management,
- the recognition of its importance and the transparency of its process.

These aspects are interdependent. They are based on each other. They cannot be handled independently. We think that the companies which consider them and act accordingly will operate more successfully in the future.

Based on our analysis, we can say that there is an interaction between the economic situation of companies and talent management. In our research, we dealt with talent management only. Our statements and suggestions are aimed at showing its positive impacts.

However, we cannot ignore the fact that a successful talent management strategy (and its implementation) is not the only factor that influences the economic situation of a company.

We should support the companies belonging to Cluster 1, while in the case of the members of Cluster 3, we should find the reason why they reject talent management. It definitely cannot be an economic reason, as a budgetary organisation will not intentionally do anything that would worsen its economic prospects. Therefore, only the PEST and SWOT analyses could bring the first results, which might promote development in these cases.

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# ECONOMIC DEVELOPMENT IN THE RURAL: JOB CREATION IN AGRICULTURE

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## Abstract

During the times of the present financial crisis, the savings of the national state budgets have come into focus in the member states of the EU. In case the government deficit becomes excessive, the country must face cuts and crisis management programs (Gonda, 2011).

The governments try to stimulate the increase of domestic production and domestic consumption within the boundaries of the EU's laws and regulations, in order to reduce the negative effects and minimize the risks of the impacts of globalization.

A significant and positive impact can be made on the economy with the transition from the gas based technologies to alternate energy solutions, but only in case, when the right technology is fitted and implemented for the given, local energy need. However, the question regarding the right technology is a difficult one, serious economic planning, and engineering is needed prior to being able to answer (Káposzta-Nagy, 2009).

In cases, when having the required conditions, such energetic projects can be realized, which will bring significant savings to the energy consumer, job places for the municipality and income for the budget (Gonda, 2011).

In this paper, an energetic solution will be shown, which is worked out for the heating of a greenhouse, through which we can follow the aspects of the selection and sizing of the technology, together with the expected calculated economic and social benefits of the investment.

## Introduction

It is still one of most difficult challenges for the government to drive the economy out of the financial crises and overcome the problem of the increasing unemployment rate and shrinking economy. Hungary suffers from the high level of dependence of the fossil energy import, from the risks caused by the highly volatile currency exchange rate which is resulting in unpredictable changes in the import energy costs (Gonda - Farkasné, 2011). The problems are even more challenging in the agriculture sector and in the deprived regions (Káposzta-Nagy, 2008). The high number of unskilled labour force of the rural areas need such job places which could utilize their work potential and abilities.

The governments and the European Union are seeking for such areas to subsidize, where competitiveness and employment can be effectively improved, and environmental friendly technology is used (Szűcs-Farkasné, 2004).

In this paper, we will examine the different aspects of one specific agricultural activity in Hungary, the greenhouse vegetable growing, focusing on energetics and on employment.

## Greenhouses in Hungary



According to the Hungarian Central Statistical Office's available most up-to-date data, there were about 2.000 hectares of covered areas of greenhouses (glasshouse and foil) in Hungary in 2009 (KSH, 2010).

If we look at the most modern, heated glasshouses, there are ca. 100-120 hectares in Hungary, which are capable for tomato and paprika production 10-11 month /year (DPG Hungary Kft., 2010).

Since there is a high market need for domestic produced tomatoes and paprikas throughout the whole year in Hungary and the export possibilities are continuously growing, we can expect an intensive increase in the covered, glasshouse area, especially, if the heating expenses can be optimized and lowered by using alternative low cost energy sources such as geothermal, biogas or biomass, instead of the traditional gas.



**Figure 1. Glasshouse in Alsónémedi, Hungary**

Source: own photo, 2013

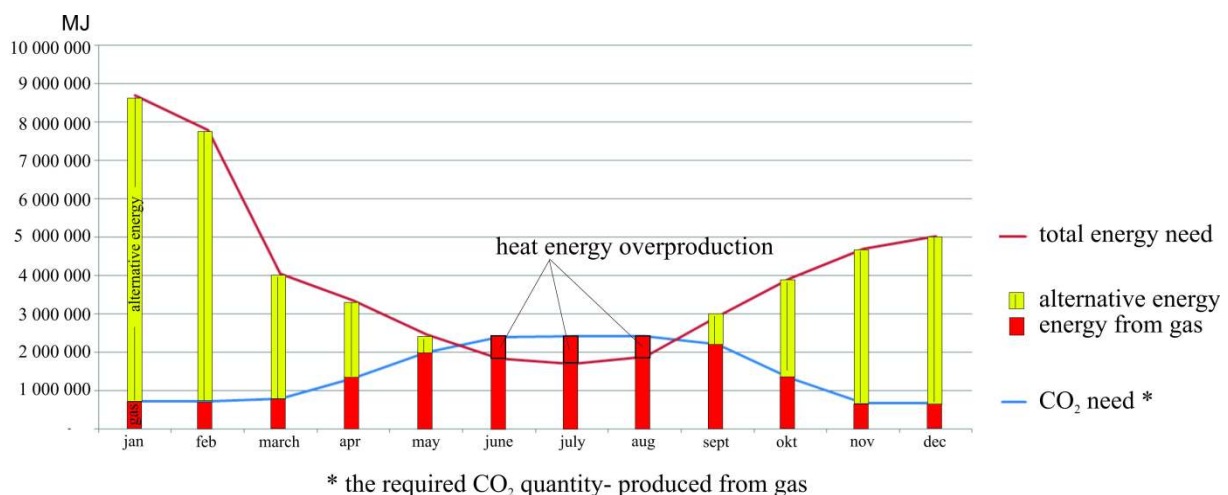
According to the estimation of one of the significant player in the vegetable growing and trading, company DGP Hungary Kft., who is equipped with the most modern Deutch (Venlo type) cutting edge glasshouse technology: by increasing this type of glasshouse area by 1 hectar, there is an increase of 10- 13 workplaces in the company. New job opportunities are established in cultivation, logistics, managment. DPG Hungary has 10 hectares of open field, 10 hectares of unheated plastic block houses, and 3,3 hectares of heated glasshouse in 2013. At the moment, only DPG Hungary is planning to build up 30 hectares of new glasshouse area in 2 years, which means 300 - 400 new workplaces – most of them for unskilled and unemployed labourforce, together with 26 mio EUR (8 billion HUF) investment (DPG Hungary Kft., 2013). When looking at these estimated and planned figures and data of one agricultural producer with 30 hectar development, it can be understood easily, why the goverment looks at the greenhouse agricultural business area as a key and opportunity for creating thousands of job places and significant state revenues. This is part of the reason why there has been the regulation modified regarding the energetic use of geothermal wells and announced subsidy programs to support vegetable and fruit production technologies to increase competitiveness (Hungarian Parliament, 2013).

### **Heating systems of greenhouses**

There are some smaller size greenhouses which are fully heated by gas. At bigger sized, modern technology glasshouses above 1 hectare, only gas heating is not an option, since other alternative energy sources are more competitive and the investment of a more costly energetic system can be profitable. At the glasshouses, generally these heating systems can be found:

1. only gas heating – CO<sub>2</sub> is produced from gas.
2. gas + alternative energy (geotherma, biomass or coal) - CO<sub>2</sub> is produced from gas.
3. geothermal or biomass energy + liquid CO<sub>2</sub> in tanks + gas heating support on the peeks on the coldest days, when the alternative system is not able to produce enough energy.
4. waste heat energy heating + liquid CO<sub>2</sub> in tanks – where there is possibility to use waste heat energy or combusting waste from other industrial production activity. For example in Hemingstedt, Germany, where the glasshouse is heated by a oil refinery plant.

In the below graph, the optimum heating energy and the carbon dioxide need is shown for a 3.3 hectare area glasshouse in Hungary for tomato growing (2013, DPG Hungary Kft.). The red line shows the total heat energy (MJ) needed throughout the year and the blue line indicates the CO<sub>2</sub> need of the greenhouse. When the gas is combusted, CO<sub>2</sub> is produced apart from the heat energy, which is dosed in the glasshouse area very precisely for the crop. The quantity of the CO<sub>2</sub> need is shown in the combusted gas' heating energy (MJ) which is required to produce the appropriate quantity of CO<sub>2</sub>. In other words, it shows how much gas is needed to be combusted to produce the required quantity of CO<sub>2</sub>. (please note: thermal efficiency of the gas boiler is set for 100% in this calculation). Therefore, when gas is used to heat the glasshouse, external CO<sub>2</sub> source is not needed for the crop.



**Figure 2. Energy and CO<sub>2</sub> need of a 3.3 ha glasshouse**

Source: own editing and calculation, 2013

We will deal with the alternatives 1-3, and look at the related problems and benefits.

Let's look at the different options through the example of the 3,3 ha glasshouse of DPG Hungary Kft. in Alsónémedi, which is heated by gas present time, but an energetic modernization is planned to be carried out in one year, to change either to straw or to geothermal heating from the old system.

Let's see the basic data of the glasshouse: total heat energy of the the burned gas of the glasshouse: **48.260 GJ** and the total CO<sub>2</sub> need of the glasshouse: **ca. 1.000 tons per year**.

Estimation on the all included costs of 1.000t liquid CO<sub>2</sub> delivered on site in tanks following the actual CO<sub>2</sub> need of the glasshouse: ca. 31.000.000 HUF/year (DPG Hungary Kft., 2013).

***Option 1, only gas heating:***

Yearly average gas consumption: ca. 1.419.429 m<sup>3</sup>.

- The heat energy cost is very high, cost of gas (y2012): net 176.000.000 Ft (with the monthly fixed cost + molecular price), but there is a saving on the cost on the CO<sub>2</sub>. On the other hand, some heat energy produced from the gas is wasted in the summer, when more gas is combusted because of the CO<sub>2</sub> need, then what the heating need requires (see **Figure 2.**, heat energy overproduction). Out of the total gas cost, most significant part of it flows out of the domestic economy to the exporter of the gas, and some of them to the gas service provider.
- Job places – 1 person, operating the controlling of the heating system.

***Option 2, straw bale heating + liquid CO<sub>2</sub> + gas heating support***

This quantity of thermal energy can be produced from ca. 3.000 t of straw for the glasshouse. Please note, this quantity is not corrected with the thermal efficiency of the biomass boiler (which is around 80-88%), because the old 20 year old gas boiler in the greenhouse has probably a close thermal efficiency value to this. According to the calculation, 10% of the heat energy need will be supplied by gas, therefore only 90% will be generated from straw (Kompakthő Kft., 2013).

- the cost of 2.700t straw (90% of the total energy need) is ca. net 40.500.000 HUF, delivered to the location to fill up the local straw bale storage throughout the year according to the consumption of the biomass boiler.
- Cost of 1.000t of CO<sub>2</sub> = net 31.000.000 HUF/y.
- Labour cost of workers on the site for storing and feeding the straw bales, operating the energetic system: ca. 6.000.000 HUF/y.
- maintenance costs all included: 2.000.000 HUF/y.
- gas use during the year: ca. 10% of the total energy need, 90% is supplied by biomass. Gas cost for supporting the biomass heating on the coldest days: ca.12.000.000 HUF/y. (please note, monthly fixed costs significantly decrease at the gas service supplier when decreasing the consumption significantly).
- ***total operational cost of the biomass heating system (including the external CO<sub>2</sub> supply): 91.500.000 HUF/y.***
- ***Investment cost*** of a new Danish made biomass system, boiler, feeding system, filters, installation, mounting, commissioning under Danish supervision– ***196.000.000 HUF*** (Kompakthő Kft, 2013).
- job places created directly and indirectly when using such biomass system: ca. 5-7 people/y (man-year):
  - making straw bales and stacking,
  - logistics, delivery of the straw bales from the lands to the storage location, then to greenhouse from there, loading unloading trucks,
  - logistics on site, storing and delivery from local puffer of straw at the greenhouse area to the boiler's feeding system (to the bale band),
  - one person operating the boiler and the energetic system.
- ***savings for the greenhouse compared to the old gas system: ca. 84.500.000 HUF /y*** according to the calculation from Kompakthő Kft. Please note, this calculation is not including amortization and financing costs.

- Opposite to the gas heating, most of the energy cost are payed out within the country to local suppliers.
- risks: extra logistical tasks come with the biomass system for the company and wheather conditions can effect sourcing of the straw bales.

### ***Option 3, only geothermal heating + liquid CO2***

According to the newly accepted regulation, it will be not be mandatory to drill an injection well and may be possible to operate a wellsystem without it and will be allowed to let the used water out on the ground without paying waterflow royalty fee (Hungarian Parliament, 2013).

- a 3 MW geothermical well investment cost is ca. 230.000.000 HUF at the location, only if there is no obligation to drill also an injection well to be able to return back the used geothermal water into the reservoir (DPG Hungary Kft., 2013).
- cost of the CO2 for the crop: 1.000 t = 31.000.000 HUF/y.
- total operation cost of wellsystem ca. 15.000.000 HUF/y (mainly electricity, less maintaince).
- some gas is also used to heat during the energy need peeks on the coldest days. Estimated gas cost: 10.000.000 HUF/y.
- ***Total cost of the operation of the energetic heating system (including CO2): 56.000.000 HUF. Savings compared to biomass system: 35.500.000 HUF/y, compared to the gas system: 120.000.000 HUF/y.***
- job places: one person, operating the energetic system.
- risks: apart from the significant benefits, there are environmental, economic risks. Depending on the geothermical water quality, due to the high content of salts and minerals, it might cause environmental problems on the surface if it is not injected back to the reservoir (Mádlné et al, 2008). Due to the new regulation, another future risk is appearing – when the geothermal water outake level from the wells will reach high levels, the capacity of the reservoirs can decrease, which could result in decreasing capacity at some of the wells. This can mean insufficient heating energy or insufficient quantity of water supply at the thermal baths as well for example. There is a chance, that the unpredictable negative effects will change the regulation again in the future bringing back the obligation for injection wells, which could mean a serious operation cost increase and unplanned investments in the thermal energy heating systems.

### **Summary**

We can conclude, that the gas based system is not feasible at heated glasshouses above 1 hectar area, it is better to use geothermal or straw bale energetic systems. Geothermal wells for supplying heating energy seem to be the most competitive solution for the glasshouses at the actual energy prices and regulations, on the otherhand, more job places can be created by operating biomass boiler units, which is a considerable benefit for the state. Despite all the benefit of the geothermal energy and the new regulation, it is advisable to build in more controll in the authorization processes of the wells to decrease enviromental risks. If problems arrise with geothermal water usage, the straw systems are still a good and competitive solution in Hungary.

### **Acknowledgements**

The research outlined in this paper was supported by the TÁMOP-4.2.1.B-11/2/KMR-2011-0003 project.

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# TWO SIDES OF THE SAME COIN: LOCAL ECONOMIC DEVELOPMENT FROM DIFFERENT PERSPECTIVES

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## Abstract

There is a significant amount of literature, both in Hungarian and internationally, about the role played by local governments and other actors in local economic development, and with regard to objective and subjective factors in the inward investment of foreign capital. Nowadays both economic geography and regional studies give particular attention to processes underway in, and the differing paths of development of, the countries of Central and Eastern Europe, and within this, their cities. It is also a basic question to redefine the role of local community actors, especially local governments in the local economy. Local economic development is definitely not a compulsory task by law but still can be a distinctive advantage in a tough competition. This study presents the local economic processes in a medium-sized city in Central and Eastern Europe from two perspectives. On one hand it presents the network of relationships between the city of Miskolc as an investment location and the Bosch Group, and the continuous development of those relationships over more than ten years, from their initiation until the present day. The case study shows how the company, after the initial ‘compulsory’ activities, achieved deep integration in the local economy and society through the implementation of activities defined and presented as ‘freestyle’ or optional. On the other hand, the study will also show the processes and the incentives of the local government that made it possible.

**Keywords:** sustainable local economic development; multi-national company; integration; local government, designation of a development path.

## Introduction

The first part of this study examines the establishment of a large multi-national company in a medium-sized city in Central and Eastern Europe, and its integration into the local economy and society, from 2001 until the present day. Through the study, Miskolc’s process of development over the past decade can also be traced, its search for a way forward and the beginnings of a change in the city’s image. In the course of this, the city, which has a legacy of heavy industry and which suffered serious problems as a result of the change of regime in 1989, is slowly becoming an attractive investment target and a liveable, diverse residential location. The second part of the study presents the activities of the company in partnership with local actors and the contribution of the local government to local economic development. As a last chapter, the conclusions and future development directions are outlined.

## Miskolc’s demographics, economy and industry

Miskolc is a medium-sized provincial city,<sup>1</sup> the administrative, economic, scientific, educational and cultural centre of the region of Northern Hungary, and the seat of Borsod-

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<sup>1</sup> In accordance with the general, international definition of the so-called mid-size, medium-sized or intermediate cities, settlements belong in this category which have a population of between 100,000 and 250,000.

Abaúj-Zemplén County. It has a rich economic heritage in the fields of steel and mechanical engineering: the establishment of these traditional industries dates back as far as the 18th century.

Miskolc has unique logistical features: its geographical location and its local, regional, national and international transport links are extremely favourable, and four countries (Poland, Romania, Slovakia and Ukraine) are less than 85 miles away as the crow flies. Since 2004 Miskolc has been connected to the European motorway network via the M30-M3. (miskolc.hu, 2013).

Miskolc is the fourth largest city in Hungary. According to the census data from 2011, Miskolc's population declined by almost 17,000 over the previous ten years, to 167,754, though the population's educational level is higher than the national average. More than 300,000 people live in the city and the surrounding agglomeration (ksh.hu, 2013). In the 1950s the city's population reached its highest-ever level, more than 200,000: companies in the heavy industry sector provided employment for more than two-thirds of those of working age.

Following the democratic transformation of 1989, Hungary's provincial cities experienced varying paths of development. At the beginning of the 1990s the economy of Miskolc too was in a deep crisis: its large companies lost their markets and their operations collapsed, plunging the entire town into recession (Kukely-Zábrádi, 2003). Its manufacturing traditions and care for its industrial cultural heritage remain an important part of Miskolc's identity, though at the same time the transformation of the city's economy and image is still underway.

### **The process and circumstances of the establishment of the Bosch Group in Miskolc**

The history of Bosch in Hungary extends back to 1918, when Robert Bosch established their Hungarian depot, that is Bosch Róbert Kft., the headquarters of which was at 16 Vas Street in Budapest (bosch.hu, 2013).

Currently the Bosch Group has ten subsidiaries in Hungary, which employ about 8,500 people. In the region of Northern Hungary, it operates factory units in Eger, Hatvan and Miskolc, and on 1 January 2013 together these had about 7,850 staff. The company is continuously developing its technology and increasing its capacity in its Hungarian concerns, and it also operates research and development centres in the country. At the present time Bosch has two subsidiaries operating in Miskolc: the Robert Bosch Energy and Body Systems Ltd. - Miskolc (RBHM) operates as a contract manufacturer for the car industry, while the profile of the Robert Bosch Power Tool Ltd. – Miskolc (PTHU) is primarily the development and production of portable electrical power tools.

The story of Bosch in Miskolc began with the formation of the Robert Bosch Power Tool Ltd. - Miskolc on 31 October 2001. Not long after, on 14 December of the same year, a contract was signed with the city of Miskolc regarding the establishment of a unit for the development and production of electrical power tools, which was to employ 500 people and to be created by 2003. Following this, in order to carry out this project, the PTHU purchased a territory of 200,000 m<sup>2</sup> at the northern edge of the city, on which a new factory building was constructed as a greenfield investment. In accordance with the initial plans, the production of power tools began in August 2003.

Following the successful start to the electrical power tools business, the Robert Bosch Energy and Body Systems Ltd. – Miskolc was formed in the summer of 2003. This plant is engaged in the manufacturing of parts for the car industry, starting-motors, relays and transmissions, and production began in 2004.

When considering the circumstances of their formation, it is important to highlight that at that time there were only a total of four multinational companies operating in Miskolc. Of those, two – Ross Mould, which produces mould equipment for the glass industry, and Cogne Italy, involved in the steel industry – purchased existing factories. From the change of regime in 1989 until 2001, only two significant greenfield investments occurred in the city: one by the Japanese Shinwa (1997), a manufacturer of components for auto hi-fi equipment; and the other by a subsidiary of the American Delco Remy (1998), involved with the remanufacturing of alternators.

In this period, these four companies provided employment for about 1,500 people in the city of almost 180,000. At that time the city did not have an industrial park or a motorway connection – perhaps the only provincial city in Hungary not to have them. However, three industrial parks were created within its agglomeration. For the sake of the Bosch investment, the city had to purchase 10 ha of land, which it did (fn.hu, 2002).

Today the two Bosch subsidiaries occupy a place amongst the most significant employers in Miskolc and Borsod-Abaúj-Zemplén: the RBHM's current average statistical workforce is 2,113, while the Power Tools at present has 1,796 employees. Of these, on average 79 people work in R&D at the RBHM, while 121 do so at the PTHU.

### **Factory expansion and development – production stages and employment**

In order to consider the continuous expansion and development, this study will present the case of the two Miskolc factories in separate sections.

#### ***Robert Bosch Power Tool Ltd. – Miskolc***

Following the signing of the contract and its establishment in 2001, the production and development of electrical power tools commenced in 2003. After the production's running-in period, the construction of a new storage building began in 2004, and its handover took place in 2005.

In parallel with this and as part of the expansion, a unique development centre was also created in order to promote innovation and to carry out continuous research and development regarding the production of power tools of international standards.

Since then the company has continued to expand its capacity and develop its technology, and the number of employees involved in research and development is constantly increasing. It is here that the Bosch power tools belonging to the so-called 'green product line' are prepared. The creation of the R&D Centre began in 2007. Each year, through both the development centre, which was completed in 2010, and the production area, 7 million power tools are produced in the factory: the completion of the 25th million power tool in Miskolc occurred in October 2008



The key factor in the success of the plant lies in its strong and fast innovation capacity. In 2007 Bosch was awarded the 'German Marketing Award' in recognition of its innovation and marketing strategy. In 2009, the UNEO pneumatic hammer drill, which was developed by Bosch, won the XVII Hungarian Innovation Award, and in 2012 the 50th million tool was produced in Miskolc.

In the years 2008, 2009 and 2010 tools produced in Miskolc won the prestigious Bosch Quality Award which is given yearly to max. 8 products out of more than 250 plants worldwide.

The importance, industrial usefulness and success of the continuous research and development are indicated by the fact that Bosch launches more than one hundred new electrical power tools every year. Almost 40% of sales in 2011 consisted of products which had been on the market for less than two years.

Recently the European reorganization of the Bosch Group's power tools sector was officially announced. As a result of this, the production and development of electrical power tools for woodworking and surface treatment will also take place in Miskolc from the second half of 2014. Therefore the scope of the Miskolc factory will expand further through the manufacturing and development of these products, which belong to the so-called 'blue product line'. Due to this expansion the Miskolc plant will employ an extra 320 people by the end of 2016.

#### ***Robert Bosch Energy and Body System Ltd. – Miskolc***

The Robert Bosch Energy and Body Systems Ltd. – Miskolc was established in the summer of 2003, and the production of parts for the car industry, starting-motors, relays and transmissions in its Miskolc factory unit began in the autumn of 2004.

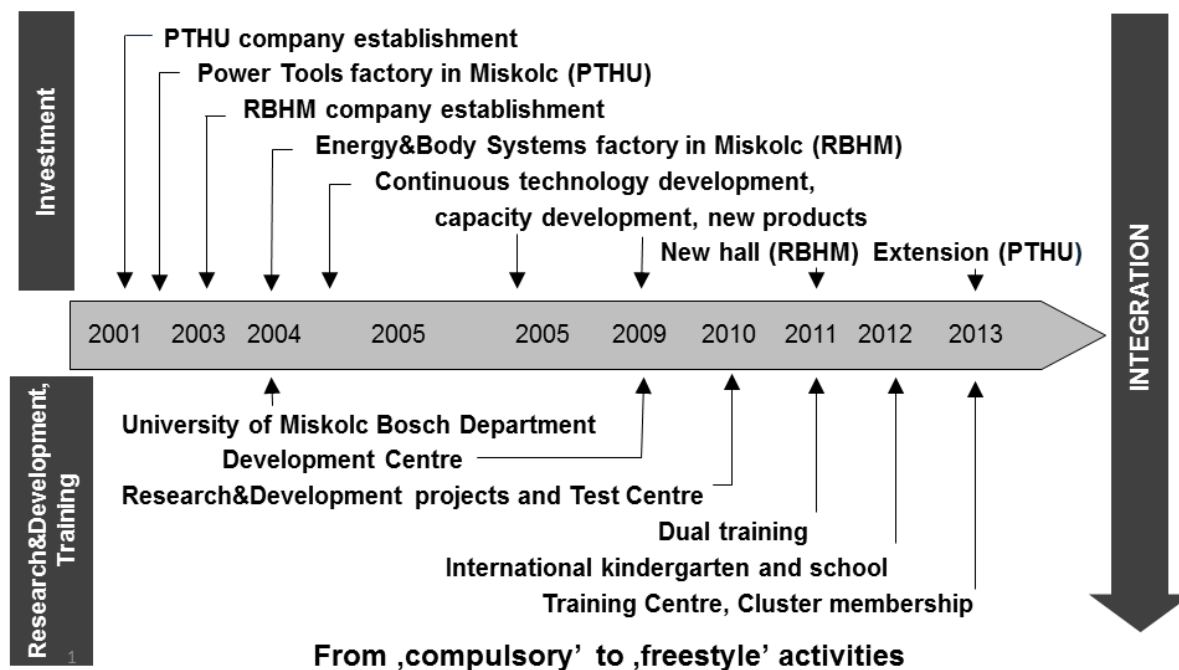
The parts for the auto industry produced in Miskolc will be supplied to major car manufacturers. The production of new products (e.g. air-conditioning systems, electric motors and windscreen wiper systems) is steadily being introduced, and therefore the number of employees is also increasing. The production of starter-motors for commercial vehicles began in June 2007.

As a consequence of the constant and intensive development and expansion, it was necessary to construct a new production building. The company's latest manufacturing workshop in Miskolc was finished in September 2011. As part of this investment of 6.5 billion HUF (about €23m at that time), which began in the summer of 2010, the company installed new production lines in the newly-completed building. These developments created a total of 1,000 extra jobs in the recent past. The handover of the company's modern training centre took place in the autumn of 2013, and the company itself also accepted membership in the North Hungarian Automotive Cluster (NOHAC).

Over and above the continuous expansion and development, the Bosch Group's training system also deserves attention. Its aim is to ensure that every employee has the skills and knowledge required to complete his/her work, and that every member of staff has the opportunity for on-going learning. Through this the company can meet the demands of the changing market and increase its competitiveness through the continuous improvement in the competence of the workforce.

Both of the Bosch Group subsidiaries provide in-house training to their staff. On the basis of the Bosch competence model, the development and training of their employees takes place as a part of a competency management system, in the following spheres of expertise: technological know-how, business administration, methodological skills, as well as competencies not directly linked to their job description (social and leadership abilities, and entrepreneurial spirit). In addition to these, a company-wide preventive healthcare project was also completed recently.

It is important to highlight that, in addition to the initial investment and technology development, both Miskolc Bosch companies continue to carry out further developments, and they place a great emphasis on innovation and research and development; on the training of their employees and prospective employees; on cooperation with the local institutes of higher education and research; as well as on the corporate social responsibilities. The integration of the Bosch Group's two Miskolc subsidiaries into the local community was continuous during the period examined: the milestones in this process, the timing of those milestones, and the links between them can be clearly identified (Figure 1).



**Figure 1: Milestones in the local integration process of the Bosch Group in Miskolc**

Source: Józsa (2013) on the basis of Robert Bosch Ltd. (2013)

### **Integration into the local community and the corporate social responsibilities**

Naturally, a basic factor in the local integration of an economic actor is its relationship with the local economy, but in addition to this an ever greater emphasis is placed on its social relationships and its contribution to the welfare of the local society. The Bosch Group considers it important to keep in mind the interests of the local residents and local community. The creation of environmental-friendly, safe workplaces, preventative health programmes, and company events offering opportunities to relax together – all of these contribute to the staff's wellbeing. The Bosch Group also encourages young people living or studying in the region to make the most of their knowledge and to cultivate their talents, in accordance with the demands of globalization and a competitive world.

The aims listed above are achieved in countless specific ways. Below a brief presentation of some of these activities will be given, without attempting to provide a complete picture. A special emphasis will be placed on efforts made to develop Hungarian higher education and the training of engineers – and these shall be listed first.

For years the Bosch Group in Hungary has provided major support to higher education and the training of engineers in Hungary: the company has invested more than 500 million HUF (170,000 EUR) into the high-quality training of multilingual young engineers. In this, Bosch has recognized that, in the midst of the economic crisis, the knowledge of professionally-trained engineers, and the management of talent, has become even more important. One of the results of this is a refurbished lecture hall for 100 students at the University of Miskolc, equipped with the most advanced technology, which was completed with joint financing from the Miskolc Bosch factories.

In addition to financial support, the company provides the chance to apply for numerous opportunities, as well as the possibility for apprenticeship programmes, scholarships, dissertation consultations, and TDK and PhD consultations. (In Hungarian universities, TDK refers to the Council of Scientific Student Associations.) The aim of the Robert Bosch prize is to reward the students at the University of Miskolc whose academic performance was the most outstanding. The award is presented twice every academic year, conforming to the rhythm of the Bologna Process. The award supports those students whose performance, in the course of their studies, has been consistently excellent; who have carried out research activity or other public, voluntary or social activities too in the course of their ‘career’; and who, during their university studies, have achieved success in academic competitions and TDK work. The award symbolizes the unity of both tradition and innovation, and consists of both a financial reward and a study trip abroad.

The Bosch Group also organizes professional conferences in Miskolc. One example of this was the ‘Together for the engineers of the future’ conference. Its aim was that Hungarian institutions of higher education would be able to provide engineering staff of a standard that meets the needs of industry. Another event, a spectacle which gained significant media attention, was the ‘Electromobile’ competition, which was organized for the first time on Earth Day 2009: in it, students from educational institutions compete on the basis of their technical knowledge.

In addition to these, numerous initiatives to improve the quality of life of the workers and the city’s population are associated with the name of the Bosch Group. One example was training in charity work. It is worth mentioning here the collection, for many years now, of charitable gifts for the Miskolc Family Shelter and Regional Crisis-Handling Centre, whose residents come from the most vulnerable members of society, such as those fleeing from domestic violence, as well as families and women who have been assaulted and who find themselves in a crisis situation.

Another prominent objective is health promotion, preventative healthcare and an improvement in health. For a number of years, in cooperation with the Hungarian Red Cross, the Bosch Group has organized ‘Give blood days’ in several Hungarian factories, and it has also given a financial donation to the Hungarian Red Noses Clowndoctors Foundation. Every year six lectures are given in the Bosch factories about healthy lifestyles under the title ‘Together more, more together’. Through another programme entitled ‘Together for our

health', the Bosch Group regularly organizes screening tests and free vaccination days for its employees.

Amongst the values considered important by the Bosch Group, the family takes a leading role. Therefore, the Bosch Group charts special trips on Miskolc's 'Mikulas' (Hungary's Santa Claus) train for the families of their employees. In the same spirit, each year they also organize a Bosch Family Day for the staff and their family members. In an initiative entitled 'Open doors: Family days in the Miskolc Bosch plant', a special guided tour allows husbands, wives, children and other relatives to peek behind the scenes of the Miskolc plant.

Over and above the activities already mentioned, the Bosch Group's Miskolc companies play an active role in public life, sponsor the city's sport clubs, and support initiatives of local and national importance.

### **Cooperation in the fields of research and development, education, etc.**

The cooperation and development projects run by the Bosch Group's Miskolc factories span the entire spectrum of the Hungarian education system. Starting with kindergarten education, and finishing with higher education, much cooperation and development has been achieved in recent years. Below some of this will be presented.

It is commonly known that the collaboration between the University of Miskolc and the Bosch Group is not new: the relationship began in 2004. The Bosch Department of Mechatronics, founded in 2005, is the first university department established by an industrial company in Hungary since the Second World War. The aim of the cooperation with the university is the application and expansion of technical and scientific know-how in research on, the teaching of, and the wide-ranging use of mechatronics. In addition, the goal is to ensure the provision of training which focuses on practical experience and which also satisfies the factories' demand for engineers.

On the recommendation of the Bosch Group's companies in Miskolc, Eger and Hatvan, the University of Miskolc launched the creation of the 'Bosch Department of Mechatronics' on 24 August 2004. Following this, and as a result of preparatory discussions over several years, the Robert Bosch Foundation decided on the establishment of the Bosch Department of Mechatronics, to be created with the support of industry within the Faculty of Mechanical Engineering and Informatics of the University of Miskolc (in 2005). Today it can be said that the original intention has been achieved, through the realization of specific educational, research and development tasks. The department carries out numerous research and development projects on behalf of the Bosch Group's factories (bosch.uni-miskolc.hu, 2013).

In addition to the collaboration which has been created and which continues to function in higher education, the Bosch Group also seeks to play a role in adjusting secondary education to reflect market demand. In accordance with this, in order to provide practical training within the school system, it wishes to develop its teaching workshop, which exists in rented accommodation, in compliance with the needs of education. Instead of apprentice programmes, the aim of the Robert Bosch Energy and Body Systems Ltd. – Miskolc is to focus on the practical training of students within the school system.

In order to achieve this, the company has signed a cooperation agreement with the Andrásy Gyula Secondary Technical School in Miskolc regarding 'dual training' (vocational training

involving both the educational institution and the company). Within the scope of this, in order to provide practical training and in the context of a study agreement, from the 2013-14 academic year the company will accept students specializing in machine configuration on the production line, and from 2016-17 students studying to be mechatronic-technicians. The planned number of students employed within the framework of the study agreement will be 96 by the 2016-17 academic year.

Over and above this, the Bosch Group's Miskolc companies have provided financial contributions for the launch of primary school classes and kindergarten groups which are able to accept the children of their foreign employees and provide them with mother-tongue education. Since the 2012-13 academic year, kindergarten education has taken place in the room that was refurbished by the Bosch Group, and from the 2013-14 academic year this has involved 20 children cared for by a German-language kindergarten teacher. The German Primary School has operated from the 2012-13 academic year under the supervision of the Public Foundation for the Management and Operation of the Institutions of the Cultural Centre of the Germans in Hungary (MNÁMK).

A 'primary one' and 'primary two' class were launched in the 2013-14 academic year. The expansion of education to the upper classes (primary 4-8) from the 2016-17 academic year was set as a long-term goal, as was the provision of the personnel, equipment and classrooms required for this (a minimum of four classrooms for classes of 20 children, and the provision of teachers of Hungarian grammar, literature and history for the Hungarian students). In the future the company will support the operation of these institutions through the undertaking of its social responsibilities and the financing of the investments.

### **The local government's role in economic development**

With regard to the economic development role of the local government, two periods deserve special attention. The first is the period of establishment, and the events leading up to this. In connection with this, it has already been mentioned that in 2001 only four multinational companies were operating in Miskolc, and at that time the city did not have an industrial park or a motorway link – perhaps the only provincial city in Hungary not to have such attributes. However, three industrial parks had been created in Miskolc's agglomeration. The city had to purchase a 10 ha territory for the sake of the Bosch investment, and it did so.

Following this, the local government and the Bosch factory worked together constantly between 2001 and 2007, though this period was mainly characterized by on-going development, expansion in capacity, the emergence of research and development activity, and the strengthening of the relationships required for this.

Beginning in 2007, the cooperation once again became more intensive, when the local government committed itself to work for local economic development. Within the context of this, both infrastructural and organizational development began, creating a foundation for development and cooperation in the future.

The Miskolc Holding Ltd. was formed in 2006 on the basis of a model that was already operating in Debrecen, though shortly afterwards this was supplemented with the addition of local economic development activities. The Economic Development Office (GFI) was created: in the first year it had a minimal workforce, but in the years that followed it continually increased in size. The successful professional cooperation with the University of

Miskolc's Institute of World and Regional Economics in connection with the apprentice programme is worth highlighting. The aims of the economic development activity were the creation of: (I) strategic infrastructure tailored to the demands of investors; (II) an effective, coordinated local government organization and the related business-friendly environment; (III) cooperative local partnerships; and (IV) international visibility (Józsa, V. & Nagy, H. (2013) Local economic development – is investment worth it, and if so, for whom? VIII. Conference of Young Regionalists [in Hungarian]).

During 2007 a new programme took shape in Hungarian regional development, which set as its target the development of seven provincial cities, including Miskolc, into growth poles (Rechnitzer, J. (2007) Regional centres and regional development. Magyar Tudomány (Hungarian Science) [in Hungarian]). Linked with the so-called 'Pole Programme', the Technopolis Strategy was prepared with a wide range of partners. This strategy named 'flagship projects', and amongst these was the formation of Miskolc's Mechatronics Industrial Park (Mechapark). Such activity is named in the specialist literature as 'hard infrastructure development'. The top priority was the creation of an industrial park which was served by the complete range of essential public utilities to meet the needs of industry, and which also possessed a motorway link and a railway connection. The Mechapark was completed in 2009, and then this was followed – as a second stage – by the preparation of a tender for the Miskolc Southern Industrial Park (MIDIP) and the procurement of its title.

In addition to these developments, significant progress took place in the field of 'soft infrastructure' too: 'one stop shop' administration was launched; a regulation on business development and investment stimulus was drafted and accepted (decree no. 32/2008 (XI.26) of the Local Government of the City of Miskolc on the programme for business development and investment stimulus); and the opportunity for financial support at the local level was introduced.<sup>2</sup>

The relationship between the local government and local economic actors was deepened through the strengthening of local partnerships; the opening of the door to local economic players; and the organization of numerous conferences, 'after care' workshops, council meetings, and other types of business and public events. A comparative analysis of neighbouring towns and cities, and of their industrial sites, was prepared; and a database of suppliers and other information was developed and maintained.

In addition to these, the local government placed a great emphasis on changing the image of the city; on repositioning it both within and outside the country; and to bring an end to Miskolc's 'negative image' and to prejudices stemming from the past. Seeing clearly the risk of these activities, and deliberately accepting that risk, the City participated in several international and national competitions, and in almost every case it achieved significant success.

The arrival of Vodafone and PATEC Precision Ltd. can be linked to this period, as can the decision regarding the construction of the second Miskolc factory of Robert Bosch Energy

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<sup>2</sup> The European Commission Regulation (EC) No. 800/2008 of 6 August 2008, declaring certain categories of aid compatible with the common market in application of Article 87 and 88 of the Treaty (the general block exemption regulation), significantly simplified and modernized the rules on state support. The European Commission Regulation (EC) No. 1998/2006 of 15 December 2006 on the application of articles 87 and 88 of the Treaty on *de minimis* aid states that, within the meaning of the treaty, aid of no more than 200,000 EUR granted over a period of three years to a single company is not regarded as state aid.

and Body Systems Ltd. – Miskolc, and the preparation and submission of the project tender relating to that.

Recently the local government's economic development activity has continued. One of the visible results of this, in connection with the establishment of industrial infrastructure, was the application submitted for the development of the Miskolc Southern Industrial Park (MIDIP), and – following the positive verdict on the application – the start of the creation of the Industrial Park.

The FDI (Foreign Direct Investment) support activities have also continued. The main indicator of this was the latest investment in the car industry in Miskolc, which was announced recently: the Japanese Takata company will make a greenfield investment on the territory of the MIDIP (miskolcholding.hu, 2013).

In parallel with all these developments, teaching in the international kindergarten and school began during 2012. Therefore, there is now the opportunity for the investors' foreign professional staff to relocate into the city.

On the basis of the above it can be stated that the network of relations between the local government and the Bosch Group has been further strengthened and deepened over the past years, and that their cooperation has extended into new areas. There are several concrete expressions of this cooperation, and there are also indicators of this which point to the future and which can be measured either directly or indirectly. These include the renewal in the summer of 2013 of the contract signed at the time of its establishment in 2001; and the role that the Bosch Group has undertaken both in the formation of the new image for the city and in the drawing up of programme proposals for the period 2014-2020, in accord with the basic methodological principles stipulated by the European Commission.

## **Summary**

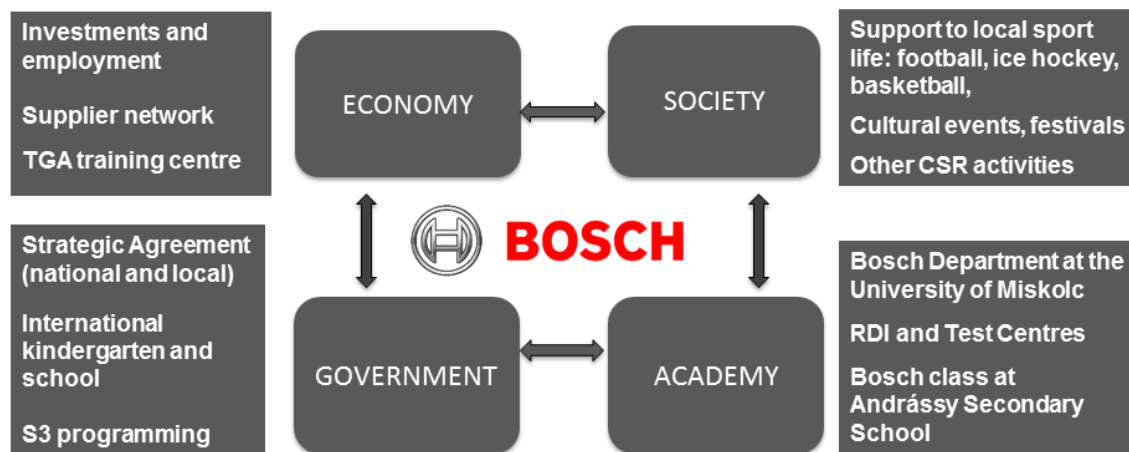
In summary it can be stated that, over the past decade or more in Miskolc, the Bosch Group has made a significant contribution to the potential and development of the city and its agglomeration.

In recent years new regional policies have focussed on the characteristics and potential of districts and regions, which are then available for development as internal, endogenous resources, and which can be harnessed in the appropriate circumstances. The aim of the new regional development is therefore not the remobilization of the features of the highly-developed regions, but rather the utilization and activation of the additional, endogenous resources and of the potential within the region (Káposzta, J. & Nagy, H. (2012). The connections between endogenous development and the economic development of localization. Philosophy's dialogue with science [in Hungarian]). Therefore it is important that a company contribute to the development of the endogenous resources of a given territorial unit.

The Bosch Group's Miskolc companies are linked in numerous ways to the participants in the so-called quadruple helix model: that is to say, the local economy, the local government, education and research and development, as well as the local society (Figure 2).<sup>3</sup>

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<sup>3</sup> The Quadruple Helix model is a model of cooperation for innovation, or an environment for innovation, in which the users, the companies, the universities and the local governments work together in order to facilitate innovation in products and/or services. Much further research has highlighted the fact that no single quadruple



**Figure 2: The contribution of the Bosch Group to the area's potential**

Source: Józsa (2013) on the basis of Robert Bosch Ltd. (2013)

In addition, the Bosch Group contributed in numerous ways to increasing the success of the city and strengthening its competitiveness: naturally this took place while working together with the other local actors, especially the city's local government.

According to Enyedi, the basis of the competitiveness of the 'successful city' is an information-rich environment, nodes in the flow of information, and a knowledge-based innovative industrial environment (Enyedi, 1998): or to put it briefly, the intellectual capital or accumulated knowledge of the city's residents. Especially important, amongst the criteria of success in the example under consideration, is the Bosch Group's contribution to changing the structure of the local economy; to maintaining knowledge-based production; to increasing the capacity for innovation; to the taking of important, strategic decisions; to employment, and by so doing, to income generation; as well as to the formation of a favourable business environment, strong external relationships and strategic partnerships.

It is important to emphasize that the development path described above required openness, patience and cooperation from every actor, and that it also raised numerous questions and problems.

The Bosch Group's future plans include the preparation and implementation of targeted, project-based research and development projects in Miskolc; the strengthening of 'dual' vocational training' involving both educational institutions and the company, and its extension to higher education too; further investments; technological developments; the strengthening of the group of regional suppliers; and the further development of the international kindergarten and school. The extension of the cooperation with the city's local government into new areas continues to be of fundamental importance. Of these new areas a special mention must be given to the preparation of the city's decisions with respect to development, as well as to increasing the attractiveness of Miskolc, the county and the region for investment during the period 2014-2020 (Figure 3).

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helix exists: instead, there are numerous different types or methods. Every model is the same in one respect, namely that, compared to the traditional Triple Helix model, they contain a fourth group of actors, which can be the society, civil actors, final users, consumers or the local population, depending on the area that the model is applied.



Basic factor	Corporate strategic objective	Activities
Research&Development	Increasing market share and advantage	Targeted, project-based R&D activities
Infrastructure and Human capital	Employing well-trained and skilled workforce	Strengthening dual vocational training, TGA training centre development Dual education on higher level
Foreign Direct Investment	Increasing efficiency	Investments, technology development
Small- and medium size enterprises	Strengthening strategic position	Strengthening the regional supplier network Increasing the attractiveness of Miskolc and the Region
Institutions and social capital	Increased CSR activities	Development of the international school and kindergarten, integration of other regional companies in the programme

**Figure 3: Future development directions in accordance with the basic factors in the pyramid model of competitiveness**

Source: Józsa (2013) on the basis of documents from Robert Bosch Ltd. and Lengyel, I. (2013) Pyramid model of competitiveness.

As a supplement to the above, the Hungarian government decided in October 2013, in resolution 1707/2013 (X.8), to declare Miskolc and its district as a special centre of development.

As a result of the process of development described in this case study and on the basis of the plans for the future, today it can be stated that Miskolc's future path of development seems to be taking shape. By 2030 Miskolc would like to be the regional centre of the new economy, and a city that is liveable and attractive, healthy and people-centred, inspiring and integrated (City of Miskolc's draft City Development Plan, 2013).

The city's development potential and competitiveness have increased significantly in the recent period in comparison with cities of a similar size in Hungary and elsewhere in Central and Eastern Europe. Slowly but surely a critical mass of resources is being created, and in accordance with this, a sense of community and self-confidence too. In the coming years this may well be the prerequisite and, at the same time, the key for the development of Miskolc at an accelerated pace.

### Acknowledgments

With respect to the preparation of this case study, I would like to express my gratitude to the following members of the Robert Bosch Group for their helpful cooperation: Dr. Max Nitzsche, Uwe Mang, Ansgar Lengeling, Javier Pareja González, Klára Gombos, Péter Révay, Anita Nagy and Judit Lajtos-Nagy.

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## MAIN FEATURES OF THEMATIC VILLAGES IN POLAND

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### Abstract

In recent years rural areas in Poland undergo significant changes. Agricultural production is getting more and more specialized. Consequently, bonds between farmers within the same village weaken, while farmers get to socialize more with those with the same specialization, no matter the distance. As a result, social life in some of the villages declines. Simultaneously, small and medium-scale farmers, who cannot compete with large farms, are looking for additional, off-farm sources of income. One of the ways to revive feeling of a common goal and cooperation and at the same time get additional income is creating a thematic village, which development is focused on a certain topic (local food, craft, history, or some other ideas). It seems that this idea gives a chance for strengthening social activeness and self-confidence of the villagers, and in some cases also for getting additional income.

**Keywords:** thematic villages, socio-economic development, rural development

### Introduction

The number of farms in Poland is significantly higher than of other EU countries of similar or bigger size. Small farms, usually of semi-subsistence or subsistence character, dominate (about 50% of farms are smaller than 5 ha, at the same time average size of a farm above 50 ha is 179 ha) (Was, 2013). The number of people employed in farming declines, similarly as in other new EU member states (Kłoczko-Gajewska, 2010), and the decline of jobs in agriculture is not compensated by equivalent growth of workplaces in services and manufacturing in rural areas (Wilkin, 2011). There are also significant problems with low incomes of small-scale farmers who are not able to follow highly specialised market farms. Among semi-subsistence farmers there is a group that wishes to modernise their farms and try to make a living from farming, but there are also numerous farmers that want to concentrate on other sources of income, treating farming as a kind of hobby (Sulewski and Kłoczko-Gajewska, 2010).

Present global trends of specialisation and intensification of agricultural production have an influence both on incomes and on social life of the inhabitants of rural areas in Poland. Due to mechanisation the need for neighbour help declines, and because of specialisation there are less common topics to discuss. As a consequence, village citizens are no longer a unity in the way of living, work, and interests. It happens that farmers socialize more with those with the same specialization no matter the distance than with their neighbours, which was not common a couple of years ago (Perepeczko, 2009).

All these factors suggest that there is a need for a new opening of rural development, to prevent social exclusion and further polarisation of incomes. One of the ways to revive feeling of a common goal and cooperation and at the same time get additional income is implementing community-based tourism, where a particular community manages the initiative and benefits from it (Goodwin, 2009, Minnaert et al., 2006).

Thematic village, which development is focused on a certain topic, can serve as an example of community-based tourism (Idziak, 2011). The idea refers somehow to city marketing, where plans of development of a city (and in our cases – a village) are based on a multidimensional diagnosis of its image including SWOT analysis (Luque-Martinez et al., 2007).

The inhabitants of a thematic village should jointly decide on a topic and prepare unique tourist attractions based on local cultural, natural, and social heritage. It is assumed that it should lead to better self-perception and higher self-confidence of people engaged in the project, higher evaluation of their own village, and creation of additional sources of income (Idziak, 2011, Czapiewska, 2012), combined with having fun together.

Thematic villages in Poland have been created only during recent few years and to the best knowledge of the author there is no broader research<sup>1</sup> concerning thematic villages in Poland, so this paper should be the first step to fill this gap.

## **Material and methods**

The research begun with the initial list of 55 thematic villages, found on a website of a specialist engaged in promotion of this idea. Searching through the internet and using the snowball method, that is asking every respondent if they have heard of any other thematic vilages, the list was extended to 106 names, which probably cover most of the thematic villages in Poland<sup>2</sup>.

Representative of each village was called<sup>3</sup> by the phone and if it indeed was operating as a thematic village, an interview with a list of open questions was carried out (usually with the most engaged person, that is the leader, but sometimes with village administrator, animator from a NGO helping this particular thematic village, or a worker of a local NUTS 5 office).

At the moment of the interview (July 2013) there were 78 villages operating as thematic villages, 14 that have tried it but abandoned the idea, 3 that have suspended their activities for some reasons, 2 from the list that did not fulfill the criteria of thematic village, 7 in the making, and 5 that could not be contacted (nobody answered the phone during several days, at different times of the day<sup>4</sup>). The author of the paper managed to carry out 63 interviews with people engaged in these villages. If not stated otherwise, all the analyses below refer only to these 63 interviewed villages. The research was of an explorative character, thus the main aim was to describe current state of thematic vilages in Poland.

## **Results and discussion**

The interviewed villages are of various size, beginning from 50 to about 2500 citizens, situated in 12 out of 16 NUTS 2 regions in Poland (Figure 1.).

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<sup>1</sup> There are few scientific papers, master's theses and a PhD thesis written on this topic, but referring to only few objects, not to the whole country.

<sup>2</sup> The list was consulted with Waclaw Idziak, who organizes trainings for thematic villages.

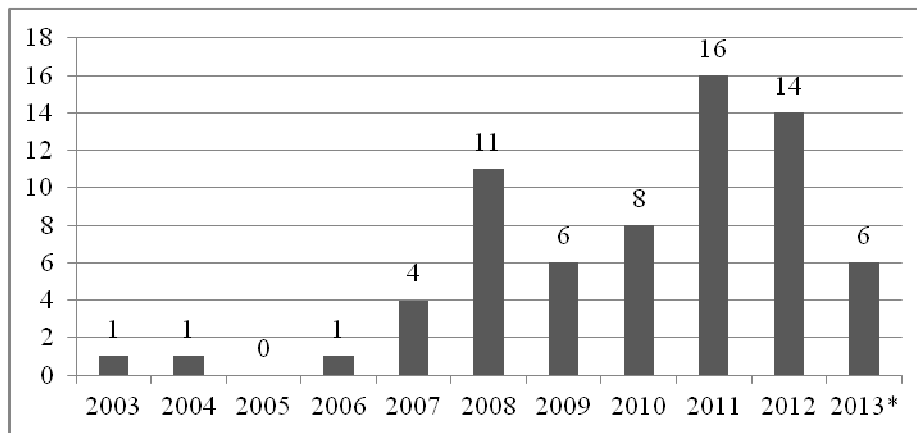
<sup>3</sup> In most of the cases the phone number to the contact person could be found on the Internet, in some cases the local administration NUTS 5 office was called in order to find the number.

<sup>4</sup> It is possible though that at least some of them do actively operate, because some of the interviewed leaders were really difficult to access.



**Figure 1. Distribution of active thematic villages in Poland<sup>5</sup> in 2013 (in brackets villages in the making and suspended)**  
 Source: edited by the author

First thematic villages started to operate in Poland in 2003, and significant rise in the number of newly emerging villages could be observed since 2007, with a peak in 2011 (see Figure 2.). It took between several weeks to few years since the first idea of creating a thematic village emerged until it was ready to operate (in most of the cases this readiness was measured as being ready for inviting tourists).



**Figure 2. Newly emerging<sup>6</sup> thematic villages in Poland (only those that are still active in 2013) (\*first half of the year)**  
 Source: edited by the author

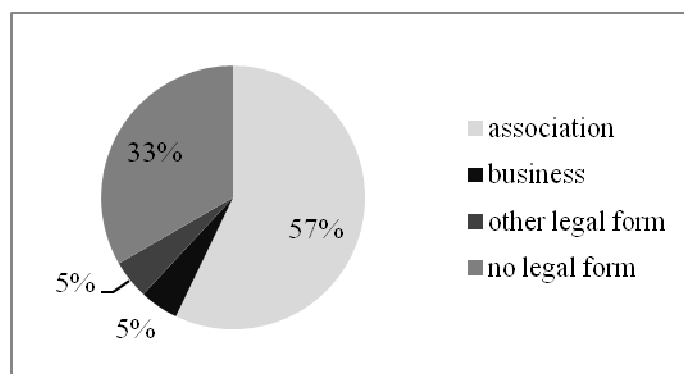
The topics for the development were chosen in a variety of ways. Four of the villages have chosen their topics basing on the village name (angels, adventures, butterflies, apples) and 12 resulted from strong local traditions, where the choice was really obvious to the citizens - usually related to an occupation (pottery, beekeeping), but also remainings of ethnic minority. Brainstorming sessions following analyses of resources and strengths of the villages and their

<sup>5</sup> All confirmed active villages, including those not interviewed.

<sup>6</sup> All cases of active villages where the date of emergence was known – that is all the interviewed and few additional ones, not interviewed

surroundings resulted in the development of 32 topics, and 15 were chosen for other reasons (books, films, private interests of the leader, etc.) .

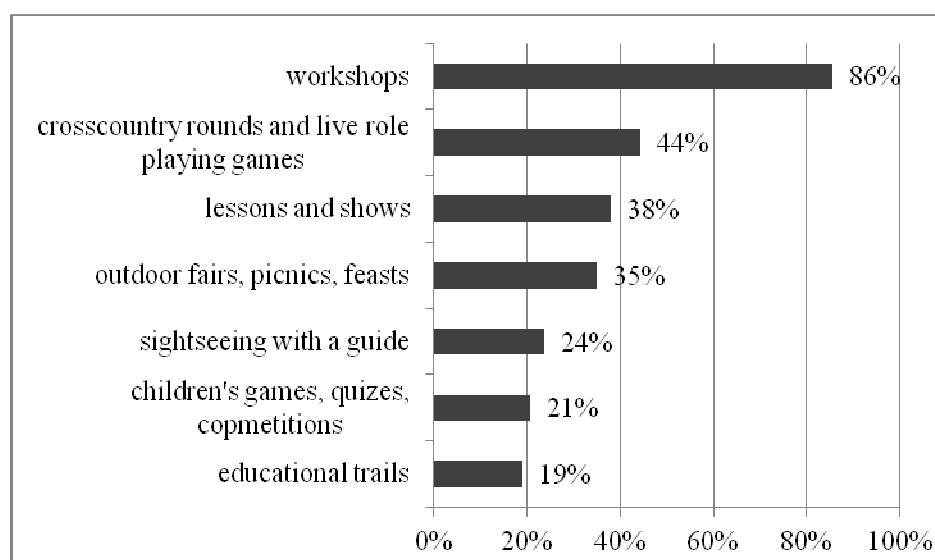
Most of the thematic villages are registered as associations (Figure 3.). It is worth mentioning that in 9 of the cases there were associations already existing, aiming at the development of the village; in these cases creation of a thematic village was only an idea to set a direction for the activeness of the members. About 1/3 of thematic villages have no legal form, but some of them are in close contact with other organisations that help them, for example in applying for external funds (Farmers’ Circles, Commune Cultural Centres, other local associations). Among interviewed ones there were 3 private businesses and 3 of other legal form.



**Figure 3. Legal form of thematic villages operating in Poland in 2013**

Source: edited by the author

Two of the interviewed villages have intentionally no offer for tourists and concentrate only on development of the village itself. The remaining ones have some offer for tourists: 31 only for organised groups, and 30 both for groups and individuals, and they quite often focus on school and youth camps. Most commonly offered services are presented in Figure 4.



**Figure 4. Main tourist offer of thematic villages in Poland in 2013**

Source: edited by the author

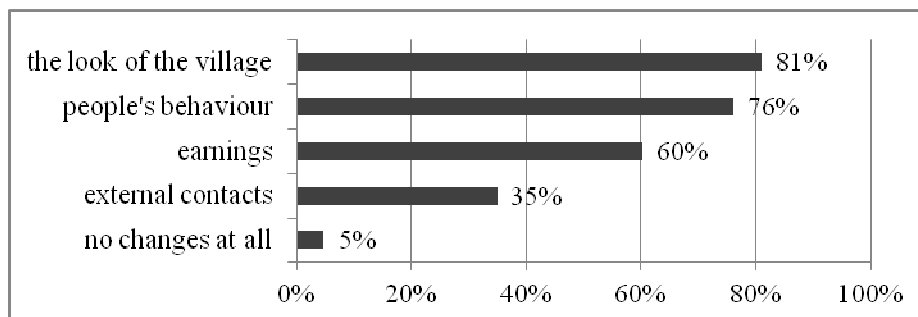
Most of the villages offer workshops of different kinds: preparation of traditional food (making butter and cottage cheese manually, baking bread and various cakes), craft (pottery,

making souvenirs of various natural materials such as straw, stones, bones, etc), old-fashioned sports (bows, cannon shooting), and many others. Some of the workshops are strongly connected with the main development topic, in some the connection is hardly visible. Almost half of the villages offer cross-country rounds or live role playing games; in some of them there is a widely advertised annual event where many citizens dress up for strange creatures (witches, dwarfs, angels, hobbits, etc).

Lessons and shows that can be found in almost 40% of the villages take a variety of forms, beginning from a show of a real blacksmith, through visiting two cowsheds: a traditional one and a very modern one, through walking educational trails, finishing with a multimedia lessons about nature. Outdoor fairs, picnics and feasts for tourists are offered in a similar number of villages – either in certain days of the year or when ordered by a large group. There is also a number of villages that traditionally organise such events only for their citizens (and neighbour villages). In some of the villages the range of offered services is really impressive, while in the other ones there is a focus on a certain type of activities or the offer is in the making. Most of the villages have some plans for the future, beginning from social issues (to make some young people more engaged), through evolutionary widening the offer, to serious investment plans.

It is difficult to talk about the long-term consequences of creating thematic villages, as most of them have been operating for only few years. Nevertheless, it is worth to make an attempt and briefly sketch first changes in the villages during that time. It should be noted, however, that we are talking about changes since the thematic village operates; at this stage of the research it is not possible to fully distinguish which of the changes are really a result of choosing the topic for development, and in which the changes result from other factors.

The respondents asked to enumerate changes in the village in 81% of the cases said that the look of the village has changed (Figure 5.). Usually it meant rise in care for the tidiness of both common space in the village and private courtyards, in many cases also developing general village infrastructure and building specialist premises for tourists (such advanced as a blacksmith shop, thatched hut, dinosaur park, and such easy to implement as welcome boards, house numbers painted in a special way, and pictures made of flowers). About ¾ of the respondents have seen some changes in the villagers’ behaviour – mostly they became more active and self-assured, engaged in common activities, and/or proud of their village, but in few cases the creation of a thematic village ended up in a conflict between the supporters of the idea and those against it.



**Figure 5. Declared main changes in the village since the thematic village operates (Poland, 2013)**

Source: edited by the author

The third most common outcome were earnings – mostly small and seasonal, sometimes just enough to cover the costs, but in 3 of the villages there were people that found jobs (the most successful has created 200 permanent jobs, two others – 18 and 60 seasonal workplaces). In some of the cases the money was spent on common goals, such as repainting the village common hall or organizing excursions for the villagers, and in some the money was received directly by the people engaged. Above 1/3 of the villages had more external contacts: with other thematic villages, other associations (for example local action groups), and in few cases also with universities and scientific institutions (those needing specialist consultancy, such as medieval village, dinosaur park or specialist herb cosmetics). Three of the respondents haven't seen any changes in the village, even though all three of the villages had been operating for at least two years.

We mustn't forget 14 villages that have tried to operate in this manner, but gave up for some reasons. In these cases probably long-term changes cannot be observed, or even worse – people could get disinclined if they failed in their efforts.

## Conclusions

The interest in organising thematic villages seems to be growing in Poland during recent 10 years. They usually take form of associations or informal groups, often cooperating with other local organisations. Their offer is quite diversified, focusing mostly on combining active education with entertainment. According to the respondents there are some visible changes in the look of the villages, social activeness of the inhabitants, and their pride of the village, which supports the theoretical goals of creating thematic villages. As for the additional source of income, it is usually very small, but maybe it can grow in time, when the offer is more widely known. However, it should be noted that not all the villages develop thanks to this idea, thus we can conclude that it gives a chance, but no guarantee. The problem needs further research, especially after longer time since the villages were established.

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# VERTICAL PRICE TRANSMISSION CASE OF VERTICAL CHAIN OF DIARY SECTOR IN SLOVAKIA BY MARKETING MARGINS AND CAUSAL LINKS IN

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## Abstract

The dairy sector represents one of the most powerful and most important branches of agriculture and food industry in Slovakia. The production of milk belongs to the prospective sectors of the Slovak agriculture, mainly due to the natural conditions, extraordinary suitable for breeding of dairy cows. The paper provides insights into marketing margins of the vertical dairy chain in Slovakia during the period 2003-2011. Moreover, Granger causality tests are performed in order to examine the possible causal relationships in case of pasteurized semi-fat milk in dairy sector of Slovakia. The research shows the presence of bilateral causality almost in all cases. However, the results indicate that there is causality from consumer prices to processor prices of pasteurized semi-fat milk, whereas the processor prices does not (Granger) cause consumer prices.

**Keywords:** dairy sector, production of milk, marketing margins, processor prices, consumer prices

## Introduction

The food supply chain is complex and heterogeneous, exhibiting a wide diversity of products, enterprises and markets. It basically connects three main economic sectors: the agricultural sector, the food processing industry and the distribution sectors (wholesale trade and retail trade). These sectors are linked through transactions carried out at specific prices between the various agents of the chain, e.g. farmers, food processors, wholesalers, retailers and final consumers (Commission of the European Communities, 2009).

A general means of measuring the marketing margin between market levels is the price spread. Gardner (1975) clearly shows that, from a theoretical perspective, the volume of product moving through the market channel, also the relative demand and supply elasticities determine the size of the marketing margin. Wohlgenant and Muller (1987) provide two general types of margin models:  $M=b_1Pr+b_2PrQ+b_3C$ ;  $M=c_0+c_1Q+c_2C$ , where  $Q$  is the quantity of product moving through the marketing channel. The first of these equations is the relative price spread equation and the second is the real price spread equation.

Wohlgenant (1999) explains that the difference between the retail and farm prices equals the unit costs of assembling, processing, distributing and retailing foods plus profits at the wholesale and retail levels of the market. The nature of unit costs that firms must recover in these price spreads are different across sectors (retail versus processing) and vary across commodities. Firms can select different production technologies in response to price signals and this can change the ratio of retail to farm prices. Moreover, retail products are not homogenous and therefore retailers can substitute between retail products when farm input

prices vary. The failure to account for these features can lead to the erroneous conclusions that retailers exercise market power when they are simply responding to market signals.

A marketing margin is the percentage of the final weighted average selling price taken by each stage of the marketing chain. The total marketing margin is the difference between what the consumer pays and what the producer/farmer receives for his product. In other words, it is the difference between retail price and farm price (Cramers and Jensen, 1982).

Wolday (1994) stated that a wide margin means usually high prices to consumers and low prices to producers. The total marketing margin may be subdivided into different components: all the costs of marketing services and the profit margins or net returns. The marketing margin in an imperfect market is likely to be higher than that in a competitive market because of the expected abnormal profit. But marketing margins can also be high, even in competitive market due to high real market cost.

The marketing margin as the difference between the retail and the producer or farm gate price is determined by Bakucz and Ferto (2005). They define that it represents marketing costs such as transport, storage, processing, wholesaling, retailing, advertising, etc.:  $RP = FP + M$ , where  $M$ , the marketing margin, is composed of an absolute amount and a percentage or mark-up of the retail price:  $M = a + bRP$ , where  $a \geq 0$  and  $0 \leq b < 1$ .

The main goal of the paper is to provide insights into marketing margins of the vertical dairy chain in Slovakia during the period 2003-2011 and to test causal links in case of pasteurized semi fat milk. More specifically, paper focus on the possible existence and direction between producer price –processor price and processor price-consumer price of pasteurized semi-fat milk.

## Materials and Methods

Data has been collected from Research Institute of Agricultural and Food Economics, where data has been taken for the period 2003-2011. Econometric analysis deals with data set that consists of monthly nominal prices of semi-fat milk I. and Q class during the period 2004-2011. In the paper descriptive statistics and econometric analysis have been undertaken.

Computing the total gross marketing margin (TGMM) is always related to the final price paid by the end buyer and is expressed as a percentage (Mendoza, 1991).

$$TGMM = \frac{\text{End buyer price} - \text{First seller price}}{\text{End buyer price}} \times 100$$

where, TGMM is total gross marketing margin.

The direction of causality is also tested in the paper and the hypothesis is stated as follows:” The direction of causality is from retail to farm because demand shocks are more frequent than supply shocks and also because farms usually adopt fixed mark-up pricing”. The formalized hypothesis is reviewed and tested by Vector Autoregressive approach (VAR). More specifically, the model is used to detect if one price does not Granger cause other price. Granger (1969) proposed a time-series data based approach in order to determine causality. In the Granger-sense  $x$  is a cause of  $y$  if it is useful in forecasting  $y$ . In this framework ”useful”

means that x is able to increase the accuracy of the prediction of y with respect to a forecast, considering only past values of y.

The VAR model has the following form for testing the absence of Granger causality in this paper.

$$(1) Y_t = a_0 + a_1 Y_{t-1} + \dots + a_p Y_{t-p} + b_1 X_{t-1} + \dots + b_p X_{t-p} + u_t$$

$$(2) X_t = c_0 + c_1 X_{t-1} + \dots + c_p X_{t-p} + d_1 Y_{t-1} + \dots + d_p Y_{t-p} + v_t$$

In the model  $H_0: b_1 = b_2 = \dots = b_p = 0$ , against  $H_1$ ; in each case rejection of null hypothesis implies there is Granger causality; on the other hand accepting null hypothesis means that X does not Granger cause Y. Similarly, testing  $H_0: d_1 = d_2 = \dots = d_p = 0$ , against  $H_1$ , the second test examines the null hypothesis that Y does not Granger cause X. If we fail to reject the former null hypothesis and reject the latter then we conclude that X changes are Granger caused by a change in Y. Unidirectional causality will occur between two variables if either null hypothesis of equation (1) or (2) is rejected. Bidirectional causality exists if both null hypotheses are rejected and no causality exists if neither null hypothesis of equation (1) nor (2) is rejected.

## Results and discussion

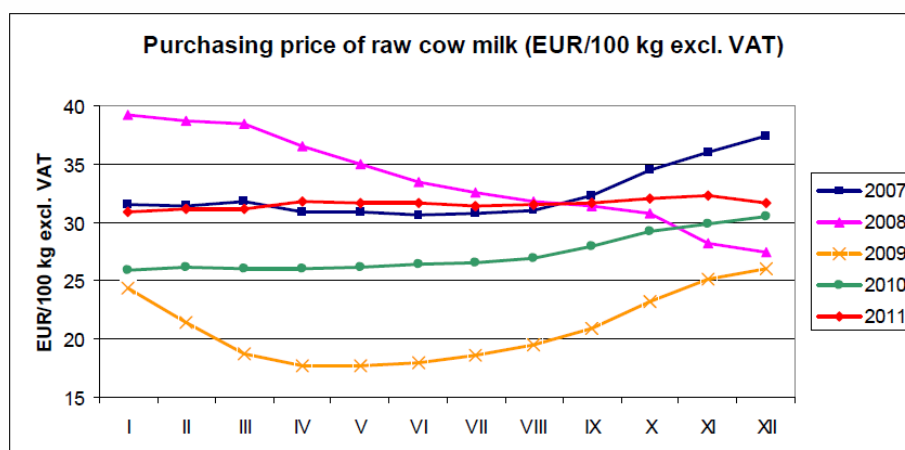
### *Prices and market margins*

Concerning the price issue, in recent years the average purchase price of raw cow milk increased by 10.9% from 30,44 EUR/100 kg in 2004 to 33,76 EUR/100 kg in 2008, the most significant increase was recorded in the period from August till December 2007 (Table 1). Drought in Australia and new Zealand affecting milk production in the 2nd half of the year 2007 causing a decline in milk production and historic high prices at the beginning of 2008. In 2008 the average price of raw cow milk achieved 33,76 EUR/100 kg, which is an increase by approximately 4.3% against the previous year but the prices have started to decrease since 2008, furthermore, the situation is still unfavourable. As shown in Figure 1, the purchase price of cow milk started to decrease in January 2008 when the purchase price level achieved 39,2 EUR/100 kg and by the end of December it fell and reached a level 27,38 EUR/100 kg, which is a decrease by 30,2%. In 2009, the prices fell at all stages of the food vertical, although with significant differences in the dynamics of decline. Historically, the most significant decline in prices was reflected in the level of agricultural producers, especially producers of milk. The downward trend in prices of cow milk has already begun in autumn 2008 due to economic crisis resulting in decline of milk consumption. Additionally, in 2009 the prices dropped down far below the level of profitability of milk production, year-on-year on average by 38,3% comparing to peaks in 2008. From October to December, there was a slight increase in prices, but nevertheless, their levels for milk producers remain unacceptably low in relation to sustainability of production. Concerning the year 2010, there was a significant increase examined by 6,42 EUR/100 kg (30,8%) in the comparison to 2009. The upward trend was experienced and the prices were continually increasing from 25.84 EUR/100 kg in January to EUR 30,57/ 100 kg in December. In 2011 the prices of raw cow milk rose gradually over the year from 30,86 EUR/100 kg in January to 31,62 EUR/100 kg in December. Comparing to previous year, the average price went up to 31,62 EUR/100 kg, representing a growth by 16,1%.

**Table 1. Development of average purchase price of raw cow milk (excl. VAT)**

	2003	2004	2005	2006	2007	2008	2009	2010	2011
Raw cow milk EUR/100kg	29,71	30,44	31,47	30,90	32,36	33,76	20,82	27,24	31,62

Source: prices in 2003-2008 are converted by exchange rate 30.126/1 EUR

**Figure 1. Monthly development of purchase prices of raw cow milk (2007-2011)**

Source: own calculations; prices in 2007-2008 are converted by exchange rate 30.126

**Table 2. Development of average cow milk prices and margins; 2003-2011**

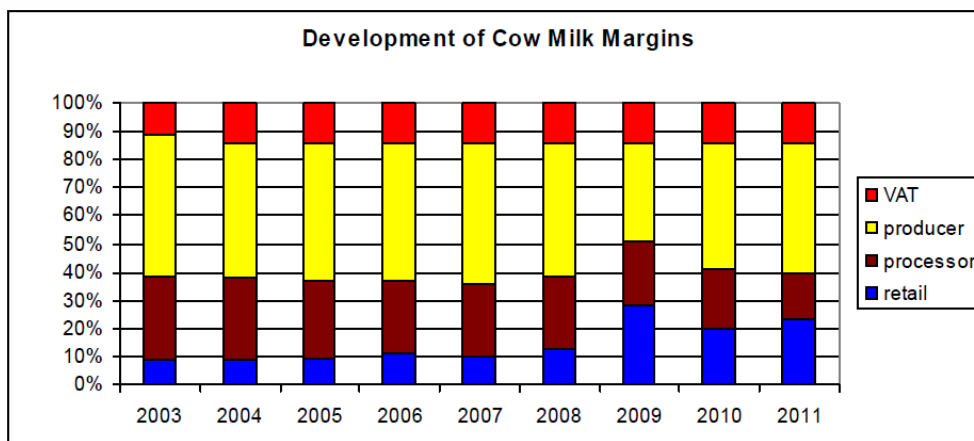
	2003	2004	2005	2006	2007	2008	2009	2010	2011	average	St.dev
FP	29,71	30,44	31,47	30,90	32,36	33,76	20,82	27,24	31,62	29,83	4,09
PP	47,33	49,26	49,06	47,00	49,09	52,00	34,00	40,00	43,00	45,43	6,01
CP	52,53	54,67	55,15	53,78	55,46	61,34	50,42	52,10	59,17	55,26	3,55
PP-FP	17,63	18,82	17,59	16,10	16,73	18,24	13,18	12,76	11,38	15,60	2,79
CP-PP	5,19	5,41	6,09	6,78	6,37	9,34	16,42	12,10	16,17	9,83	4,53

Source: own calculations; <http://www.vuepp.sk>; FP-farm-gate excl. VAT (100kg), PP-processor/semi-fat milk (100l excl. VAT), CP-retail Semi-fat pasteurized milk, 2 % fat, (100l excl. VAT); prices in 2003-2008 are converted by exchange rate 30.126 SK/1 EUR

According to Table 2, a peak of farm-gate price (33,76 EUR/100 kg excl. VAT), processor price (52,00 EUR/100 l excl. VAT) and consumer milk price (61,34 EUR/100 l excl. VAT) was reached in 2008. Processor prices are considered to be the most volatile prices according to results of standard deviation in the long run. Retail prices for cow milk increased steadily over the 4 year period to 2008. There were two significant increases in retail prices occurred in 2008/2007 (10,6%) and 2011/2010 (13,6%).

Despite of the increase in processor prices as well as farm-gate prices since 2010, processor margin fell by 1.38 EUR/100 kg (10,8%) in 2011 comparing to the previous year. In percentage terms, the gross margin dropped from 20,58% to 16,03%. Retailers meanwhile were able to retain a gross margin of 27,32% in 2011. The retailers' margin on cow milk increased between 2008/2009, rising by 7,08 EUR/100 l to 16,42 EUR/100 l. In percentage terms, the retailers' gross margin increased from 15,23% to 32,57%. However, it appeared that farm-gate and processors' margin significantly dropped down between 2008/2009. While

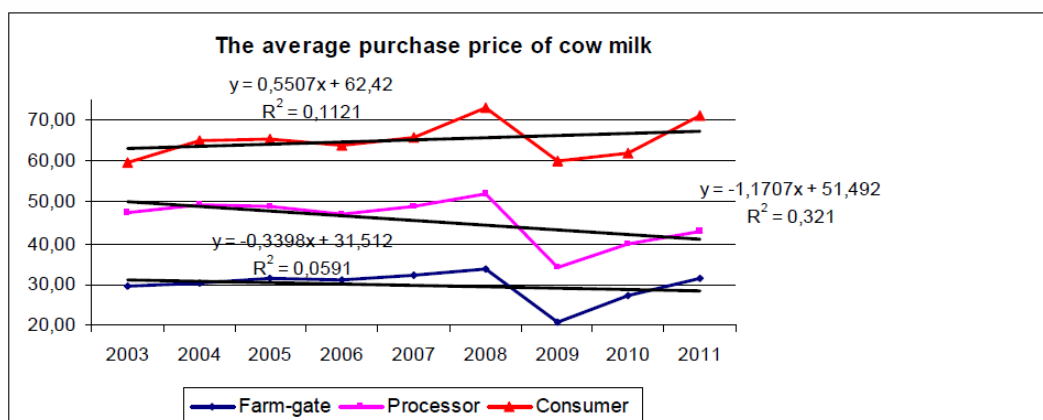
the farm-gate margin dropped from 46,25% to 34,70%, the processor margin fell slightly from 24,99% to 21,97% (Table 3).



**Figure 2. Development of margins from 2003-2011 (in %)**

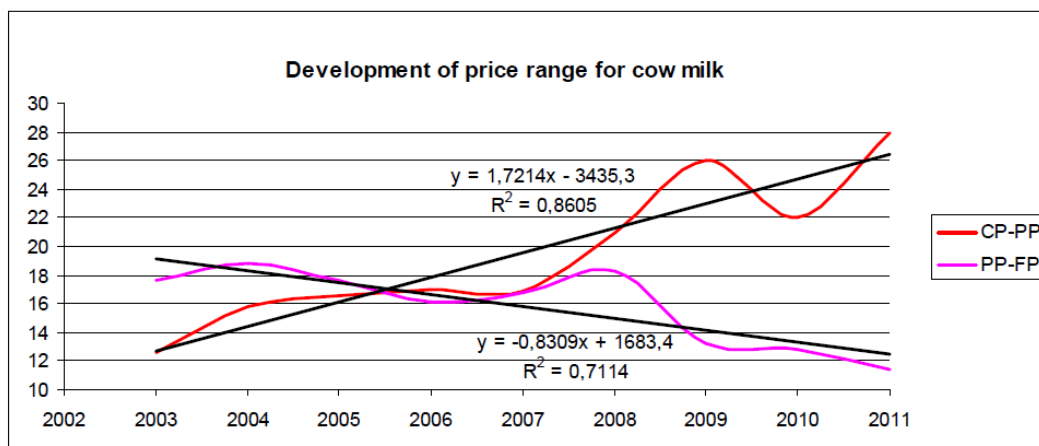
Source: own calculations; <http://www.vuepp.sk>; processor/semi-fat milk (100l excl. VAT), CP-retail Semi-fat pasteurized milk, 2 % fat (excl. VAT); prices in 2003-2008 are converted by exchange rate 1 EUR= 30,1260 SK

Retail margin and processor margin showed diverse development in the examined time period. Retail margin has prevailed processor margin in 2009 and 2011 and moreover it has experienced higher fluctuation since 2007. The average value of the difference between processor and farm-gate prices is 15,60 EUR/100 kg and average difference between retail and processor prices equal 9,83 EUR/100l. Minimum value for retail margin was recorded in 2004 (5,41 EUR/100 l) and the peak was reached in 2011 (16,17 EUR/100 l). On the other hand, the minimum value for margin was in 2011 (11,38 EUR/100 l) and maximum values in 2004 (18,82 EUR/100 l) in case of processor margin. In 2010 both margins were almost equal. It is important to note that the level of retail margin shows the strong position of retailers in the supply chain of cow milk and their ability to realize increases in margins even during times of increasing costs and the economic recession.



**Figure 3. Development of average purchase price of cow milk from 2003-2011**

Source: own calculations; <http://vuepp.sk>; Processor/ semi-fat milk (100l excl. VAT), Consumer-Semi-fat pasteurized milk, 2 % fat,(inc. VAT); prices in 2003-2008 are converted by exchange rate 1 EUR= 30,1260 SK

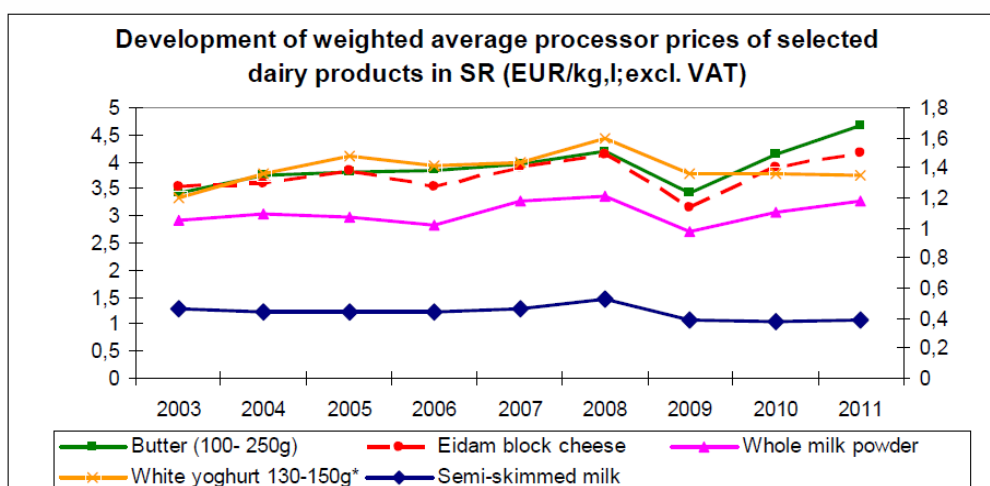


**Figure 4. Development of price range for cow milk from 2003-2011**

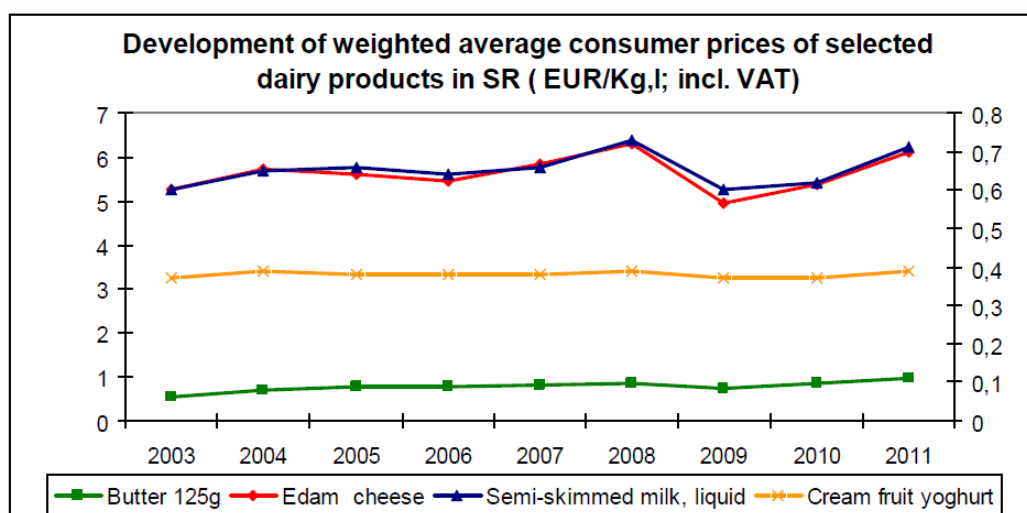
Source: own calculations; <http://www.vuepp.sk>; PP/semi-fat milk (100l excl. VAT), CP/Semi-fat pasteurized milk, 2 % fat,(inc. VAT); prices in 2003-2008 are converted by exchange rate 1 EUR= 30,1260 SK

Figure 5 shows the development of weighted average processor prices of selected dairy products in Slovakia. The processors prices of all dairy products were significantly higher and reached a peak in 2008 comparing to the previous years. However, a rapid drop down was monitored in 2009. The price of Edam block cheese experienced growing trend and recorded a significant increase from 3,54 EUR in 2003 to 4,16 EUR per kilogram in 2011, however, a fall by 24 per cent was recorded in 2009 comparing to 2003. In case of semi-skimmed milk (liquid) the prices were more or less identical (about 0,44 EUR/l) during the observed period 2003-2007, afterwards the prices increased and reached a level of 0,53 EUR/l in 2008 followed by a dramatic drop by 26 per cent in 2011 and semi-skimmed milk was sold by 0,39 EUR/l; this price was lower by 0,07 EUR (15%) than in 2003. The price of whole milk powder increased by 0,35 EUR/kg (12%) and butter became more expensive by 1,24 (36%) EUR in 2011 compared to 2003. Regarding to yoghurts, the peak was recorded at the value of 1,6 EUR in 2008, after that prices started to decrease and reached a level of 1,35 EUR in 2011. In comparison to 2003, the price increased by 0,15 EUR (13%) in 2011.

Regarding to the consumer prices, the most significant rise was recorded in case of butter, due to the fact that customers have bought butter by 75% more expensively in 2011 than in 2003. According to data in 2007 and 2008, the prices of milk and dairy products on the level of farmers and processors resulted in higher consumer prices, especially those of cheese and butter. The price of Edam block cheese recorded decreasing trend during the period 2004-2006 followed by an increase in 2007 (5,84 EUR) and 2008 (6,30 EUR). The peak was reached in 2011 representing a rise by 0,85 EUR (17%) comparing to 2003. The situation in prices of semi-skimmed milk (liquid) have not changed dramatically, they were more or less at the same level from 2004-2007, furthermore the prices reached a level of 0,73 EUR per kilogram in 2008, representing an increase by 0,07 EUR/l. The price of semi-skimmed milk was 0,71 EUR/l in 2011 which was more by 0,11 EUR/l (18%) against 2003. Additionally, the development of market prices for butter, Edam block cheese and semi-skimmed milk experienced a significant decline in 2009. The situation was quite stable in case of creamy yoghurts due to the fact that prices fluctuated from 0,37-0,39 EUR throughout the examined period (Figure 6).



**Figure 5. Development of processor prices of selected dairy products in SR**  
 Source: <http://www.vuepp.sk>; \*white yoghurt fat up to 4,6% of the weight/from 2009 white yoghurt 125-175g, fat from 3% to 10%, semi-skimmed milk liquid 1l package, prices up to 2008 converted by exchange rate 1 EUR= 30,1260 SK



**Figure 6. Development of consumer prices of selected dairy products in SR**  
 Source: <http://www.vuepp.sk>;  
 prices up to 2008 converted by exchange rate 1 EUR= 30,1260 SK

### ***Econometric research***

Econometric analysis revealed the evidence of the long-term relationship between the selected price series. Johansen test was performed for testing co-integration in all examined cases. Afterwards, the VAR method.

As shown in Table 3, a casual relationship was found between processor price of semi-fat milk and producer price of row cow milk I. class and Q class. There is a bi-directional casual relationship between farm-gate and processor prices. On the other hand, there is an evidence of casual relationship between processor and consumer prices of semi-fat milk. As expected, the processor price does not Granger cause consumer prices of semi-fat milk.



**Table 3 Granger causality (PP and CP of semi-fat milk)**

	No. of lags	F- test	p-value	H <sub>0</sub>
FPQ → PP*	2	5,4687	0,0058	Reject (causality)
PP* → FPQ	2	7,3806	0,0011	Reject (causality)
FPI → PP*	2	12,026	0,0000	Reject (causality)
PP* → FPI	2	4,0598	0,0205	Reject (causality)
PP* → CP*	2	2,7041	0,0724	Do not reject
CP* → PP*	2	9,3989	0,0002	Reject (causality)

*Source: own calculations; FPQ/farm-gate price of raw cow milk Q class; FPI/farm-gate price of raw cow milk I. class; PP\*/processor price of semi-fat milk; CP\*/consumer price of semi-fat milk;*

## Conclusion

The research showed that average purchase price of raw cow milk significantly increased and reached a peak at 33,76 EUR/100 kg in 2008. This trend dramatically slowed down and the lowest price level of 20,82 EUR/kg was experienced in the following year. The similar development is mirrored in case of processor and consumer prices of milk and dairy products. Concerning the development of cow milk margins, we conclude that minimum value for retail margin was recorded in 2004 (5,41 EUR/100 l) and the peak was reached in 2011 (16,17 EUR/100 l). On the other hand, the minimum value for margin was in 2011 (11,38 EUR/100 l) and maximum values in 2004 (18,82 EUR/100 l) in case of processor margin. In 2010 both margins were almost equal. To sum up, the level of retail margin shows the strong position of retailers in the supply chain of cow milk and their ability to realize increases in margins even during times of increasing costs and the economic recession.

Granger causality tests showed the presence of bilateral causality almost in all cases. However, the results indicate that there is causality from consumer prices to processor prices of pasteurized semi-fat milk, whereas the processor prices does not (Granger) cause consumer prices. This means that processor prices fail to cause retail prices of semi-fat milk. Hence, the results identify a unique short run dynamics price leader.

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## ROLE OF SUSTAINABILITY IN RURAL AREAS

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### Abstract

Hungary has been seeking ways and means for many years. However, she has not made those decisions based on available resources that might extend our competitiveness and effectiveness. This crisis might help us focus again on our national and geographical conditions, on agriculture, natural resources and services that are marketable within the country. The crisis calls attention to our possibilities (green energy, renewable energy resources, etc.) that have been defined for years as resources to exhaust by our researchers. Without this crisis the endeavour that biomass heating appliances should replace the expensive and imported gas in settlements where heating is based on propane-butane gas would not have come into prominence. Due to the crisis the Hungarian Electrical Works and Károly Róbert College have embarked on a business to utilize arboreal energy plants in order to produce electricity; while the waste – as the by-product of generation of electricity – serves horticultural purposes. Without the crisis attention would not have been called to the regions stricken with deep poverty and we would not think of creating workplaces for the 60-80 thousand people that might produce new value as a result of utilising renewable energy resources. One of the key factors of showing the way out of the crisis is to draft the future prospects and strategies that are based on the results of sciences. However, we can attain results only if – with the presence of human capital – we use innovations that provide living in the long run.

**Keywords:** sustainability, rural areas,

### Introduction

During production factors such as the capital, the labour, the natural factors and the entrepreneur that are needed for producing products are used in different measure. Their rates are dependent on the activity itself as there are activities which are labour and capital intensive. Nevertheless, we do not know any productive activities that do not require any labour force or do not need some territory. When starting to deal with this topic more thoroughly that meant the basic point to us.

The economic crisis began in the second half of 2008 and became universal in 2009. Among its direct social effects that affected the undereducated and masse one of the most serious was the narrowing of employment and in line with this the sudden increase of the number of the unemployed. The recession that concerned the labour market hit socially and economically different regions of the country with different intensity.

Going back to the last few decades in all periods Hungary was competitive only when employment and livelihood were ensured for those who live in the countryside. Agriculture and food industry had a leading role in these periods and the structure of agriculture guaranteed employment for those who lived in the countryside. (R. Magda, 2010)

Although the world's resource base is limited, it contains a complex, and interrelated set of ecosystems that are currently exhibiting signs of fragility. It is increasingly questioned whether the global economic system can continue to grow without undermining the natural system which is its ultimate foundation.

For the moment we can say that the problem of sustainability is how to alleviate poverty without negatively affecting the natural environment in such a way that future economic prospects do not suffer.

The crisis penetrated to Hungary like to most of the countries in the world – without the economies having been prepared for it; and we see that the solutions to the problem (bioenergetics, environmental industry, research, education etc.) are mainly only predictions and there is no strategy at all (we have merely been talking about agricultural strategy for 20 years). Without definite aims and authoritative strategies we might become hopeless, futureless and losers (the North Star does not serve the purpose to reach it either but to help orientation and show the right direction).

We believe that one of the possible ways of getting out of the crisis is to utilize our natural resources and to accomplish a sustainable economy. Beside the rational utilization of the natural resources and the application of renewable energy resources we have to be more effective in the field of human resources development than we are at present. On the basis of our judgment and recent experience the production and economy can obtain new and confirmative support through the relation system of research – innovation – corporate development, which help priorities to be properly defined and to have satisfactorily skilled labour force available for the work to be done. All of these require a new way of thinking, new educational policy and new future prospects.

This present crisis in Hungary is different than any crises before because after the change of regime the producing, processing and distributing enterprises, companies and financial institutions mainly belonged to foreign multinational companies – and not to Hungarian owners. These foreign companies have no interests in increasing the production of the Hungarian economy and the Hungarian agriculture by investing; much rather, according to their own interests, they either temporarily or in the long run discontinue production and financial support that help production and development. Thus present-day Hungary as a mainly raw material-producing country is exposed and if we do not act, we will be in a hopeless situation.

The belief that the market is omnipotent cannot be justified today. According to Udovecz (2008) it is provable that the competitive handicaps of the Hungarian agriculture are mainly horizontal due to the harsher macroeconomic conditions compared to competitors.

The agricultural actors of the neighbouring EU member countries can manage with less living labour burdens, smaller taxes, lower interests with more favourable rates and more moderate administration fees and their integration background is much more developed.

Today the protection, the integration background that is provided in most of other European Union member countries (we mean the EU 15) is missing in Hungary. Considering that the 13 new EU member states also have similar problems it is necessary for the European Union to deal with this question separately and the Hungarian Government has to take this initiative.

According to Marselek-Szűcs-Szabóné Pap (2011) the development – similarly to the more developed countries of the EU – requires new structural frames to be created.

## Material and methods

In this paper we analyse sustainability in the light of globalisation. We compared literatures dealing with this topic and used local information which could help us find the best solution in the near future.

## Results and discussion

### *International and national trend*

Natural resources form part of the natural environment that meets human demands. The depletion of them both globally and locally – thus in case of Hungary too – has become a realistic issue, therefore sustainable development has become the most complex challenge in the history of mankind for the next decades. It exists at macro-, micro- and individual levels and resulted in the intertwining of social, economic and ecological issues. It is advisable to follow a new paradigm in the course of natural resources management that is based on the trinity of sustainability – climate change – globalization. Sustainability can only be asserted in this harmony.



**Figure 1. Sustainability Strategy**

Source: <https://www.google.hu>

Experts who are able to handle this complexity, have the adequate methodological and professional skills and are able to plan, manage, control and evaluate projects in the name of sustainable development are becoming more and more wanted.

The situation of the professional field is changing rapidly as the social pressure on the actors (decision makers) of the political-economic sphere is getting greater and greater. According to established calculations around 2025 20% of the global GDP will be concentrated on two new sectors that constitute the basis of sustainable development: on eco-energetics (renewable energy resources) and on eco-industry (environmental protection, environmental management). The EU (within the EU our very important partner, Germany) represents high technologies in both sectors; and our national endowments (e.g. agro-ecological or geothermic potentials) are very favourable to take a part in this process.

The expression “sustainability” first appeared in professional literature in the early 1980s. Building a Sustainable Society by Lester was published in 1981. He argued that there must be harmony among such phenomena as population growth, the financial expectations of a society, the utilisation of natural resources, and environment pollution which must be minimised.

According to the United Nations World Commission on Environment and Development the concept of sustainable development is as follows: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Within the trinity of sustainability – climate change – globalization the point in sustainable natural resources management is to produce goods for human demands in such a profitable or economical way that the resources will regenerate and the burden on resources will assimilate. Regeneration is the process, burden is the condition; the two sides of the coin. The simplified version of alternative management encouraged in the USA says that sustainable means anything that does not damage the natural resource, does not do any harm to the farmer and is good for the customer. As far as its content is concerned, sustainability means the interrelationship between the trinity of environment – economy – society; as for its levels it means global – regional (national) – local levels. The growing significance of sustainable natural resource management – besides numerous principles – is reinforced by calculations in connection with the so called ecological footprint as well. Since the ecological footprint describes the effect of a person or population of a particular region on the environment (measure expressed in hectare), it is known that since 1987 growing ‘ecological over-consumption’ has been characterising the Earth.

The local program of sustainable development (Local Agenda 21 – „LA 21”) aims to create harmony at local and micro-region level in the natural environment-economy-society triangle in a way that it serves the long-term principles of sustainability. Local Agenda 21 is a program which is building and operating a complex system and is based on the strict interpretation of sustainable development that renders it possible to exchange natural capital into economic capital within very strict limits taking the circumstances of the biosphere into consideration and that considers natural resources as a human-social needs satisfying factor (Szlávik – Csete M., 2004).

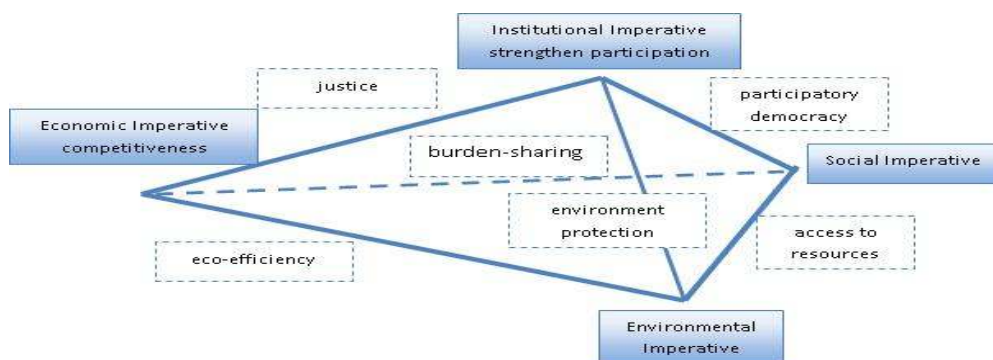
“LA 21” is not the same as an environmental program but the natural environment enjoys priority in the program focussing on the achievement of an economically optimal level of externalities. The population of our world is growing exponentially and the energy use per capita is increasing. The main principle and driving force of the economy is the fastest possible economic growth the result of which is a deteriorating environment and increasing load (Kerekes – Kiss, 2001).

It is important to acknowledge that sustainable development is not the opposite of growth in the economy. Responsible management presupposes the assessment of the supply of both private and public goods as well as a yield-based estimation of the value of these services which considers both the external expenditures and the yields.

In order to keep up the level of quality of life and liveability it is expedient to use solutions and appropriate financial incentives that are not only cost efficient and economical but also environmentally friendly and contribute towards the improvement of the living and health conditions (i.e. clean, fresh air) of local people as a further positive externality and beside they should also create jobs for local professionals and thus enliven the local economy (Csete M, 2009). A liveable settlement is the centre of local sustainability.

On the basis of Valentin and Spangenberg the Prism of Sustainability can provide a foundation for research on sustainability (Figure 2).

The model contains the four imperatives of sustainability. It also proves that sustainability cannot be simplified and restricted to the environmental imperative as it represents only one segment of the whole theme. It is unimaginable to scrutinize sustainability without including the economy where players can retain their competitiveness on the basis of sustainable rational activities. This requires an institutional structure which enables society to operate in a democratic form thus achieving sustainability in this respect as well.



**Fig. 2. Prism of Sustainability**

Forrás: Valentin – Spangenberg, 2000, 381-392p

There are only few sectors similar to agriculture, which is essentially concerned by all of the challenges at the beginning of the gradation: partly by the side of threats, partly by the side of possibilities – depending on whether these tendencies are regarded as the path that is forced to take or as a breaking off point. If we consider that Hungary has an enormous agricultural potential (other potentials are not significant), we will have to accept that in the next two decades the following trends should be preferred in the development of agriculture:

- Energy-saving cultivation and breeding technologies, production of plant and animal species;
- Production of main products for energy and the highest possible energetic utilization of by-products;
- Water-saving cultivation and breeding technologies, production of plant and animal species with the lowest possible water demand;
- Production of foodstuff that quantitatively and qualitatively meet the radically changing demands, generalization of quality assurance systems in agriculture;

- Environmentally-friendly, eco-productive technology, the clarification of the GMO-dilemma;
- Of course all of them should be carried out with attention to the aspects of regional development and sustainable development.

To put both the agriculture and the national economy into this new orbit basic changes are needed in the institutional system, in the financial system and in the attitudes towards management and operation. Last but not least, in harmony with the priorities the significantly important innovation tasks should be outlined.

### *Possible local solutions*

On the basis of the lesson of the past 20 years in 2012 we can state that Hungary and the Hungarian agriculture were successful when it was able to create two-scale agriculture. Since the 1970s by the introduction of the production systems we were able to form competitive cultivation and animal husbandry. The primary aim was to utilize the labour force which integrated household and complementary farming and it is precisely what made our agriculture and country multi-coloured and exemplary for the developed world. Therefore today we also need such differentiated agriculture that determines and includes its support system for small enterprises that are able to integrate and serve a particular aim (restaurant, community). Farms that fancy their future in a selfish way, always trusting only in supports, must not be supported any longer.

### *Domestic potentials*

After the 1990s great changes took place in Hungary which were mostly connected to global economic events. In an analysis on the natural and economic resources of Hungary land, water supplies as well as the currently unemployed workforce a significant proportion of whom do not have adequate school education or qualification must be mentioned. In recent years we have experienced a significant shift in land utilisation.

There is a large decline in the utilization of agricultural land – we will get back to this topic later – and at the same time the energy dependency of Hungary exceeds 70%, and in terms of crude oil and natural gas this figure surpasses 85%.

Taking 1986 as a basis year from the pre-transition era and considering the past more than 20 years we can find two unfavourable tendencies (Table 1). The horticulture and viniculture sectors, which can employ 10 or even more people in one hectare including the connected processing industries, have declined significantly. The fact that the other sector remained unchanged is acceptable, while the size (ratio) of agricultural areas shows that Hungary is still among the countries where this resource can offer excellent possibilities – when properly managed – for food production. Besides food production it may also provide for both the production of new, important values for the national economy and the employment of low-skilled workers. (Magda, 2010)

**Table 1. Land utilization in Hungary by Category (1986-2010)**

Year	Arable land	Garden	Orchard	Vineyard	Lawn	Agricultural area
1986	4,704.8	338.6	99.0	147.4	1,233.7	6,523.6
2000	4,499.8	101.6	95.4	105.9	1,051.2	5,853.9
2010	4,501.6	96.1	93.7	82.8	762.6	5,536.8
1986/2010	95.7	<b>28.4%</b>	94.6%	<b>56.2%</b>	61.8%	84.9%

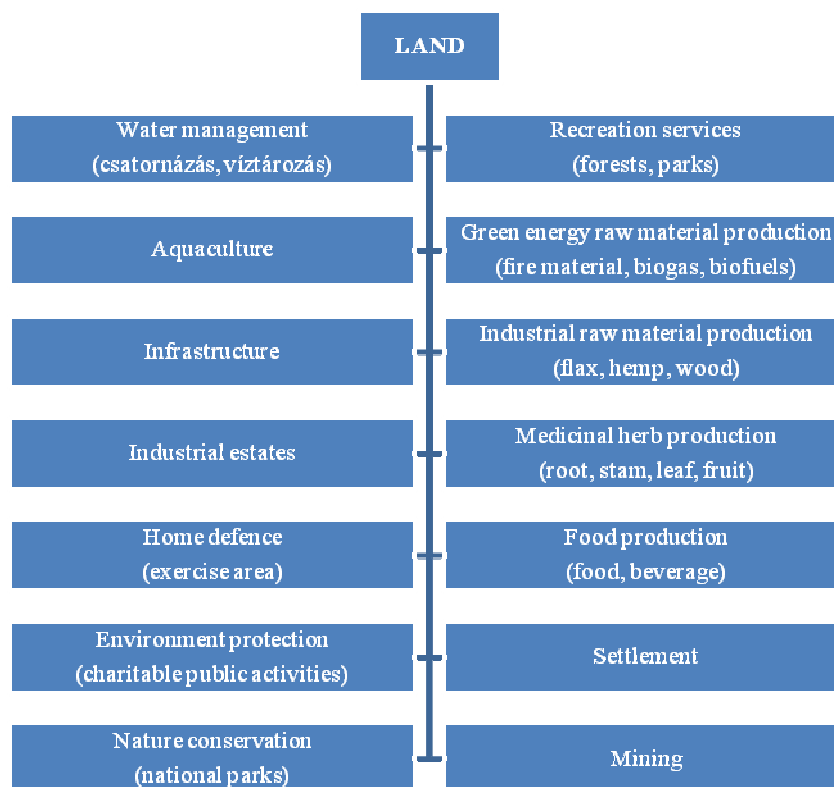
Source: own edition based on [http://portal.ksh.hu/pls/ksh/docs/eng/agraar/html/tab11\\_3\\_1.html](http://portal.ksh.hu/pls/ksh/docs/eng/agraar/html/tab11_3_1.html)



To summarise the data of Table 1 we can declare that currently there is 1.1 million hectares of agricultural land utilised by crop production or animal husbandry less than there was 25 years ago, and it is the consequence among other things of urbanisation, motorisation, and the development of infrastructure.

Let us now consider the possible alternatives of land utilisation in Hungary in light of the structural changes in agricultural production.

Of the fourteen basic utilisation possibilities presented in Figure 3 energy feedstock production can be considered a brand new option. It can be realised on arable lands or in forests, it can be firewood or fire material, e.g. by-products created in arable lands (straw), forest and wood waste, by-products of wine making, cut-off branches and vine in orchards and vineyards respectively, as well as the by-products created during the processing of agricultural products (sunflower shell, husk, marc). The total unused amount of these is between 6-10 million tons; in oil equivalent it means 1-2 million tons, which is 6-12% of the total energy consumption of Hungary. In other words that is the untapped reserve of this sector.



**Fig. 3. Versions of land utilisation**

Source: Gergely S.-Magda R. , 2011

It has already been noted that currently the agricultural utilisation of 1.1 million hectares should be solved. 0.5 million hectare of it is uncultivated fallow land which does not only fail to make any profit but generates billions of HUF damages by producing virtually unlimited amount of allergenic pollen. The current agricultural structure does not provide any opportunity to utilise 50% of the lawn, i.e. 0.6 million hectares, because the grazing animals have vanished from these areas.

Annually 2-3 million tons of grain and oil plant could be used to make ethanol and diesel fuel, which is also in connection with the dramatic decline of the number of animals. If all of our green energy production and utilization possibilities could be exploited, 20-30% of the national energy demand could be met from this source alone. Thus it can be stated that it is high time for a fundamental change in the approach to the utilization of the country's agricultural land.

Therefore our role in the future is to try to find the methods of resource utilization that might help decrease our energy dependency and at the same time increase employment. Károly Róbert College has been trying to find solutions to the above raised questions in its basic and applied research activities and as a result it is now able to successfully harmonise low value resources (LAND, LABOUR). In the near future and later on as well we can be successful only if manage to harmonise the above-mentioned factors. Let us make an effort to achieve our aims with the help of the following pictures (Figure 4):



Energy forest



Intensive horticulture



Utilization of renewable energy

#### **Fig. 4. Harmonising potentials**

Source: own edition

In the first picture we can see the harvest of an energy forest, while the second one depicts intensive horticulture, and the third one shows a power station that is able to utilize renewable energy resources. How are these connected to each other and to the factors examined?

The pictures help us understand this. If a country – Hungary as well – has free – currently not cultivated – lands, a significant part of them can assuredly be utilized by planting arboreal energy plants. On the one hand, people who do not have high level of education but could

otherwise work are exceedingly suitable for this kind of work. Obviously, this demand for labour force will remain in the long run as we can count on them not only in connection with the plantation tasks but also during the treatment of plantations. On the other hand, this kind of land utilization provides opportunities for the country, a region or a settlement to decrease energy dependence reducing the use of fossil fuels. This kind of utilization method creates opportunities towards another land utilization way, which is nothing else but the heating of the public institutions of local governments, the intensive horticultural activity where both the low-skilled workers can be employed and the energy gained from renewable energy resources can also be utilized. (Magda, 2010)

A particular area or region can only be competitive if we define their successfully accomplishable production circle. For the sake of the realization of our aims in the Gyöngyös small-region we have decided to create a ‘fruit-plantation map’, a ‘service map’ and define where and what kinds of fruits can provide good possibilities for people living in the area including fresh consumption, conserved products and fruit schnapps production. Our further aim is that the restaurants and hotels operating in our region connected to the Mátra should represent those region specific food and beverage types that besides their historical and natural values attract guest similarly to Mátra Museum, Kékes, Sástó, Galya-tető, Károly Róbert College etc. Considering this work as the basis we suggest that a project like this or a similar one that supports the foundational works of production and services should be formed. Subsequently, connected to this, it is reasonable to work out the new training strategy adapting to future challenges that (based on its practical background) manages vocational training, BSc and MSc education together as well. If we were able to carry out this project, we might soften the disadvantageous effects of our globalized environment. Finding our products based on the local conditions we might also contribute to the solution of the crisis by increasing the population retaining ability of the region with a new agricultural and rural policy and services that are connected to hospitality. We might employ more ten thousand people who have become unemployed in the last few years or who might be made redundant in the next 1-2 years because of the path-finding of the industry.

## **Conclusions**

These days everybody in the world is seeking possibilities to get out of the crisis – let it be an economically strong capitalist country or an economically less developed country. The crises has reached our country as well just like it has reached almost all of the countries in the world without them being able to prepare for it, so we do not have any other chances but to find the solutions through bioenergetics, education, environmental industry and research. However, it is typical that we can find only forecasts and estimations instead of definite strategies (we have been speaking about agricultural strategy for about 20 years). Without specific goals and definite strategies we will be hopeless, futureless and losers.

Our research shows that green economics and the employment connected to it would mean the outstanding possibility of Hungary’s competitiveness. The practical connection of this could contribute to some of the main targets set by the European Union namely to the Roma recovery program and to the increase of the rate of alternative (green) energy.

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# THE EXAMINATION OF SUCCESS FACTORS DETERMINING LOCAL SOCIETY AND ECONOMICS

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## Abstract

The settlements are value-carriers. Of course not every valuable condition is a key of the success. The objective of this study is to survey the general success factors of settlements. We can study the following aspects through some example in detail: the local conditions, the innovator seed, to what extent is the management of the settlement authentic, how synchronised the relations are between the innovation seed and the management of the settlement, how the plans for future are embedded in the mind of the local people, how active the local community is, whether there are any positive shadow-effects, what is the accessibility of transportation geography as well as the internal and external image.

**Keywords:** useful local conditions, innovation seed (initiative force), genuine management of the settlement, active local community, positive shadow-effect, positive external and internal image

## Introduction

It is generally believed that successful settlements can come into being where the citizens are also prosperous and successful; thus where the growth, the improvement of the quality of life appears also in the life of the community and of the individual. In this case the citizens are obviously content; they can create the properly multilateral and complex expression of interest (Bódi-Bóhm, 2000). However, this scenario cannot be considered as a standard. Interpreting the success of settlements as the set of individual successes is a bit simplifying and idealistic. The individual successes do not always provide clear communal values. There is not in every case a long-term sustainable development behind such a success.

## The interpretation of the success of settlements

Success cannot be reduced to one sole factor. Although in the first place the public opinion interprets the success of the settlements from an economical viewpoint, in fact the success of a settlement is depending on several economical-social factors. The field-research done in domestic settlements also prove this. The factors determining success are thus complex. Every factor that influences the local condition of existence and the quality of life has an effect on the development of the settlement, thus also on its success (Ludescher G., 2010). Behind the successful settlements stands a stable economy and community. According to Bartik (1995) and Čapkova (2005) the emphasis is on the positive quality of life besides having a sustainable development.

## Adaptation

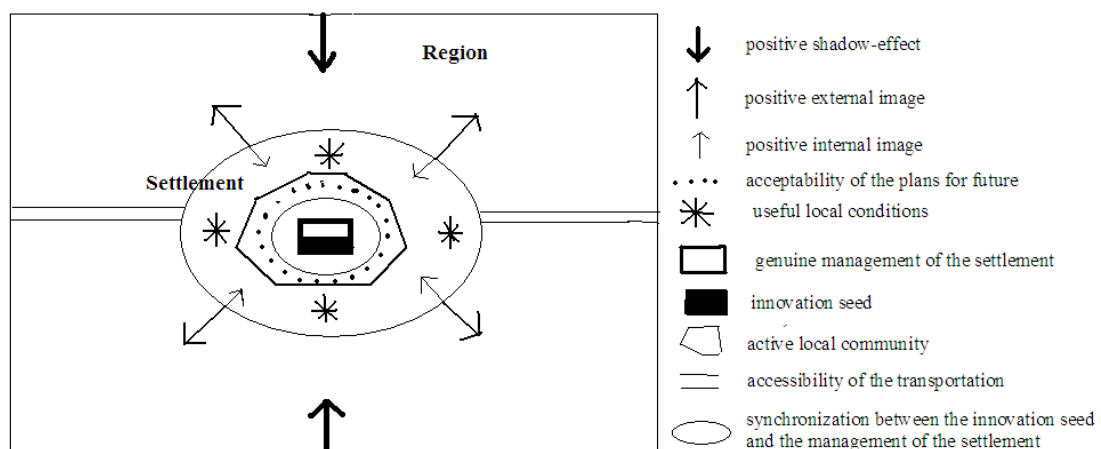
The settlements and the surrounding social, economical sphere are constantly changing. Among the continuously changing conditions those settlements can be truly successful which are able to adapt to their environment. Adapting to the environment can be interpreted in a political, economical, social, technological, nature-geographical and legal sense. The PESTEL analysis is based on the research concerned with the adaptation to the six factors. With this analysis we can get a good general survey about the acting factors. It helps us also in regional planning, because with its help the wanted development goals can be determined more precisely. However, this analysis does not explain, how one can be truly successful through the viewpoint of the examined acting factors. What kind of means can be used for this?

The settlements as autonomies due to their far-reaching role-system possess means of different characteristics, which can strengthen or even weaken each other's effects. One part of the instruments used by the settlements are unique (e.g. local taxes, local communities, etc.), whereas other instruments (e.g. administrative legal regulation) work alike everywhere. The success of a settlement depends also on finding their effective means and how well they use it.

## Factors of success

On the basis of our field experience the following factors can be seen as the factors contributing to the success of the well-working settlements:

- Useful local conditions
- Innovation seed (initiative force)
- Genuine management of the settlement
- Synchronization between the innovation seed and the management of the settlement
- Acceptability of the plans for future in the mind of the local people
- Active local community
- positive shadow-effect
- accessibility of the transportation
- positive internal image
- positive external image



**Figure 1. Factors of Success**

Source: own editing, 2013.

The *useful local conditions* are such material things, regional circumstances, human resource-elements, which represent unique values in every settlement. To put it into other words, these sources are the settlement's material, mental and spiritual values. The wealth of the settlement can be counted among the material values, including the national wealth and the private means. Due to its nature the national wealth for the most part is nowadays charged with problem-solving and often with mortgage, thus it is difficult to mobilize it. Regarding the private means it can be said that they can be accessed usually only with the approval of the owner. Nevertheless, both kinds of these properties contain the possibility to create value. The typical method of the economical development of the wealth is converting it into money, the burdening, taking into the collective business (PPP constructions). But changing the development possibilities belongs also here, by this means overestimating wealth (e.g. regrading agricultural territories, or the alteration of the building possibilities). Similarly, the settlement's revenues can be regarded as material values, which secure the funds of everyday functioning, but along the proper scheme sources can be detached for other value-creating goals. The local communities' mental capacity and relations capital can be seen as mental values. Among the settlement's mental treasures are for instance the local architectural values, but the local historical values, which were accumulated by the local population can also be counted here. Thus to prosper locally explicit and also tacit knowledge is essential. The settlement's spiritual values are also counted as significant treasures. The genius loci manifest itself alike in the architectural environment, in the cleanness of the settlement but also in the speech of the people, their relation to each other and to the guests.

However, the useful local conditions in themselves make no settlement successful. For this result it is necessary to have such an active initiative force, *innovation seed*, which undertakes to implement the local values in the service of the settlement. It is a lucky situation, when there is *synchronization between the innovation seed and the genuine management of the settlement* thus they cover each other. This means that shaping the directions of future-serving changes, innovations and the acceptability of the plans for future in the mind of the local people meet in the work of the local management of the settlement thus strengthening each other. It is less lucky and leads often to failure (for instance to by-elections) when the innovation seed and the local management do not support each other. Similarly, crisis can be caused when the social acceptance of the managed innovations is locally modest, namely it *has no adequate approval in the local society*.

It is a very important, successful determining value of a settlement, to have a "seed" which unites and moves the community and if people representing various interests, values can connect to this. An *active local community seed* is thus needed. The community's internal structure, dynamics is a value, which can turn into a strategic resource when helping in mobilizing the local economical, social resources. In the active local communities, however, it is often a problem that only a narrow company is active in truth. This can be a problem due to the fact that in such a society the beneficial effect of the building of society by the active seed is not felt in the wider community. In itself the activity of a narrow community seed cannot result in a lasting success if behind it there is no adequate support from the part of the local community. The communal activity serves properly the success of the settlement only where the whole of the local community or at least the majority of it is supportive.

The so-called "*shadow-effect*", when evaluating it as the factor determining success we start from the examination of a larger region determining the settlement's success. Our starting-point is that a settlement can be successful if that region, where it exists, is strengthening its efforts, secures support, and it has partners in geographical proximity to exploit the

opportunities (Piskóti, 2012). Nevertheless, the shadow-effect works not only in a positive sense but also in a negative one. We can experience this when the settlement possesses extraordinary potential but the medium, with which they are in geographical connection, holds it back, does not let it develop.

Usually the *accessibility of transportation* is also an important factor of success. It is a fundamental advantage if the economical centres are easily and quickly accessible (with public transport and/or individual transport). The accessibility of the economical centres is a key issue not only for the role of employment in the centre but because the economical centre also secures the educational, cultural, health, etc. provision belonging to the higher quality of life.

A settlement can be successful for the long term only if it has an own *internal image*, namely if the people living in the given region have a positive image from their own settlement. Nevertheless, a positive image can be built from a miscellaneous and controversial image. This needs adequate community building, well-defined goals; such ones as everyone can undertake, with which everyone can identify themselves. The head of the settlement has to be fully aware of the fact how the locals see their own settlement, what they regard as their strength, their weaknesses, dangers, opportunities.

The *external image* is also significant from the viewpoint of the settlement's success. It is important that the settlement should be generally known, preferably with a positive content. It cannot be expected from every settlement to have a popularity identical with a touristically much frequented settlement. Nevertheless, it is important that every settlement should build its external image according to their conditions/opportunities, and to communicate it properly to the appropriate group. The external image of the settlements takes form thus partly with conscious communicational activity, partly with the not necessarily controlled common talk. When shaping the external image with conscious communication the aim is to create the settlement's own image, and to learn how to display itself, make it attractive and arouse interest in others.

### **Case-study**

On the basis of our field experience the following factors can be seen as the factors contributing to the success of the well-working settlements: useful local conditions, innovation seed (initiative force), genuine management of the settlement, synchronization between the innovation seed and the management of the settlement, acceptability of the plans for future in the mind of the local people, active local community, positive shadow-effect, accessibility of transport, positive internal image, positive external image

Now comes the analysis of a specific Hungarian location, based on the aspects above mentioned. The basis of the analysis is a village seminar research done in 2011 at the Economics and Social Science Faculty of the Szent István University at Gödöllő. This analysis included a comprehensive collection of statistical and field information in the small village of Baks, in the county of Csongrád. The village is located 35 kms north from the biggest city of the Southern Great Plains, Szeged. The population of the village in 2010 was 2095.

During the analysis we assessed the situation of the labour market, highlighting the importance of agriculture, transport accessibility and trade supply, the functioning of the non-



governmental organisations and those public institutions which are the most important for the residents of the village, but also the opportunities in tourism and a mental map was also created. Besides the statistical data the result is based on the information given by almost two dozens of interviewee and by 155 households which were given a questionnaire.

### ***Accessibility of transport***

Despite the fact that the village has no transit traffic, and thus having a no-through-road characteristic, the village is not unfavourable from the aspect of accessibility. The main reason for this is that the Kistelek slip road for the M5 motorway can be found 16 kms away from the settlement which secures good accessibility both in the direction of Szeged and of Budapest. Its public transport rests on buses, because the train bypasses. Regarding this fact, there is only one settlement part which can be considered problematic: namely Máriatelep, which is separated even physically from the core of the village (it is approximately 2 kms away from the village core). The source of the problem is that not every bus goes into Máriatelep, which means that those who want to travel have to walk in to the centre. (Murinkó, 2011)

### ***Positive shadow effect***

Baks belongs to the subregion of Kistelek, which has one of the highest tendering activity in the Southern Great Plains region. The wider surroundings of the settlement are recipient for every initiative which has a chance of tender.

### ***Useful local conditions***

The village is traditionally an agricultural village. The basis of living was granted by an agriculture built on a well-functioning horticulture. However, after the change of regime this sector could not be renewed due to the facts that the market narrowed down, the farmers have no pool and the young people do not tend to continue the legacy, these risky agricultural ventures. (Mihály, 2011)

The other living of the village could be tourism. Baks is located next to Ópusztaszer which is a key tourist site in Hungary. According to the tradition, it is the spot where the alliance of the settling Hungarian tribes was concluded. Today it is an important historical place of pilgrimage for Hungarians. Currently, the village gains almost nothing from this opportunity, although it has some catering establishments, inns which rests on this. Regarding tourism, additional useful conditions could be the sights of the surrounding Pusztaszer Natural Park, or the fishing lake waiting for development or the planned House of Folk Antiques. (Topa, 2011)

### ***Genuine management of the settlement***

Based on our field experience it is clear that the genuine management of the settlement is not secured. The mayor became the leader of the settlement with the support of a political party in 2010. At that time an independent nominee had a close duel (differing in just a few votes) in the settlement. After recounting the votes the current mayor was legalized, however, the tension could be experienced also at the time of our research in 2011. The settlements was at the time ungovernable, due to the fact that the majority of the village council was not a supporter of the mayor, thus the council work was not progressing. In the end, at the beginning of 2012, the village council disbanded itself, and called a new election. In the

course of the elections the current mayor won again (again with some minor difference in votes), but now with a more adaptive village council.

### ***Innovation seed (initiative force)***

There are several innovation seeds in the village. One of them can be linked to the supporters of the current mayor. The other group is independent. One leader of the latter group was the main challenger of the mayor in the elections of 2010 and during the off-year elections in 2012. This group controls the social, non-governmental organizations of the settlement. (Kozma, 2011)

### ***Synchronization between the innovation seed and the management of the settlement***

Based on our experience there is no synchronization between the innovation seeds and the management of the settlement. The management of the settlement has its own concept about what is good for the village. It does not cooperate at all with those who think that another step would be beneficial. The mayor himself worded that “first of all, he has to serve his own voters” (and not the whole of the village).

### ***Acceptability of the plans for future in the mind of the local people***

Due to the fact that the plans are not created resting on a wide social basis but by a narrow team created by the mayor, the social acceptability of the decisions is meagre. A good example for this is the establishment of the so called Settlement-house. The main aim of the Settlement-programmes originating from England is that these houses should function as a community centre where the badly or not socialized minority is taught to self-care, to motivate it, and to facilitate the social integration of the target group. To achieve these goals different activities, camps and courses (for instance cooking classes) are organized, which are adjusted to the age group, and secures access to services, which are nowadays indispensable (e.g. internet access, library use). Using the European Union tender funds which were won by the settlements of Kistelek subregion, the Settlement-house was built in Baks, in the section of Máriatelep in 2011. During the realization of the tender, the decisive fact of choosing the location was that within this subregion only here can be found a bigger, spatially concentrated gypsy community. (Approximately 15% of the population in the village is gypsy.) The institute was established by transforming a former house, wherein the following units were created: a not too large community hall, a kitchen, an office, a tiny room with a computer and a plumbing. The community house functions on the practical basis of Settlement-houses, thus first and foremost with the aim to integrate and build the community of the gypsy minority. However, the acceptance of this definitely good idea has some difficulties. The judgement of the institute, which was opened during our research in 2011, was quite controversial by the target group (gypsy community) but also by the village as a whole. One part of the gypsy parents and grandparents with small children living in Máriatelep disapproved that the house is small, and moreover it is located next to a busy road; it is a building with no courtyard or large space. It cannot serve community purposes. Their opinion is that a community-friendly environment, playground, park should have been established around the house. The opinion of the majority in the village was also miscellaneous: 26% of respondents deemed it good, whereas 21% did not deem it good that the house was established. Approximately one quarter (27%) of the respondents did not have an opinion on this matter, but they said that they were worried about the multifunctional community house located in the village centre; what is going to happen with it. Their fears were proved to be true: the community centre serving the

whole village had to be closed down in January 2012, and the Settlement house was also closed down in 2013. (Kozma, 2011)

### ***Active local community***

The community organization is quite layered in Baks, although not everyone in the village has the same share in it. For this reason it is important to determine what types of organizations there are, just as what activity the locals have in this. Comparing the number of non-governmental organizations to the low population of the settlements, it can be said that there are lots of NGO-s; Baks had 10 different NGO-s functioning in 2011. These cover the residential demands, because they were born as an answer to the arising needs, based on the interests of the local people. The range of self-organized groups is vivid: there were created traditionalist, sport, cultural, social and neighbourhood-watch associations. What concerns activity, according to our questionnaire, 115 from the 155 households stated that they are not members of any civilian group. 28 belonged to one organization. There were 10 people who belonged to two organizations, and there was one person, who was the member of three, and another person, who was the member of 4 groups. This notion is tinged by the fact that 51 respondents could not name any non-governmental organization. In addition to having an excessively layered community-organization the sacred community is also layered. This historically Catholic village admits such small churches as Jehovah's Witnesses, Faith Church and Love of Christ Church. (Lankó, 2011)

### ***Internal image***

The internal image of Baks is not unambiguously positive. It became clear during the mental mapping that for instance the local judgement of the three settlement parts of the village, which have their own names (Szőlő, Major, Máriatelep), is not unified. In the course of our research we asked people what they think about their own and about the other two settlement parts. The judgement of Szőlő (which is the village centre) was in every case positive, which means that the people living there and those who live elsewhere deem the local conditions there the best. Major (which is located further off the village centre but still in the village core) was deemed clearly favourable only by those who live there and by the underprivileged people of Máriatelep. Máriatelep which is inhabited 95% by gypsies is seen by the locals and by the other settlement parts unfavourable. (Kistamás-Molnár, 2011)

The diverse social conditions are shown also by the fact that on the course of our questionnaire very different answers were given to the questions concerning the factors of the same social and economic conditions. Not only was this true between the groups of different social status but also between those who live in different settlement parts (for instance regarding public safety, traffic). The raggedness of local society is enhanced by the existence of ethnical divergence, of a segregated gypsy area.

### ***External image***

The external image of the settlement is not completely devised, however, when comparing with the already "devised" Ópusztaszer, the results obtained per unit of time in the query system of Google is in practice not fewer in the case of Baks (705.000 search results) than in the case of Ópusztaszer (458.000 search results).

On the whole, the example of Baks shows several success components: one might as well say that the accessibility of transport, the shadow effect of the environment and the variety of the useful local conditions in the settlement is favourable. An additional positive condition is that it hasn't got only one but more innovation seeds. It's a pity that they cancel each other's effect. It is also a pity that the leader of the settlement wants to serve only his own voters, and not the whole of the village. This way co-operation cannot exist, which would multiply the opportunities of Baks. It is a likewise positive component that the community is very much alive, although the activity could be improved. Nevertheless, this would need the local society to have a more coherent positive internal image. Currently, the settlement pays more attention to the external image than to the internal image.

## Conclusions

The aim of this study is to throw light upon the following: the success of the settlements is not only due to economical factors. One part of the success factors is not at all an economic factor, but other factors, which determine the quality of life. Success cannot be reduced to one sole factor.

The settlements and the surrounding social, economical sphere are constantly changing. Among the continuously changing conditions those settlements can be truly successful which are able to adapt to their environment. On the basis of our field experience the following factors can be seen as the factors contributing to the success of the well-working settlements: useful local conditions, innovation seed (initiative force), genuine management of the settlement, synchronization between the innovation seed and the management of the settlement, acceptability of the plans for future in the mind of the local people, active local community, positive shadow-effect, accessibility of the transportation, positive internal image, positive external image.

There is no recipe for the success of settlements. On the particular spot, at the particular time every settlement has its own way to reach its success.

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# ANALYSIS OF THE POSSIBILITIES OF THE PROJECT INITIATIVES IN THE DISADVANTAGED MICRO- REGION IN HUNGARY

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## Abstract

Nowadays regional differences can be found both in the European Union and within the border of Hungary. The rural development funds could be one of the main opportunities for the stagnating and disadvantaged areas with low employment, high unemployment and migration rate. The four axis of the European Agricultural Fund for Rural Development may provide solutions for the main problems of the disadvantaged, low-population settlements. The available sources, within this funds, can adjust the economic and social development trends of these areas to a positive direction. The examination of disadvantaged regions goes back to a long history, which is greatly influenced by the ever-changing natural, economic and human resources. Consequently, while examining the disadvantaged areas, we face new systems of coherences. Today's regional policy also needs to answer the question whether the spatial development funds of the past have been efficient or not and whether the land use distribution influences the spatial competitiveness or not. These issues occur every day while analyzing the efficiency of the past 20 years' regional policy.

**Keywords:** territorial differences, urban and rural areas, least-developed micro-region, multi-peripheral micro-regions

## Introduction

In our opinion, the topic is timely, since there are significant territorial differences in most of the EU countries in and out of the borders. The gap between the urban and rural areas is also significant (GODA-TÓTH, 2013). This restructuring can be observed in Hungary, in the *Carpathian basin*, in Central-Eastern-Europe, as well as in the *European Union* and in the world. In order to get a real picture about today's spatial processes, it is necessary to learn the processes resulting in the spatial imbalances as well as their impacts on the change of spatial structure. These discrepancies can be observed at various *territorial levels*. During micro-regional investigations researchers carry out researches in larger areas than the town-village dichotome, however, in a narrower territory compared to the West-East investigations (MOLNÁR, 2007). The general features of the disadvantaged areas are the low infrastructural supply, low quality of services, and there are shortages of jobs. As a consequence, there is high unemployment rate and the wages are low. It is also a common phenomenon that young people migrate from these disadvantaged rural areas, contributing to the aging population in long terms (KÁPOSZTA, 2001; KÁPOSZTA et al., 2010).

The change in the economic structure starting in the 1990s also contributed to the territorial inequalities to a large extent, since dynamically developing centres and peripheral territories lagging behind have been created (NAGY-KÁPOSZTA, 2004). After Hungary's EU accession new space-use definitions have been used, which affect significantly the agricultural land-use as well. Therefore, nowadays agricultural land-use does not only mean

**traditional land-use** (e.g. arable land use), but including the related sectors (e.g. supplying sectors: food industry, tourism, energy management, landscape protection etc.), namely the **agribusiness**.

In our opinion, it shows clearly that the agricultural land-use covers a wider field than the conventional agriculture. The expression of **agribusiness** can be well used while planning the long-term competitiveness, thus we examined the actual land-use highlighting the importance of optimal land-management. The abovementioned thoughts encouraged me to focus on the agricultural land-use within the land-use. Spatial development and rural development programs of the past years have turned the focus to the micro-regions were not able to break out of their stagnating status **despite of the development programs and funds available**. While examining the least-developed micro-regions, a question raises what micro- and macro-factors play key roles in the stagnating and breaking off. In this paper we point out the coherences between the social and economic factors of the 47 least-developed micro-regions and introduce the directions of change in the competitiveness for the years 2007 and 2009, with special focus on the coherences between the efficiency of support and land-use.

## **Materials and methods**

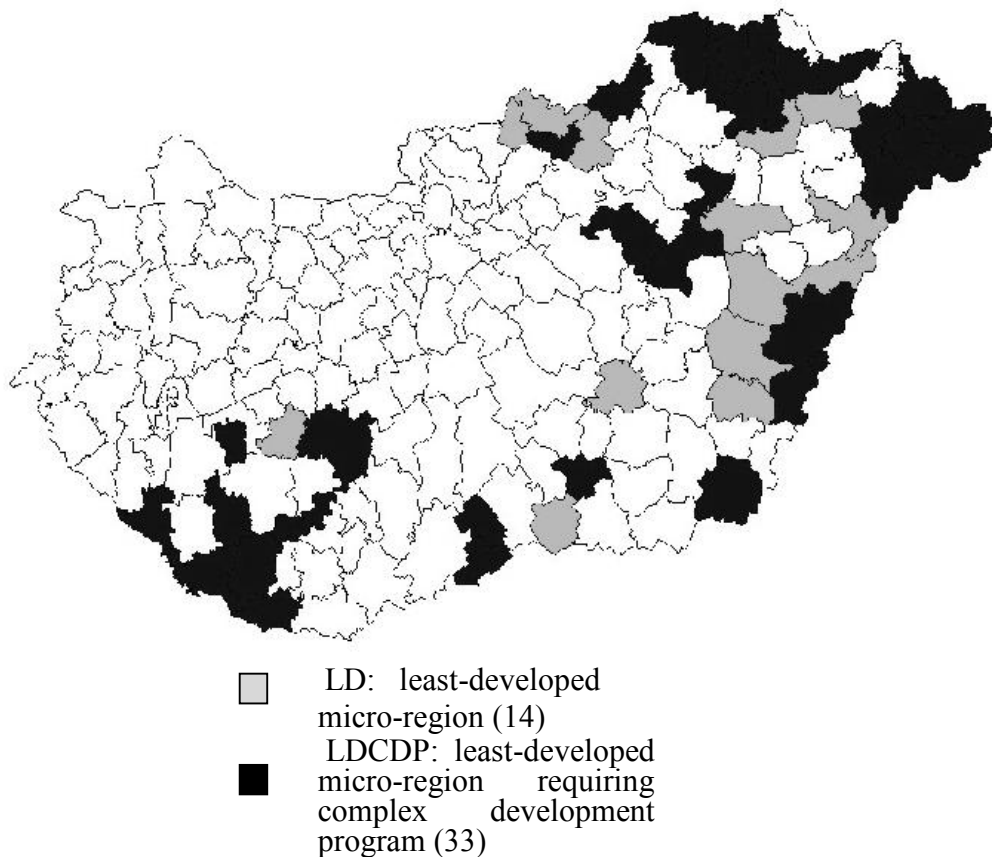
We are introducing the possible methods to carry out territorial competitiveness analyses regarding the land-use, for which I collected the data from the **TeIR electronical database** and the yearly published Spatial statistics yearbooks. In the case of such indicators, where there were no micro-regional indicators available, we had to aggregate the settlement data before the statistical analysis.

During my investigation, I used the following data:

- Agricultural Economics Research Institute (AKI)
- Central Statistical Office (KSH)
- National Tax and Customs Authority (NAV)
- National Employment Service (NFSZ)
- Agricultural and Rural Development Authority (MVH)
- VÁTI Kht.

In our research we focused on the **47 least-developed micro-regions**, with special focus on the **33 ones requiring complex development programs**. As mentioned above, we carried my research at both micro-regional and settlement level. In the period given, there were 3152 settlements with data available. According to the Act 2007./CVII., there are 174 statistical micro-regions in Hungary, thus we collected the basic data for the least-developed micro-regions according to the categories of the Parliamentary provision No. 2007/67 and Governmental regulation No. 2007/311. The 33 LDCDP micro-regions are located in 4 regions and in 12 counties as it can be seen on the map below.

- LD: least-developed micro-region
- LDCDP: least-developed micro-region requiring complex development program



**Figure 1: The location of the Hungarian LD and LDCDP micro-regions**

Source: own editing based on CSO data (2011), 2012.

### The database of the research

The factors of territorial competitiveness and land-use which can be analyzed are determined by the availability of data. In our paper we intended to collect wide range of data for the micro-regions in question, avoiding the shortage of data if possible. We tried to complete the database with estimated data where necessary. There were only two cases where it was necessary to use estimated data (operating enterprises in 2007, number of cars in 2008), therefore they do not distort the final results.

Data have been collected in the following categories:

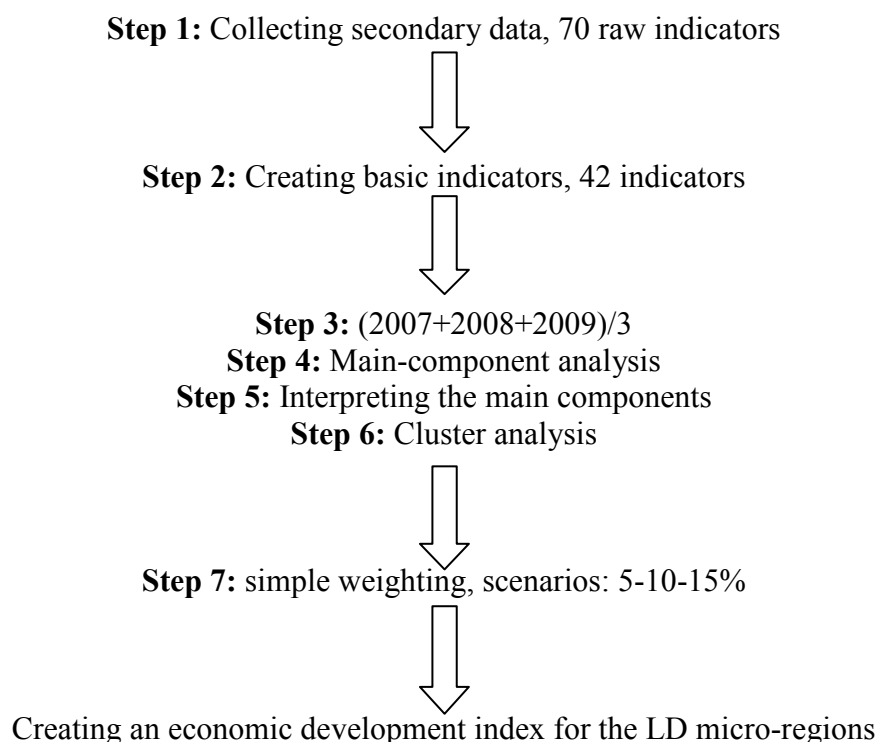
1. Demographic indicators
2. Infrastructural indicators
3. Economic activity indicators
2. Unemployment and human capital indicators
3. Tourism and trade indicators
6. NHDP and NHRDP funds
7. Land-use indicators

Our examination is based on the processing of *secondary data* originating from TeIR database and CSO spatial statistics yearbooks as well as the *practical experience of mine*. We managed to collect nearly 70 indicators for the 47 micro-regions in the abovementioned categories. We tried to collect all the data that can influence the territorial competitiveness. We *created basic indicators* from the data available that helped to compare the various territories. In most cases we weighted the basic indicators with the *number of population and*



*size of area*. We created basic indicators for each year and each micro-region. With creating basic indicators our aim was to create such a group of indicators that enables the selection of the final indicators to reflect the competitiveness.

We have carried out the investigations for the period 2007-2009, as mentioned earlier. Our aim was to see the *changes of the indicators* for the least-developed micro-regions. We calculated the average of the three years' data mentioned above (see Figure 2).

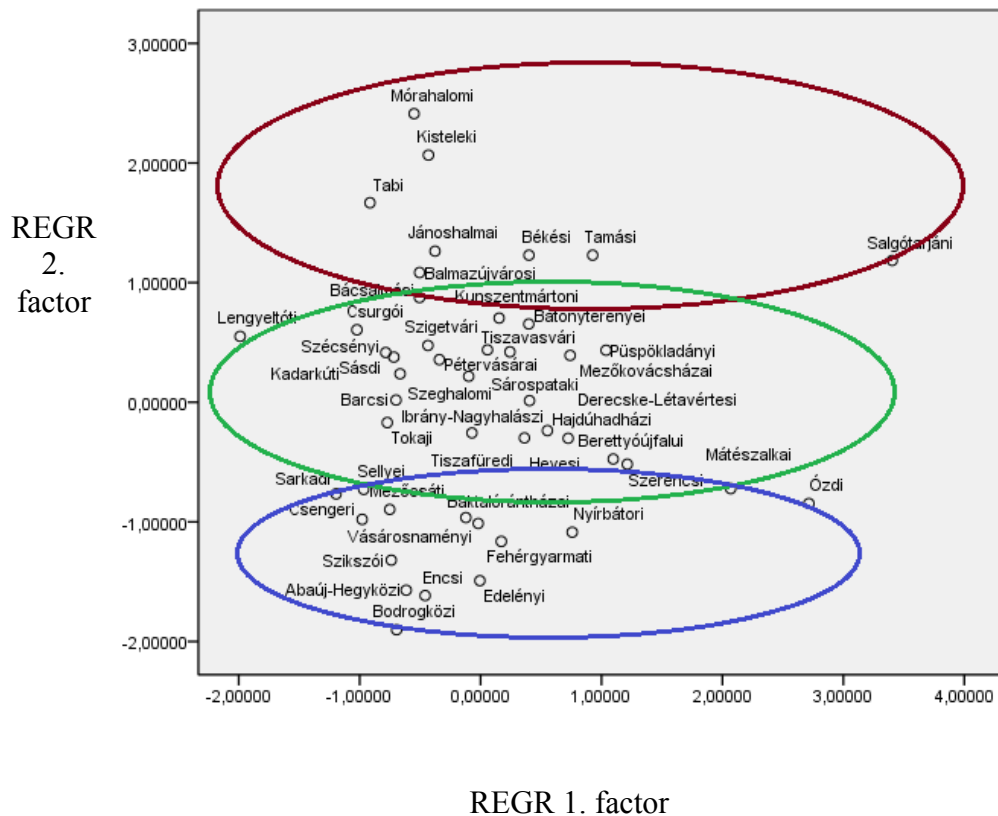


**Figure 2: The major steps of our research**

Source: own editing, 2012.

## Result and discussion

We think that the main-component and the cluster analyses point out the problems included in the general situation assessment. The major aim of our research was to find out which LDCDP micro-region could improve its situation and which LD has such economic and social situation that would require complex development help. In the main-component analysis for the average of the three years we found out that the micro-regions can be put into three categories (Figure 3).



**Figure 3: The results of main-component analysis**

Source: own editing with the application of PASW 18 program, 2012.

***Category No. 1 (developing micro regions):***

10 micro-regions belong to this category, having the best competitiveness potentials. Mainly LD micro-regions constitute this group (7), however, there are micro-regions (Tamási, Jánoshalmi, Bácsalmási) which are at the moment in the LDCDP category.

***Category No. 2 (stagnating micro-regions):***

The category consists of 23 members with moderate competitiveness factors. The category includes both LD (6) and LDCDP micro-regions(17).

***Category No. 3 (micro-regions lagging behind):***

The category consists of 14 micro-regions with the poorest competitiveness potentials. There are 13 LDCDP micro-regions and 1 LD (**Ózdi**). This highlights that the competitiveness in the Ózdi micro-region has decreased so much that it might slip to the LD classification to the LDCDP one if a new classification is elaborated in the near future.

**Conclusions**

In the last phase of our research we wanted to find out which micro-regions could break out from the downward tendency from the ***least competitive, mainly multi-peripheral areas***.

We have carried out the cluster analysis in three different cases (similarly to the former investigations):

1. We have modified the values of the key indicators by 5 %.
2. We have modified the values of the key indicators by 10 %.
3. We have modified the values of the key indicators by 15 %.

As a conclusion, out of the least competitive, multi-peripheral micro-regions there are only 5, where the improvement of the indicators resulted *positive effects*. In other micro-regions the accumulated negative conditions are so serious that even 15% improvement cannot result positive effect. In our opinion, the situation is even worse due to their unfavorable geographical location (peripheral areas, out of the gravitation zones of large cities), the aging population and the poor quality of the human resource.

**Figure 4: The change of the most and least competitive micro-regions after modifying their key indicators**



Source: own editing based on CSO data (2011), 2012.

Based on all these, we can state that we have created an economic development index specialized for the least-developed micro-regions with the following elements/part-indices: operating enterprises, businesses in the service sector, human development, migration, those receiving regular social benefit, unemployment, aging. Therefore, these factors determine the most the competitiveness of the Hungarian least-developed micro-regions.

Based on my research findings, it is clear that they lag well behind the national average regarding both economic and social indicators. In my opinion, the following factors have contributed much to their break off:

1. *The low quality of human resource*
2. *High rate of migration*
3. *Bad infrastructure*
4. *Problems of the social groups*

The key priority of the EU is to establish the economic, social and territorial cohesion, thus to reduce the territorial imbalances. Related issues are raised as key tasks to be done at both the EU and national level. The literature and the research results also prove that there is a need for a thorough *investigation* on the Hungarian least-developed micro-regions. As a general conclusion, we can state that the least-developed micro-regions are on the periphery of the country and it is necessary to prevent their economic and social break off. The classification in the Governmental Act No. 2007/311 requires a review. Our research has highlighted that there are micro-regions which do not belong to the least-developed micro-regions any more, while there are some which would require complex development assistance. As a result of our researches, we make some recommendations (strategic guidelines) how to improve the competitiveness of such micro-regions in long-terms, which are, at the moment, stagnating or breaking off.

1. In our opinion, *such investments should be carried out in these areas which create jobs and require human work*, providing job opportunities for the local active population. Just a few examples: *the creation and development of industrial parks, energy forests*, the collection and use of *forestry products*. We believe that the rate of migration may be reduced due to such activities.
2. We think that the *development of human* resource should be a key priority in their future strategies. If the human resource is developed, it encourages the investments, the absorption of funds and the submission of project proposals. At the moment, in several micro-regions the qualified human resource is not available, which is required for the efficient use of EU and national funds. The development of vocational trainings should also be a key priority as well as the start of trainings dealing with family assistance and drug- and alcohol-prevention.
3. Based on our research it can be seen that micro-regions which are located in the *gravitation zone* of pole-cities (e.g. Miskolc, Debrecen, Nyíregyháza, Szeged, Békéscsaba, Vásárosnamény, etc.), have better competitiveness potentials than the others out of the zones. Therefore, we suggest that most of the funds and investments need to be channeled to the pole-cities, which will have a positive impact on the micro-regions of the zones as well (due to the center-periphery model).
4. In addition, we suggest the application of *demand-oriented regional strategy on the basis of the special internal* conditions in the least-developed micro-regions as well. Thus, the comparative advantages of the restricted factors of the rural land-use (natural endowments, landscape protection areas etc.), could be utilized.
5. In order to optimize the rural land-use, we suggest the preference of *alternative energy sources, sustainable technologies and food industry*, which could result the increase of rural added value in the least-developed micro-regions.

Overall, it can be stated the areas near the borders constitute a homogenous peripheral zone and the negative tendencies are due to accumulated social and economic conditions.

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# COMMUNITY PLANNING - BEST PRACTICE IN HUNGARY

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## Abstract

Community planning is becoming well accepted in the regional development nowadays. The international practice has been using this method for many years, but domestic regional development started discovering the value of this method only in the past few years. This planning manner may be the best method for the realisation of the applications supporting settlement development.

There is an often occurring problem: the projects are carried out, but the implemented plan usually does not serve the entire community. Compared to the not always effective traditional planning, community planning is realised reversely, because it is built up according to the ideas and needs coming from below.

During my study I demonstrate the practical steps and results of community planning through the good example of Teleki square in Budapest, covering each step and their importance as well. In my view, it is essential for local people to recognize what they can do for their environment in the practice and also to feel responsible for it. The resulting feeling of living together will ensure the success of the project.

**Keywords:** Community planning, "external" planning, "internal" planning, local

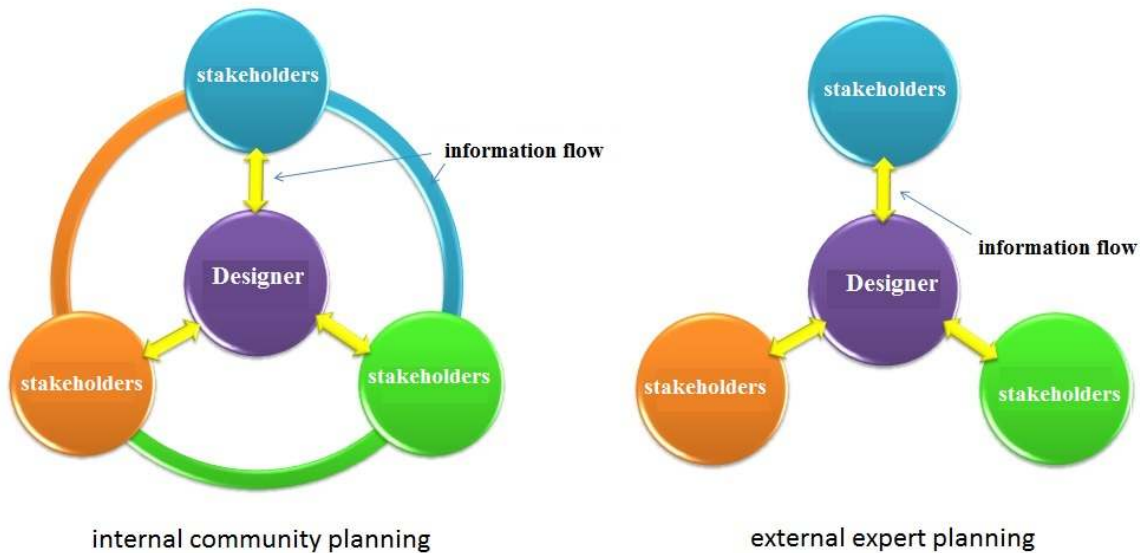
## Introduction

The regional development practices of Hungary are not as effective as of rivals seen in the Western European countries (Káposzta, 1998). While the local governments, local businesses, civil society organizations are included in the group of development actors in the domestic regions, the development plans they formulate do not guarantee the success of development (Goda - Tóth, 2013). Many times the fundamental problem is that they themselves cannot identify with the aims and values of the development plan and they do not take account of their earlier objectives set out in the course of the work. Characteristic feature is that the local residents do not have adequate information about the planning and investment, so they do not consider the improvements their own, they cannot identify with them and it does not become an organic part of the community. Therefore, they do not develop the feeling of the need to take care of the resulting public good, providing the needed care.

## Material and methods

A key feature of the regional development is the "external" expert planning, which has many deficiencies, and effectiveness is questionable. The basis of the problem is that the designer contacts with the social actors he considers important and the information collected from them is concentrated in the hands of the designer alone. Based on the collected information the designer makes the decisions too (Figure 1). The respondents have no opportunity to reflect on the ideas of each other, which would result in more nuanced opinions, and could divert the directions of the realization. Although most of the information comes from the stakeholders,

since there is no communication between them, they do not actually have a word in the decision. Because of this the subsequent socialization of the plan may be difficult, due to the fact it is not sure that the respective development satisfies the needs of the community. If the stakeholders do not accept the plan, conflict may arise, which is a serious burden for all participants, and it can endanger future development plans too.



**Figure 1: "Internal" and "external" planning**

Source: based on VATI data, own edition, 2012.

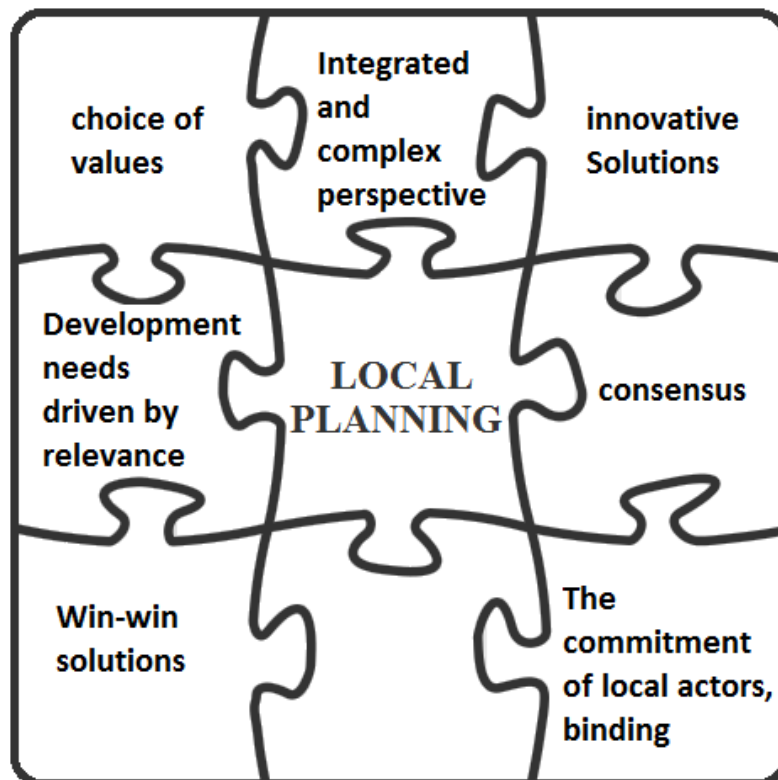
The "internal" planning (also known as community planning) is not professional planning in a broader approach. Its key elements are to activate local operators and joint development of a vision. In community planning the stakeholders are actively involved from the very beginning of designing. They have the opportunity to get to know each other in the observation period, to share those ideas and basic values with each other, which they want to realize. According to past experience, the participants have much higher commitment and are actively involved in the work compared to professional planning. It is quite easy to socialize the plan realized after 'thinking together', because it is approved by the consensus of the community.

In Hungary there are very few examples of successful community planning. The reasons are many. In my opinion, the main problems are the inappropriate objectives, which in most cases are realized as frustration and block the path before the re-application of community planning. In my opinion, before creating an appropriate long-term objective it must be recognized that real efforts have to be done to achieve them (in other words, it is feasible, but not necessarily easy). It means, a medium must be established in which the goals and capabilities can match the reality. In addition, it is also important that the actual needs and goals coincide, because on the long term it helps the welfare of the community, which affects the individual and the community as a whole too (Szaló, 2010).

Community planning has many advantages, which constantly exert their effects during the design and beyond. The 2. figure shows the immediate benefits.

This method of designing reflects a choice of value from the start, as we commit ourselves to a given project. It is easier to create a sense of commitment and identification with the participants when they can give their opinions, perceptions at the realization. As a result, the

local people, by learning about the ideas of other locals the stakeholders will be able to have a complex approach on the project. Many different ideas can generate innovative solutions. From the ideas involved, a plan is agreed by consensus. This way the resulting plans, objectives solve real problems and generate developments based on real needs. Since the community is involved from the early stages of the planning process, the goals and programs they formulate are implemented as win-win solutions. Because of this, the level of commitment is high among local actors and the socialization of the projects does not encounter with major problems (VATI, 2010).



**Figure 2: Immediate benefits**

Source: based on VATI data, own edition,2013.

In this type of designing, beside immediate benefits, there are many long-term positive impacts too. The community is activated during the joint work, which has great results on social capital expansion and on the retaining power of the community. As a result, the stability of the community increases, which can also lead to the improvement of individual equality. With strengthening regional identity the well-being of local people improves as well (VATI, 2010).

## Results and discussion

The example described below is an ongoing project and I think it is on the right way in all aspects of design.

In Budapest, the redesigning of the Teleki Square Park (VIIIth District) officially included local residents as well. Since the 1850's, the square is an integrated part of the urban area. It operated as a market for industrial goods and food markets as well. In the last few years it has lost a function and has become a neglected area of community life. The District Municipality commissioned a landscape architect firm for the design of the field. Professionals and



residents participated in the program, and together they developed the squares holding new functions, by thinking together about the right tools, covers and other details. Among the many improvements of this part of the city the one and a half hectare community park of Teleki Square requires the most time and effort, as it is a community space satisfying the needs of every ages. Since the park is planned to have many functions, a specific place will be created with festival space with a stage, picnic tables, bulletin board, and a space with stairs that can serve as seats for the audience during events (Figure 3.). A memorial for the life László Teleki and the history of the square will also be created with a statue in its center. To ensure that the very young ages have fun, there will be a playground with sandpit, swings and a jungle jim castle, with a so-called “teen space”, a “talking corner” and with a small stage which can be a place for children’s plays. For those who visit the park for recreation an ornamental garden will be established with flowers and fountains. A section for the local dogs and dog-owners have been established too. One part of the section is for more active, agile dogs, with an obstacle course, the other part is for older dogs – for their owners benches have been established. For those who look for sport opportunities a football field has been established which is capable of holding local championships. Seekers of peace and quiet can find sunloungers, and chess tables too, if they are there for the community feeling. In order to protect the area from vandalism the park will be fenced around and people will be able to visit it only in the fixed opening hours. A night guard will also be placed there to watch over the park (Józsefvárosi Önkormányzat és a Magyar Tájépítészek Szövetség home page).



**Figure 3: Final design of the Teleki Square**

Source: 'What should the Teleki Square look like' facebook page, 2013

## Conclusion

Community planning as a regional development tool provides a solution to many problems, but it is not always easy to use it because designing it requires more energy in the first round but is a major contributor to the success of planning. By harmonizing their work, the civil organizations, local governments, local businesses, professionals and regional associations who create development plans can implement sustainable development, which serves the needs of both individuals and the community as a whole in the same time.

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# ANALYSIS OF TRANSPORTATION INFRASTRUCTURE IN HUNGARY

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## Abstract

Exploring regional disparities can be done in many aspects, however, all researchers agree that due to the regime change and by entering the real market the formerly decreasing regional disparities have started to increase rapidly. In the early 2000s a new structure with more competitive, more innovative areas as well as lagging behind, declining settlements and areas seems to emerge.

In Hungary, the global economic crisis mitigated the regional disparities because there was no substantial change in the least developed areas, since these settlements had weaker economic activity. In contrast, the global economic crisis severely affected the economically efficient – especially export-oriented – areas (Budapest only partially). Treating, reducing regional disparities is a key element of regional policy not only on domestic but European Union level.

**Keywords:** territorial imbalances, growth-poles, transportation infrastructure, highway, polycentric network of towns

## Introduction

Dealing with and moderating territorial imbalances are the determinant elements of regional policy not only in Hungary but in the EU as well (Ritter, 2006). Several theoretical wings have been born to handle the territorial discrepancies which will be detailed later in my research. While we were studying those wings, we found out that perfect territorial equality cannot be reached by any means in our globalized world. With artificial measures it can be achieved for short terms, but it cannot be sustainable. The other wing of theories analyzes the polarized development, i.e. it does not intend to reach perfect equality in space – since it is impossible –, however, it says that the key to economic development is „expanding” development (Káposzta, 1998). It says that not the peripheral areas must be developed but the strengthening of the economic centers needs to be encouraged. In that way the prospering centers will pull the semi-peripheral and peripheral areas with themselves, therefore they can generate economic development in the areas lagging behind.

We wanted to prove with a settlement-level analysis that settlements near highways constitute a uniform and coherent cluster and they generally belong to the developed areas of the country. Favourable employment, income and infrastructural conditions feature them. They reacted better to the impacts of the economic crisis than the rest of the country. Central-Hungary is the most developed region where the developed settlements are located around the capital like a ring. The most important poles in the countryside are Debrecen, Miskolc, Szeged, Pécs and Győr. Similarly to the capital, they operate as “engines” in their surroundings. Of course this effect is stronger right next to the center and gradually decreases as we are getting farther from it. However, they provide determinant economic performance to their whole region.

## **Material and methods**

Our research contains only secondary data. The article primarily focuses on the research on inequalities. Nowadays, such researches are carried out at micro-regional level, therefore most of the latest data is available at that level. Since the differences between the settlements even in the same micro-region are also high, it might distort the status of the settlements very much.

Thus, in my research, we carried out settlement (LAU 2) level analysis, getting more accurate picture about their situation. In my opinion, it is also a merit that the results can be aggregated to carry out further examinations at any territorial levels. This is extremely important, since the existing 175 micro-regions are not the same as the 175 public administration units that came to effect on 1 January 2013.

After the long lasting data collection, we selected the base year of 2003. We made this decision because 2003 was the year just before our EU accession. Other years e.g. 2000-2002 could not provide full database. There were some missing data from each year.

The most important aspect in selecting the other year was to find the latest data available i.e. 2010. The number of Hungarian settlements has been continuously changing – regarding the past decades, the number of cities and settlements also increased. The number of Hungarian settlements in 2003 was 3145 – including the capital –, while it increased to 3152 by 2010. We collected 87 indicators for all the Hungarian settlements for both years. Since there are big differences between the sizes of settlements, and therefore between their data, we used only inherited indicators in my examination. From the 87 raw, basic data we created 54 inherited indicators.

While applying various statistical processes (factor-analysis, cluster analysis, discriminancy analysis), we involved only 33 variables due to some missing data and after taking into consideration several conditions. We intended to select the abovementioned indicators based on five major aspects:

- Infrastructural indicators,
- Unemployment data,
- Demographic data,
- School attainment and human resource,
- Economic status.

From various statistical methods we selected three which are the most suitable to achieve the targeted results – in my opinion. In the principle component analysis we tried to reduce the number of the variables to be able to create groups. It is called cluster analysis. In order to prove the results of cluster analysis, we carried out discriminancy analysis.

## **Results and discussion**

In a non-hierarchical clustering, the researcher is responsible for how many clusters are created. Therefore we defined 4 clusters. I created groups so that the results of both years could become comparable.

In the matrix below (Table 1) we summarized the tendencies which clearly show the changes in the positions of the settlements.

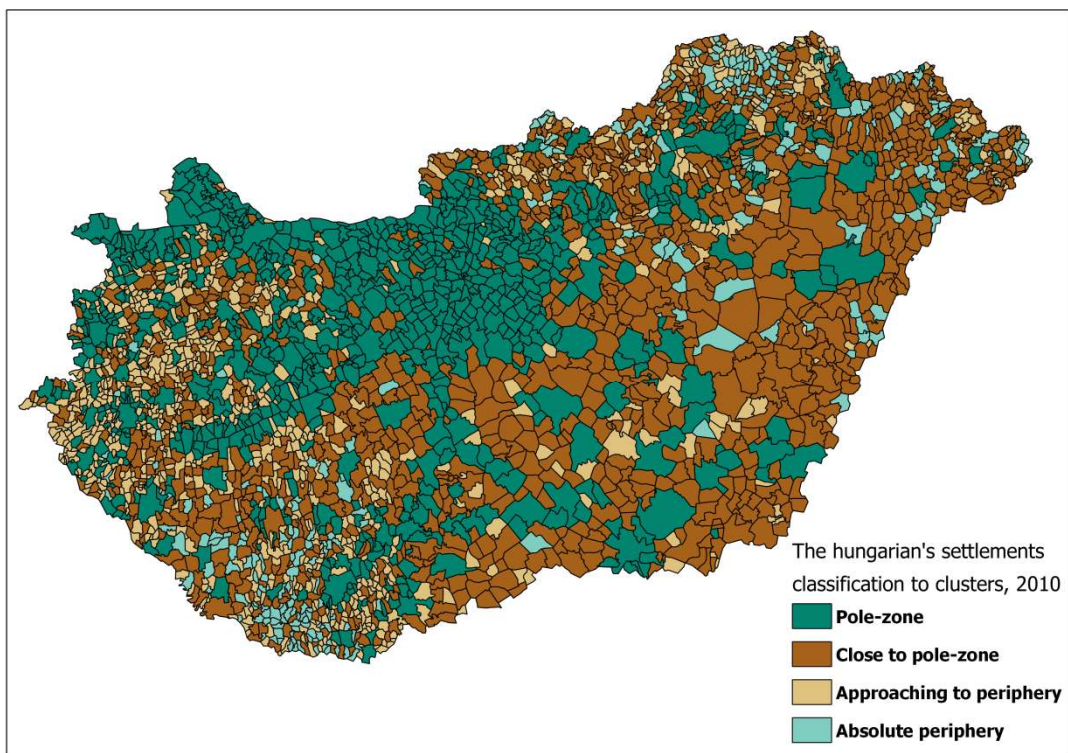
The matrix shows that out of the four clusters the „pole-zones”, the „approaching to periphery” and the „absolute periphery” clusters increased more or less. The cluster of “close to periphery” has the most members, however gradually decreasing, while the „absolute periphery” has the fewest members.

**Table 1: Matrix of the changes in clusters of the settlements, 2003-2010**

Clusters (settlements)	Pole-zone, 2003	Close to pole-zone, 2003	Approaching to periphery, 2003	Absolute periphery, 2003
Pole-zone, 2010	690	125	24	2
Close to pole-zone, 2010	77	970	52	22
Approaching to periphery, 2010	28	103	696	55
Absolute periphery, 2010	0	48	39	214

Source: own editing, 2012.

Figure 1 shows the results of the cluster analysis. Since there are thousands of cases, the maps shows that it is very similar to that of 2003. In order to interpret the data easier, we will examine the pole-zone cluster.



**Figure 1: Clusters of Hungarian settlements based on the data of year 2010**

Source: own editing, 2012.

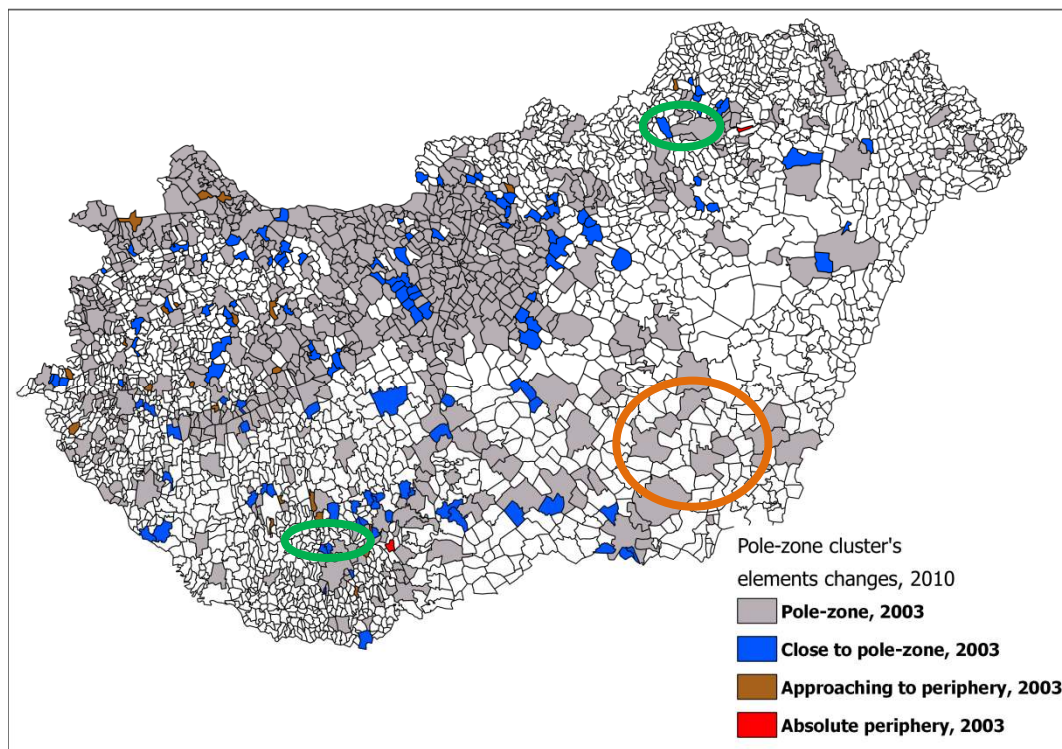
By the end of the seven-year period, 575 settlements changed their positions, which is 18.24 % of the total settlements.

### ***The introduction of the 4 clusters of year 2010 and their comparison to those of 2003:***

The „pole-zone” cluster (Figure 2) was extended by the settlements around the core areas. It is basically characterized by positive economic performance. We can draw consequences regarding the incomes if we consider the personal income tax per capita. The results of my research are very similar to those of Pénzes [2012], who created a rank for the settlements based on their income levels. The graphic representation of his and my results are more or less the same.

It seems to be an interesting research to examine the „migration” of the settlements from one cluster to another. As analyzing the cluster changes it is not a surprising fact that the members of the „close to the pole-zone” „developed”, namely 125 settlements (blue color) were able to improve their positions.

The ring around the capital expanded by 34 members, primarily to the east, however, it is eye-catching that in the western part of the agglomeration in 2003 there was a huge „white spot” in the „pole-zone” cluster. This group could catch up with the most-developed cluster by 2010. 10 settlements in the Gyúró-Tabajd-Alcsútdoboz triangle were able to achieve such development, consequently, almost all the settlements of the Central-Hungary region belong to the most advanced group.



**Figure 2: The settlements belonging to the „pole-zone” cluster according to their „origin”, 2010**

Source: own editing, 2012.

Based on my research it can be stated that there is strong correlation between the highways and the members of the „pole-zone” cluster. There is only one exception in the case of a widespread „pole-zone” (brown color), however, the nearest highway conjunction can be reached in over 100 minutes. This is the area of Békéscsaba-Gyula-Békés, which could keep its good position under unfavourable approachability conditions. We did not aim at the

examination of cross-border cooperations, however, it needs to be mentioned that this area is closely linked to the development zone of Temesvár-Arad, which obviously has significant influence on the area, despite of the fact that the Schengen border [Schengen agreement, 1985] isolates them from each other at the moment.

Although it is much more surprising that 24 settlements of the “approaching to periphery” cluster (brown color) have become the member of this category (skipping one step i.e. „close to pole-zone” cluster. Figure 2 shows that these settlements are located in the area surrounding the „pole-zone” cluster, having good accessibility (highway, main road).

If the abovementioned fact was a surprise, this case is a miracle – certainly if it is not due to data-collecting or supplying failure. Namely that two settlements from the „absolute periphery” cluster (red-coloured circle) moved directly to the centrum zone, i.e. to the „pole-zone” cluster. These two settlements are Hernádkak and Bátaapáti.

## **Conclusions**

Based on our research it can be stated that the pole-effect easily spread along favourable transportation infrastructure. It can be observed not only in the center but along the major transportation lines as a “pole-axis”.

The aim should be to urge favourable processes in the poles, to expand their influence on larger areas, thus to strengthen the agglomeration processes as well as to spread them to farther peripheries. The state has to invest more money into the secondary poles, since the differences between the capital and the rural poles are high and gradually increase. In order to help these large towns to fulfil such functions, the innovation processes have to be encouraged and the decentralization needs to be supported.

Based on our research results, it can be stated that the infrastructure in most of the settlements needs to be developed, especially regarding the accessibility. Highways and main roads have determinant roles, which fundamentally influence the performance of the economy. From the polycentric and accessibility point of views it is important that the center could be easily accessed by even from the periphery areas. It is not enough to create multifunctional and polycentric network of towns, if their accessibility is not provided.

While getting out of the global crisis, the roles of the capital and the rural poles are more and more significant. If the most competitive pole would be developed only, it would increase the territorial difference further, but supporting only the peripheries is not a sustainable solution either. Some levelling might appear temporarily, but long-lasting success requires competitive economic environment. The regional governments should help the rural poles to create such attractive zones for investments. It is why the support of the rural poles is important whose agglomerations are able to cover the least-developed areas as well.

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## HUMAN RESOURCE MANAGEMENT UNDER CHANGES IN FOREIGN OWNED COMPANIES IN CEE COUNTRIES

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### Abstract

The Central and Eastern European International Research Team (hereafter CEEIRT<sup>1</sup>) – composed of researchers from different universities from the Central and Eastern European (CEE) region - has begun a long-term research project investigating the transition of HR practices and roles in Multinational Company (MNC) subsidiaries, as these challenges occur in our countries. We conducted our first survey round successfully in 2009 - 2010. The aim of the current survey (2011) is to understand both the recent and future challenges inherent in human resource management given this new, complex and dynamic landscape. The aim of this paper is to present an introductory view of the trends of human resource management practices occurring at the local subsidiaries of multinational companies in Hungary, Poland, Romania, Slovakia and three other CEE countries based on the preliminary results of the Central and Eastern European International Research Team (CEEIRT) research.

**Keywords:** Human Resource Management, multinational subsidiaries

### The role of multinational companies in the region

There are two main categories of foreign investments: direct investments and portfolio investments. By foreign direct investments (FDI) the investor secures direct control over assets and operation of a company in another country. Poór et al. (2012:8) point out that the characteristics of the local market, economic and institutional environment and the national culture might demand – to varying degrees – the adaptation of company's strategy and its management practice to local circumstances. Portfolio investment means that the investors purchase different financial assets and shares, but this approach often results in a passive influence on the operations of the purchased company. In most cases multinational companies got into the region by foreign direct investments.

In 2006 global foreign direct investments reached \$ 1,400 billion. As the result of the global financial crisis this value has been drastically reduced, but in 2011 there was again an increasing flow and the value of FDI reached the \$ 1,500 billion. The most important exporters of FDI are the most developed countries: USA, the West-European countries and Japan. The importers of FDI are the most developed countries, too, but nowadays the share of emerging and transition countries in FDI distribution is growing. (Poór et al., 2012:8)

The foreign direct investments have an important influence on the recipient country's economic development. Erdős (2003) considers that foreign companies with high capital value have an important influence on the smaller countries' growth potential. Beside the

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<sup>1</sup> Website of CEEIRT Research Team: [www.ceeirt-hrm.eu](http://www.ceeirt-hrm.eu)

advantages of multinational companies, Stiglitz (2003) also calls attention to their disadvantages, highlighting that these big companies often negatively impact the operations of small local companies.

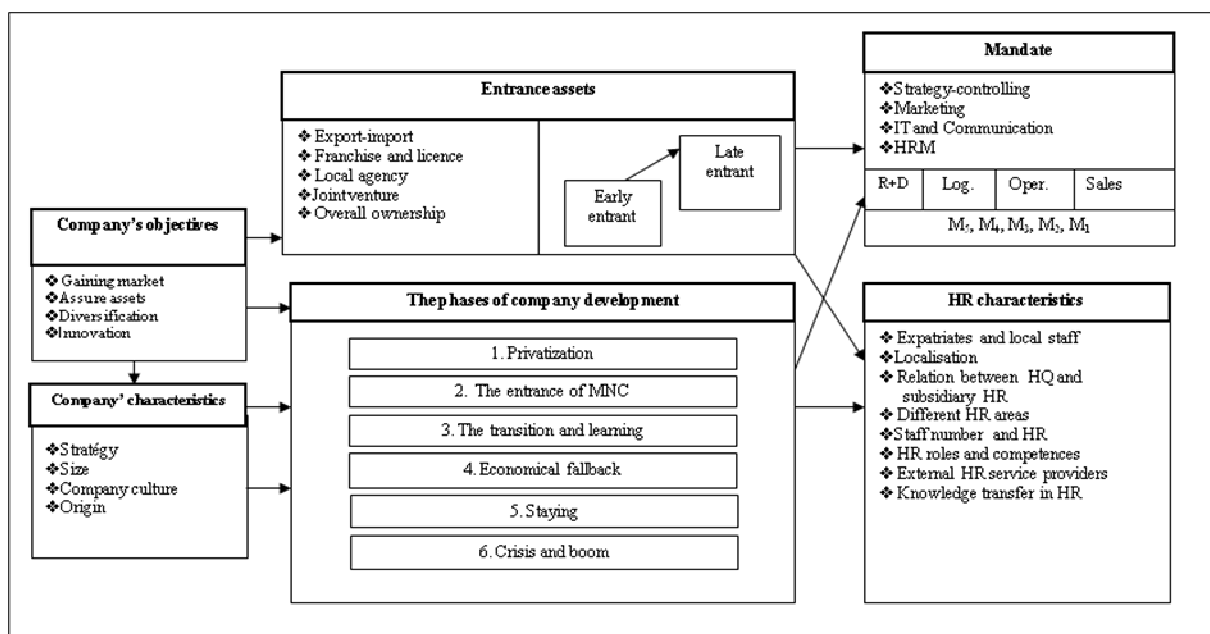
FDI inflow in the Central-European region has been important. Until the end of 2011 about \$ 700 billion had arrived to the twelve new EU member countries.

FDI entered Hungary largely from Germany, Austria and the Netherlands and was focused on the service sector. The most important foreign direct investments arrived to Romania from the Netherlands, Austria and Germany, mainly in the industrial sector. In Slovakia most of the FDI came from the Netherlands, Austria, Italy and Germany targeted in the financial and trade sector. (Poór et al., 2012) We can thus conclude that in the analyzed four countries the source of FDI is similar, but its sectoral distribution shows that foreign investors also take into account the recipient countries' national opportunities in terms of industrial characteristics.

### About the CEEIRT research methodology

This paper presents the preliminary results of the international CEEIRT (Central and Eastern European International Research Team) research for 2012. The research consortium is composed of researchers and university professors from twelve countries of Central and Eastern Europe (CEE). The empirical research based on questionnaires investigates the HR practice of multinational companies' operating in the region. This research has been carried out since 2009.

In developing the underlying research model we have used international research results and the results of our previous surveys. (Poór-Farkas, 2012:10) The model has developed over the past few years and now we take into consideration additional internal factors (company characteristics, phases in company development, mandates, etc.) than at the beginning of the CEEIRT research. In 2012 we made our analysis based on the following research model:



**Fig. 1. Research model**

Source: edited by the author(s)

We have used standardized questionnaires (translated to the official languages of examined countries) for company interviews and the on-line survey<sup>2</sup> to make statistical analysis and data comparison more valid and reliable. The questionnaire was filled out by the person responsible for HR practice from the MNC subsidiaries (e.g. HR director, HR expert, CEO, etc).

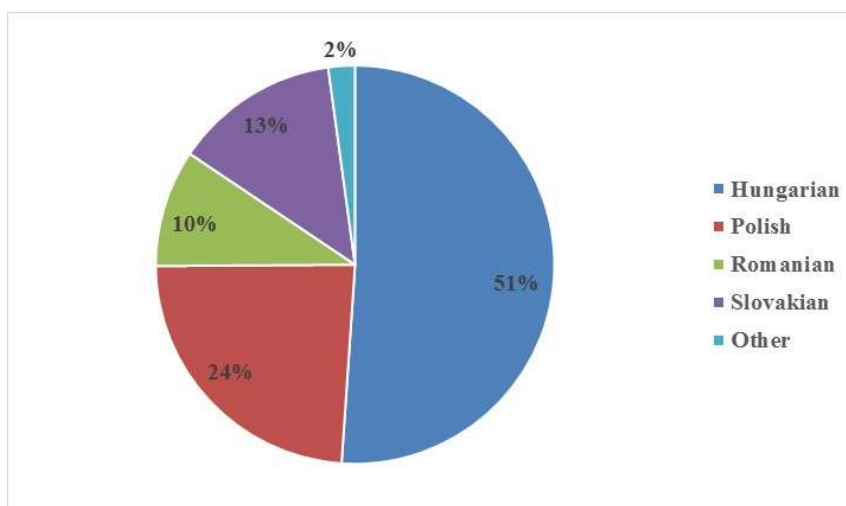
The questionnaire covered the following nine areas:

- The interviewees' data
- The companies' organizational data
- The importance and key indicators of HR function
- The role of headquarter and local HR department
- The HR managers' competences
- The utilization of expatriates (foreign and local)
- The use of external HR service providers
- Knowledge management in HR
- Predicting future trends and critical issues for HR executives

After presenting companies' organizational data, in this paper we will analyze the role of the HR department both from the MNCs' headquarter and subsidiaries' perspectives, the utilization of expatriates and the competences expected from HR managers for MNC subsidiaries operating in Hungary, Slovakia, Romania, Poland and three other CEE countries based on data collected in 2012 (referring to year 2011). Even though the sample of companies we have reached is not representative for all MNC subsidiaries operating in the analyzed countries, the results of this benchmark survey reflect a wide variety of the characteristics of the HR practices and signal the challenges faced by these companies.

### **Samples overview**

A total of some 118 Hungarian, 22 Romanian, 31 Slovakian 55 Polish and 5 other (Croatia, Serbia and Lithuania) other international companies participate in the CEEIRT survey in 2012. The figure below shows the percentage distribution of participants by country.



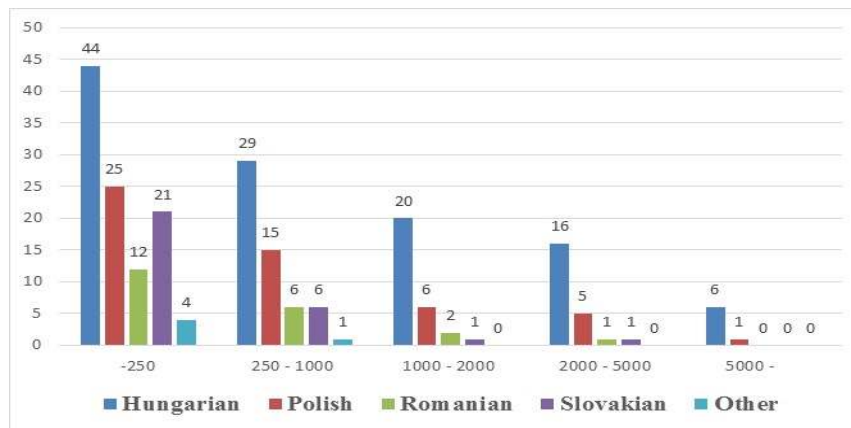
**Fig. 2. Percentage of participating companies by country**

Source: edited by the author(s)

<sup>2</sup> The web survey can be accessed at the following address: [www.ceeirt-hrm.eu](http://www.ceeirt-hrm.eu)

The majority of companies involved in research operate in Hungary, while the number of subsidiaries from Poland Slovakia and Romania are fewer in number, and some others participated from Lithuania Serbia and Croatia in the survey.

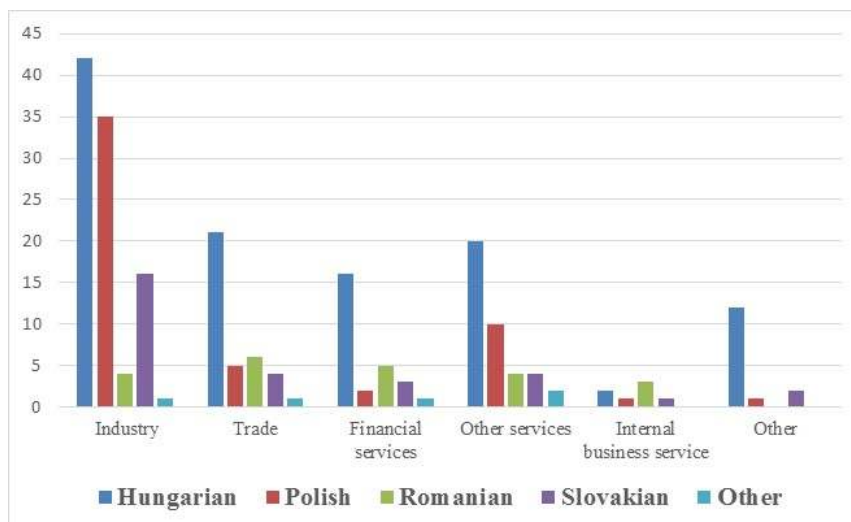
The third figure shows the distribution of participating MNCs by size. The subsidiaries of multinational companies participating in the survey were in most cases small and medium enterprises in all countries, because the number of employees in the majority of the responding organizations was less than 250. Between 250 and 1,000 number of employees of subsidiaries represents the next group of international respondents, while companies with more than 1,000 employees appeared typically in the Hungarian sample.



**Fig. 3. Distribution of participating MNCs by size**

Source: edited by the author(s)

The fourth figure shows the distribution of responding companies by major business sector in the surveyed countries.



**Fig. 4. Distribution of participating companies by major business sector**

Source: edited by the author(s)

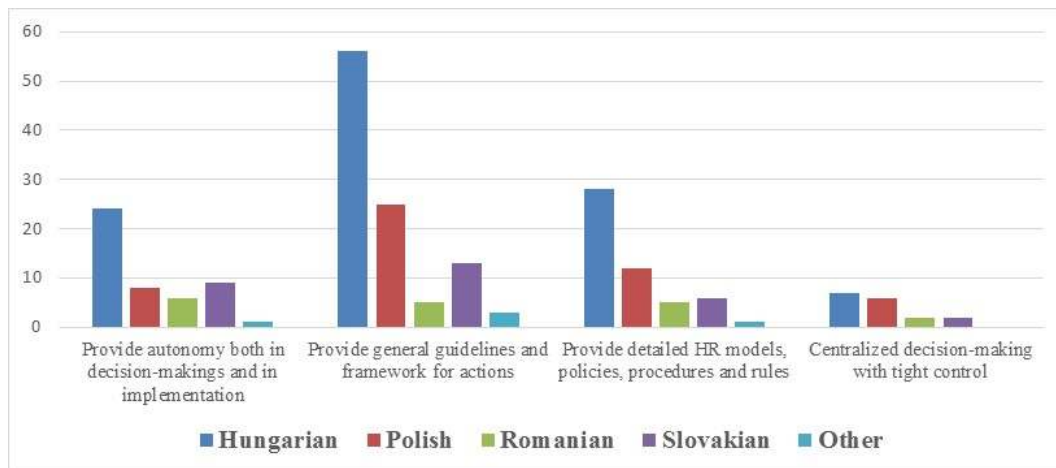
The distribution of studied Hungarian companies by major business sector is equable; they are almost equally from the area of trade, financial services and other services, but the majority is from the industry (37%). The subsidiaries of Polish multinational companies participating in the survey were in most cases from industry and other services. The distribution of

respondents is similar to Hungary in Romania, although there were fewer respondents from the industrial area. In contrast, nearly half of Slovak subsidiaries were from the industry sector, while there were observed a smaller proportion in the service area.

## Research results

We examined in the main part of the research the relation between multinational parent company's (headquarter-HQ) HR department and the HR department of foreign subsidiaries, the specific roles and influence of the parent company at the local HR activities.

The following figure shows the results.

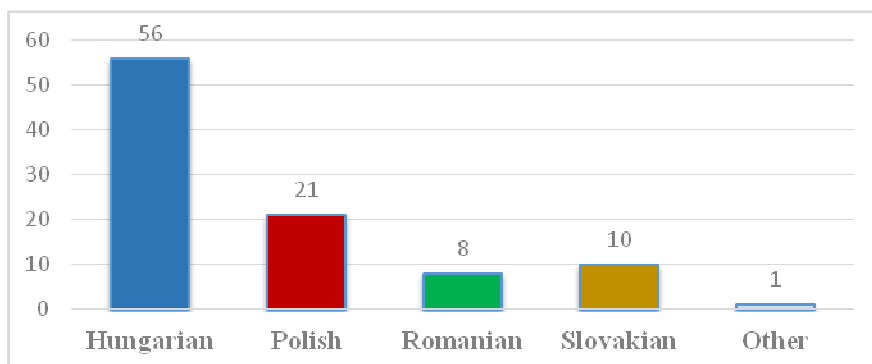


**Fig. 5. Typical roles of the central (HQ) HR organizations**

Source: edited by the author(s)

The HR departments of MNC's subsidiaries in Hungary, Poland, Romania and Slovakia have a relatively high degree of autonomy, because according to the perception of the respondents the parent company's HR department usually defines only general guidelines and framework for actions and does not interfere with daily HR activities. About 27-29% of subsidiaries have full autonomy in Slovakia and Romania. There are only 20% of these "HR independent" companies in Hungary and 14% in Poland. In summary, while HR departments of MNC's subsidiaries have a relatively high degree of autonomy in this area, we can also observe country-specific characteristics.

The following figure presents the frequency of employed expatriates.

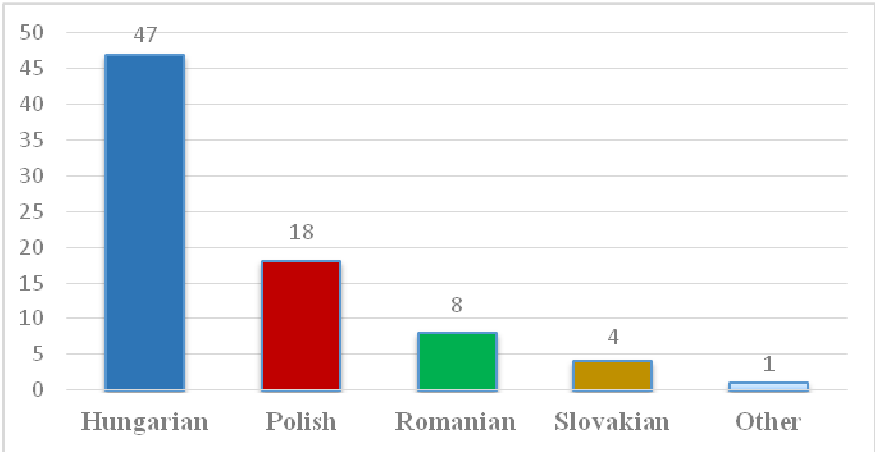


**Fig. 6. The percentage of employed expatriates**

Source: edited by the author(s)

The Hungarian subsidiaries employ expatriates in the largest proportion (47%) of the seven countries. Expatriates are employed in 36% of surveyed Romanian subsidiaries and 38% of surveyed Polish companies while in Slovakia there are only present in 32% of analyzed companies

In the research we inquired on the use of local employees operating as expatriates. The question concerned the number of local employees on expatriate assignment for more than a period of 6 months. The obtained data are illustrated in the seventh Figure.

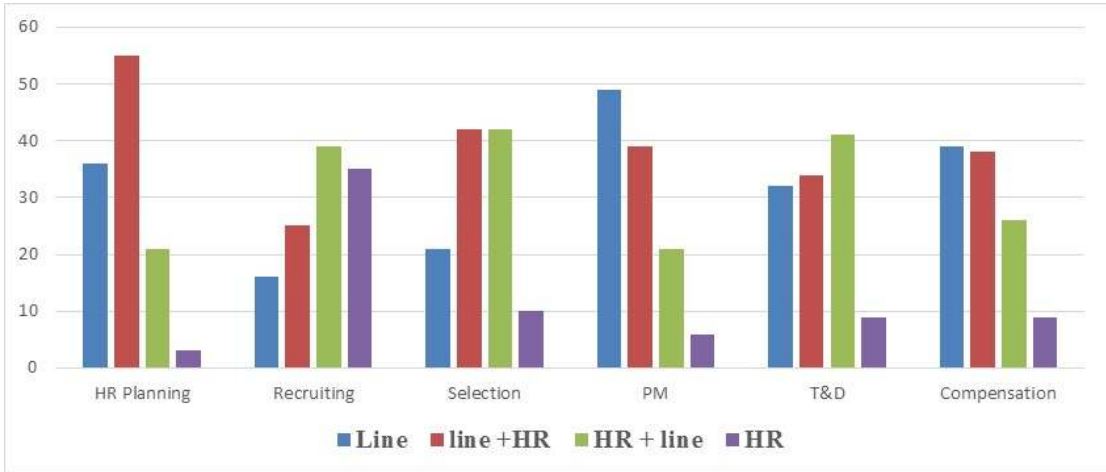


**Fig. 7. Employed (local) expatriates in abroad**  
 Source: edited by the author(s)

According to our data we can conclude that the employing of locals operating as expatriates outside of their home countries is less common in all seven countries, although there can be observed a similar trend in the case of expatriates. This HR practices is most typical the most in Hungary and Poland, then sometimes seen in Romania and finally far less common in Slovakia.

We asked who has had primary responsibility for major policy decisions on HR issues. Line management, HR management or line management in consultation with local HR management make the decisions.

The typical Hungarian decision maker in each of the following HR areas is presented in the figure eights below.

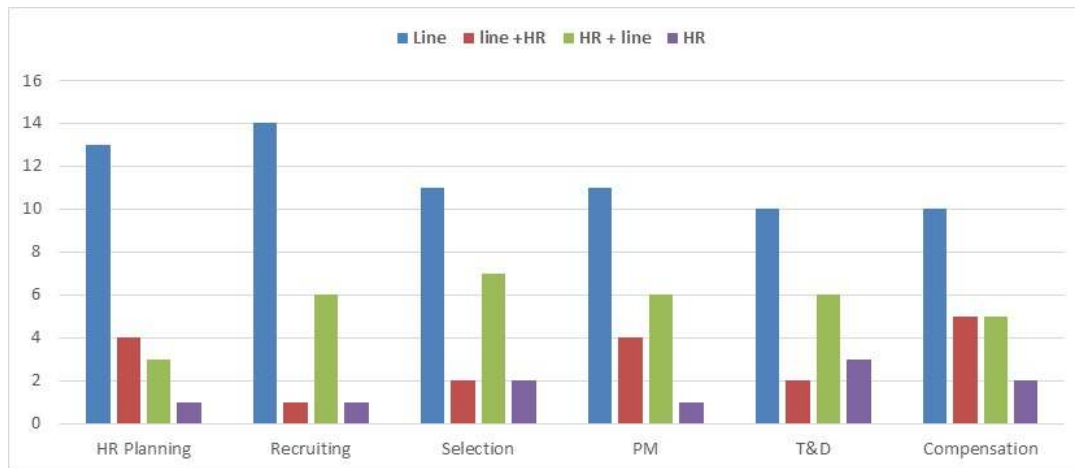


**Fig. 8. Decision maker of HR issues – Hungary**  
 Source: edited by the author(s)

In Hungary, line management in consultation with HR manager makes the decisions in the most important HR issues (HR planning, selection, compensation). In the area of recruitment and training and development HR manager has higher autonomy, because the local HR management has the primary responsibility for major policy decisions on this HR issues after consultation.

We emphasize the autonomy of the Hungarian HR manager in recruitment field, as almost in a quarter of companies they can decide quite independently on these kinds of issues. In contrary, the performance management and compensation issues are in the line management hands.

The following figure shows the typical situation of Romanian subsidiaries.

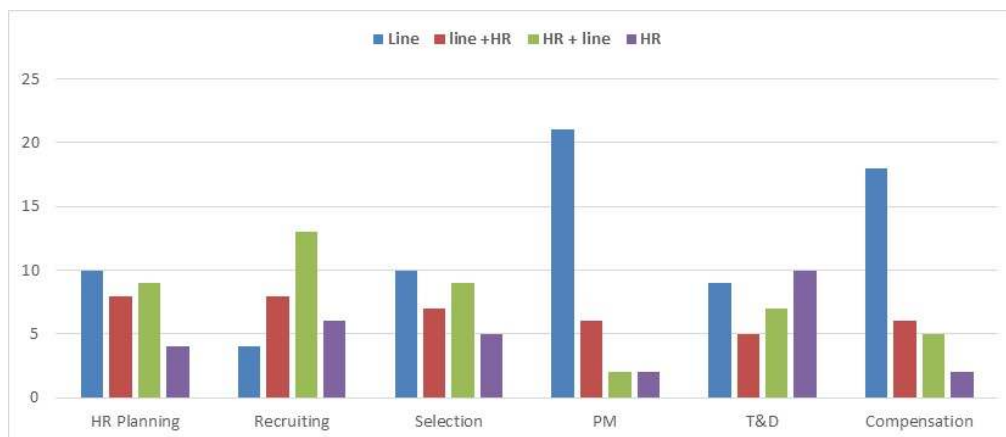


**Fig. 9. Decision maker of HR issues - Romania**

Source: edited by the author(s)

Unlike the situation in Hungary, every important HR issue belongs to the line management in the case of the most Romanian companies. Line management has the primary responsibility for decisions concerning recruiting, selection, performance management, training and development, and compensation issues. The HR manager in consultation with line management can make decision in the area of selection, training and recruitment. We note that in 14% of the studied companies training and development issue can be decided by HR manager independently.

The next figure presents the Slovakian situation.

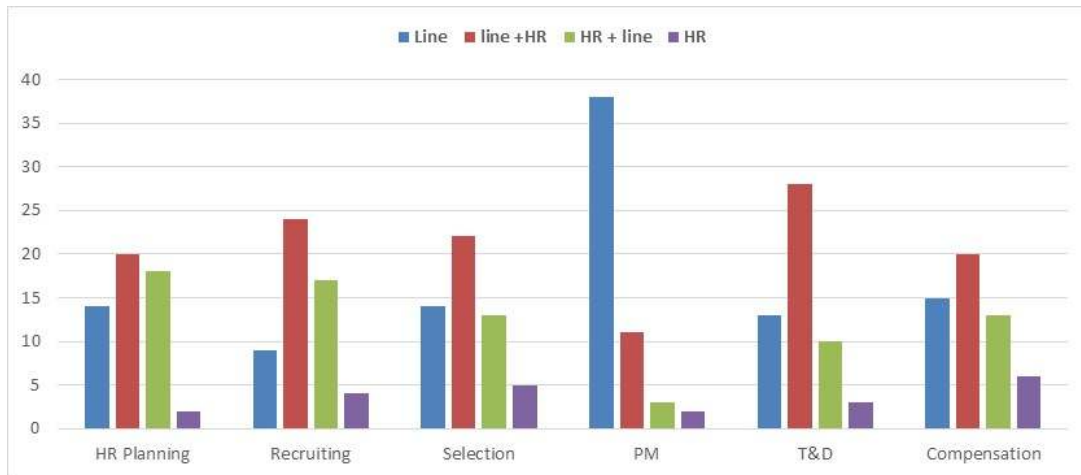


**Fig. 10. The decision maker of HR issues – Slovakia**

Source: edited by the author(s)

Our data suggests that the level of overall autonomy enjoyed by Slovakian HR managers is best described as being between the Hungarian and Romanian situations. Here the line managers are the main decision makers, but their independence is less complete, in contrast to their Hungarian colleagues. While line managers decide about the majority of most important HR issues in the most studied companies, there can be observed a significant proportion of companies where these decisions are made by line managers in consultation with HR Manager. The HR manager's responsible is the highest in the field of training and development, while the line manager's responsibilities are highest in the field of compensation and PM.

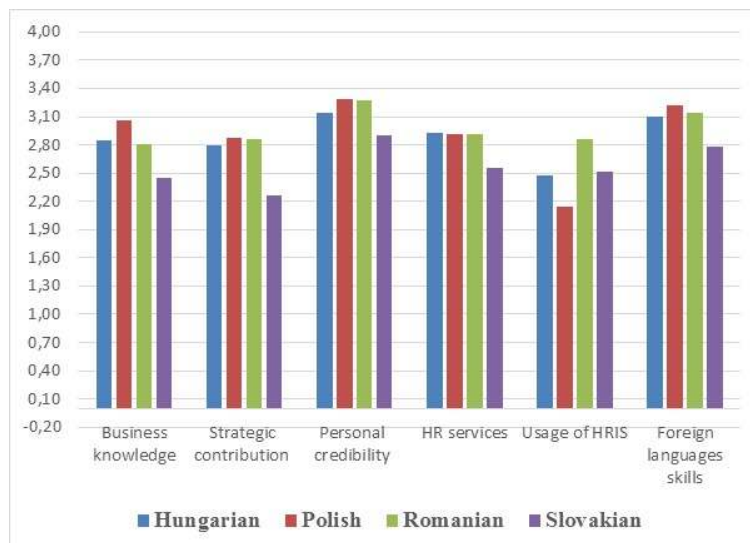
The following figure shows the typical situation of subsidiaries, operating in Poland.



**Fig. 11. The decision maker of HR issues – Poland**

Source: edited by the author(s)

It can be observed, that line management in consultation with HR manager makes the decisions in the most important HR issues (HR planning, recruiting, selection, training and development and compensation). Performance management belongs to line management. The study examined what competencies multinational companies expect from HR managers. The results of analyzed countries are presented in the following figure.



**Fig. 12. Expected competencies of HR managers**

Source: edited by the author(s)



Overall, the multinational companies expect similar competencies in the examined countries. First on the list is personal credibility, second is foreign languages skills. HR services and strategic contribution came later and they show a similar rate in Hungary, Poland and Romania. Business knowledge and Human Resource Information System (HRIS) competencies were the least important. The high importance of foreign language skills is clear, as we studied multinational subsidiaries, but it is a little surprising, because at this point of regional integration into the wider, global economy such skills would be thought to be taken for granted.

## **Conclusion**

Based on the international CEEIRT research methodology we can conclude that as a result of benchmark survey local HR departments of MNC's subsidiaries have a relatively high degree of autonomy, because the parent company's HR department usually defines only general guidelines and frameworks for actions, and does not interfere with the daily HR activities. It is interesting that we can observe a sophisticated HR approach in the other aspects in Hungary, but the autonomy of HR department is lower.

Foreign missions are not typical in the region at multinational companies. Expatriates were present less than in half of the studied companies. In the surveyed countries local employees are sent to headquarters at an even lower rate. The data suggest that subsidiaries in the region are filled by local staff.

When we analyzed the responsibility of local HR departments, it could be observed that the line manager's authority is still unchallenged. They are the main decision makers in the field of most HR issues, often without consulting the local HR department. In Hungary the situation is a bit different, as line managers consult the most relevant HR topics with the HR department, and the personnel decisions related to workers are made jointly by HR and line managers.

HR managers in the region are expected to have personal credibility, foreign language skills, knowledge of HR and be capable of providing a strategic contribution. Emphasizing Personal Credibility may suggest that HR managers are working not only with people, they decide about their destiny, so they should have better than average interpersonal skills. At the same time HR managers have to efficiently and effectively carry out their work to achieve the company's national, regional and global strategic aims.

The 2012 CEEIRT data suggest that the HR practices of multinational subsidiaries in surveyed countries are similar, but that some country-specific differences can be observed. It is important for MNC's to be aware of the economic, political and social challenges of this rapidly developing region, where they want to establish a subsidiary. This way firms can adapt successfully the global HR practices and techniques and the same time play an effective and human role.

This study was reported to present a progress report and current multinational level update within the CEE region. Our aim is to produce a number of such multinational comparative reports in further analyses.

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# HOW CAN A DESTINATION MANAGEMENT ORGANIZATION BE MADE UNIQUE AND DISTINCTIVE IN HUNGARY?

## Case study of Destination Management Organization in Gyomaendrőd

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### Abstract

The role of sustainable tourism or ecotourism is getting more and more important. Being „green” means a long-term value of our property. In social aspect, the goal is to achieve a better quality of life for all members of society and community well-being. Numerous ecotourism-related activities take place worldwide, such as „green hotels”. It is known, competitiveness in tourism sector is related with sustainability. Since it is a coherent process, we have to consider that natural and cultural environment affect the quality of tourist destinations. Due to the mechanism of action and the multi-sectoral character, tourism and sustainability are interconnected with VICE model of sustainable destination. The model focuses on the environment that has direct contact with visitors, the tourism industry itself and also the destination’s community. That is why ‘VICE’ stands for Visitors – Industry – Community – Environment. Some companies are specialized in how to create responsible companies, products and services that all carry distinctive and individual message. Thus, due to a „green” certification as a marketing tool, the relevant business model or product will attract more and more attention and consumers. In this regard, being eco-friendly gains marketing advantage. Aim of present study focuses on tourism institution itself, specially on destination management organizations and their efforts towards sustainability, development and competitiveness. Hungary’s first „green” DMO is situated in Gyomaendrőd, Békés county, South-eastern part of the country.

**Keywords:** sustainability, sustainable tourism, marketing, Destination Management Organization, development

### Introduction

"Let every individual and institution, now think and act as a responsible trustee of Earth, seeking choices in ecology, economics and ethics that will provide a sustainable future, eliminate pollution, poverty and violence, awaken the wonder of life and foster peaceful progress in the human adventure." - John McConnell, founder of International Earth Day  
Responsible tourism is a sustainability-related type of tourism that creates better places to live in and better places to visit. This is simultaneously based on two aspects: aspect from inhabitants and on the other hand, view from tourists and visitors. Management systems have to consider both because after VICE model, tourism responsibilities are in the hands of tourism industry itself, local people – in other words inhabitants – and visitors. According to the Responsible Tourism Handbook, 'for tourism operators it is about providing more

rewarding holiday experiences for guests whilst enabling local communities to enjoy a better quality of life and conserving the natural environment<sup>1</sup>.

## **Material and methods**

In our study we use up-to-date initiatives among the DMO-network in Hungary. We used and utilised the VICE model of a sustainable destination, extended with new elements to receive a more complex result. Presenting the DMO's significance we focus on one DMO, which operates in Gyomaendrőd. Concerning the fact that one of us has daily and first-hand work experiences in connection with Gyomaendrőd, relevant strategies, reports and other documents are at disposal, as well. If we focus on topicalities worldwide, European Tourism Indicator System (ETIS) is the newest system which is in testing period. In frame of three pilot programs, European destinations have the opportunity to measure and to monitor their performances regarding sustainable tourism management. Concept of this system was launched by the Tourism Policy Unit of the European Commission on 22 February 2013. Importance of ETIS lies in that research highlights destination level, which can easily be harmonized with DMOs at destination level.

## **Some words about DMOs in Hungary**

„Organizations are set up to achieve goals... These are best met by united action accomplished through a formal structuring of the participants involved. Independence, small size, market fragmentation and spatial separation are all factors which may lead to a desire for combined action, a willingness to unite to achieve common goals, a need to form tourist organizations.” (Pearce, D)

DMO originally stands for destination management organization. 'M' for marketing has to be also mentioned, but present study focuses on rather management systems and networks, which incorporates marketing, as well.

Changes and challenges in tourism industry has started in 2005, when National Tourism Development Strategy for the period 2007-2013 mentioned first DMOs as the new destination stakeholders nationwide. According to bottom-up strategy, DMOs are represented in more levels: first of all in local level, secondly regional one, and finally national one. As far as economical sustainability is concerned, DMOs had the opportunity for receiving European Union assistance, besides their basic source: members fee. Now, approximately 85 DMOs are operating in Hungary, most of them at local, and just a few at regional level. This new type and business model of tourism infrastructure play a vital role in shaping tourist products, boosting tourism indicators, such as visitor arrivals and revenue through their promotional activities and management strategies – included visitor management one. 'There is an identifiable trend towards devolution of tourism powers from the national level to regions, and a move to involve the private sector in the activities of the tourist boards.'<sup>2</sup>

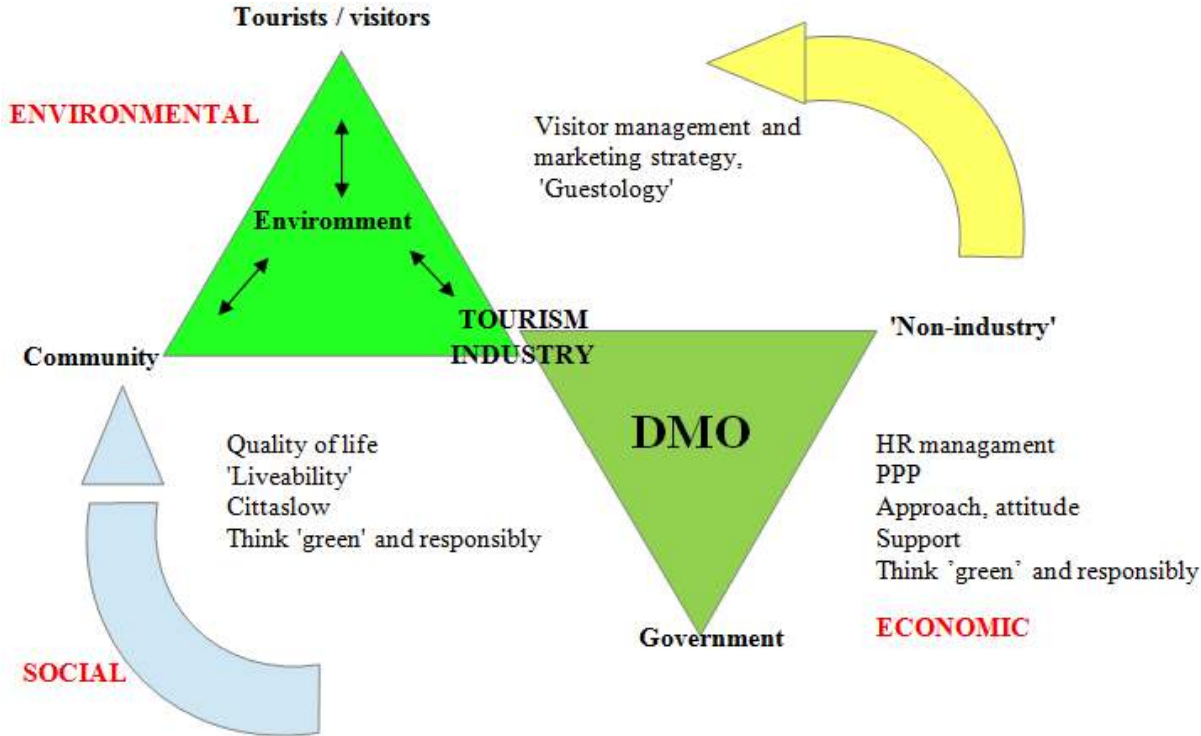
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<sup>1</sup> Source:

[http://www.capetown.gov.za/en/tourism/Documents/Responsible%20Tourism/Tourism\\_RT\\_Responsible\\_Tourism\\_Handbook.pdf](http://www.capetown.gov.za/en/tourism/Documents/Responsible%20Tourism/Tourism_RT_Responsible_Tourism_Handbook.pdf) p. 2.

<sup>2</sup> Source: Worldwide Destinations, p. 99

VICE model completed with our own elements such as maximizing visitors' satisfaction, developing life quality of the inhabitants, rising of willingness regarding tourists' return to the destination and rising sustainability of DMO in every aspect, by promoting USP and developing tourism product)



**Figure 1. Extended VICE model of sustainable destination (2013)**

Source: Own research on the basis of Destination Management Handbook, English Tourist Board and Tourism Management Institute, 2003

DMOs may be defined as an innovation tool, because it is about creation of a new type of industrial organization. As far as human resources are concerned, essential participants are stakeholders who are primarily interested in tourism industry (e.g. related to tourist infra- and superstructure), participants who enjoy tourism utilities indirectly (e.g. service sector) – in other words they belong to 'non-industry'– and on the basis of support and subsidy, attendance of government is also required. This model needs public private partnership ('PPP') to maintain the organization efficiently. Efficiency means not only the right participants, tools and support, but also approach and way of thinking in order to implement the right visitor management and marketing strategy, guest-friendly behaviour or 'guestology'. Quantitative and qualitative indicators show the result complex, namely rising guest nights, average residence time, tourist circulation etc. and tourists' willingness to return to the destination because of satisfaction and former positive experiences connect to the destination. On the other hand, social aspect of sustainability means community / inhabitants. In our opinion a destination with an effective tourism network has to consider the living conditions, as well. This part is about inhabitants who have contacts with tourists / visitors and image, too. Towns, cities or any settlements, that mediate the message 'it is good to live there', represents 'liveability' and quality of life for inhabitants. Thinking 'green' and taking responsibility are vital for both DMOs and community. Among operational issues and human resource management, marketing is one of the management functions which tourism businesses and organizations need to be involved in.

## About Hungary's first 'green' DMO

Based on the extended VICE model as illustrated before, we would like to present Hungary's first 'green' DMO: the GYÜSZ-TE (Gyomaendrődi Üdültetési Szövetség Turisztikai Egyesület, Tourism Collaboration of Gyomaendrőd). Gyomaendrőd is situated on the South-eastern part of Hungary, in Békés county, 176 kms far away from the capital. It may be mentioned as the western gate of Békés county. The town's major value is the nature and natural endowments. Hungary's cleanest river called 'Hármas-Körös' can be found in Gyomaendrőd with 16 oxbow lake (dead channels) that signify uniqueness nationwide. These natural sources support eco, active, fishing and hunting tourism. Potential in spa tourism is less than in other natural water-related opportunities.

Let us demonstrate step by step how a young local organization or collaboration reached the DMO status with a serious certificate. First of all, 7 January 2012 is a remarkable station, when the GYÜSZ-TE reformed due to cooperation of forty local suppliers included representatives of accommodation, restaurants, sports and shopping facilities and municipality. GYÜSZ-TE recognized that the key of the economic growth of the town is to develop tourism industry and shaping the disposable tourism products. The next significant step was the application to the Ministry of National Economy in order to be registered as a DMO in June. In the relevant tourist region (Southern Great Plain), GYÜSZ-TE was registered the 5. DMO, but in Hungary it was the 65. one. This registration was the stipulation for submitting tender for developing DMOs in October 2012. Dorottya Varga as the local DMO manager has been taking responsible in managing GYÜSZ-TE from September 2012. After her successful participant in tendering operation DAOP-2.1.3-12, the GYÜSZ-TE received a subsidy of 37 240 120 HUF from the European Union. Implementation lasts from 1 March 2013 until 31 December 2014. GYÜSZ-TE covers not only the stakeholders and marketers from Gyomaendrőd, it thinks in regional. That means, the surrounding towns namely Mezőberény and Dévaványa acceded to the DMO. With the associated members from other towns, there are 67 DMO member. Membership of GYÜSZ-TE is increasing.

Considering the title of present study, we are focusing on the DMO's sustainable-related activity which can be an excellent tool in marketing and to have USP. As you can see, as the 65. DMO in Hungary, marketers of the GYÜSZ-TE wanted to create something unique and first thing. Natural endowments of Gyomaendrőd offered the idea for being the first responsible DMO in Hungary. That is why GYÜSZ-TE's marketing strategy contains 'green' marketing strategy. The process starts with eco-audit, analysis and field-day by professional companies 'Arttree Production' and 'Carbon Credit Limited'. The DMO ordered the Arttree Production to analyze greenhouse gas emission in the course of GYÜSZ-TE's activities and services. Greenhouse gas (GHG) emission is also known as carbon footprint. Nowadays a webpage can also be ecofriendly in case its operator ransoms its carbon footprints to credits. Verification report concerns DMO finds out that in period of 2012 the verified greenhouse gas emission had a tonnage of 2.039 CO<sub>2</sub>. Verification was passed out according to criteria of UN Framework Convention on Climate Change (UNFCCC) and documents of IETA (International Emission Trade Association). The carbon neutralization was done with VCS (verified carbon standard)-qualified carbon credits that origins from Wind Power Project in Hassan district, Karnataka state, India and based on internal dates of DMO. Input dates are the following:

- Number of employers of DMO and their means of transport
- Employers' commuting to workplace (means Tourinform Gyomaendrőd) by own vehicle within 50 kms distance and within 100 kms distance

- Employers' commuting to workplace by public transport
- Buyers transport (for operation, here it means office tools)
- Water use/consumption
- Gas use
- Electricity use
- Other technological use
- Wastewater
- Waste / spoilage

Summary of GHG emission regards GYÜSZ-TE, as a local DMO in the year 2012:

- GHG caused by transport: 0,321 tonne CO2
- GHG caused by gas use: 1,246 tonne CO2
- GHG caused by electricity use: 0,376 tonne CO2
- GHG caused by waste: 0,096 tonne CO2

Altogether: 2,039 tonne CO2

The 'green' certification is followed by the DMO's image tools (e.g. logo), and its responsible activities such as usage of only recycled papers. Being or operating 'green' has marketing message, as well. In general, if an organization want to move into a market – especially into tourism one – first, they have to consider that doing uniqueness is a need. The next criterium is that service or product has to be marketable. To market it effectively, creativity and continuous common-interest team work are a need. This common-interest mean the destination itself. If you have uncommon product or service, a cost-effective marketing activity must have greater effect than you market a usual or mass product. Creativity, individuality and customized are the keywords.

## Results and discussion

'The real challenge for the destination marketer is to create 'differentiation' – in other words, to demonstrate that resort A is truly different from resort B.'<sup>3</sup> This fact is also relevant among tourism organizations, as well. Not only attractions could be promoted as a unique selling proposition (USP), but tourism product or way of thinking or intangible goods, e.g. services could be contain unqiquality. Thus, individuality means competitive advantage, as well.

Thanks to the 'green' certification, GYÜSZ-TE could improve quality and performance of their members. Communicating protection and environment-friendly behaviour is also a market-based tool. That means being responsible and sustainable gain marketing advantage and may cut marketing costs because tourism industry pay more attention to the first product/service/organization. Being first and individual has huge value.

## Conclusions

Role of sustainability and responsible tourism expands more and more. GYÜSZ-TE is an exemplary DMO in Hungary, whose management has recognized the significance of responsible activities: first within tourism industry. Apart from the communication strategy toward the tourism and catering trade, this DMO makes efforts to familiarize its 'green' and eco-friendly activities among the residents and tourists, as well. Sustainability requires a long-

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<sup>3</sup> Source: Worldwide Destinations, p. 43.



term way of thinking and strategy. If marketers and tourism leaders will continue their responsible movement, they may achieve that Gyomaendrőd is going to be the first Cittaslow town in Hungary. The new challenge is for GYÜSZ-TE or any DMOs nationwide to implement the ETIS. By means of adaptability a complex monitoring system, chance to be a competitive destination increases.

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# TRADE TRENDS OF AGRICULTURAL PRODUCTS IN THE HUNGARIAN-CROATIA TURNOVER

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## Abstract

The accession to the European Union (EU) has brought a lot of advantages for all the new member states (NMS). The general and wide range implementation of economic integration gave the hope of economic prosperity and macroeconomic stability for all the new member states. In general, it can be concluded from the analysis of EU membership that the trade among new member countries has substantially expanded as a result of increasing trading activities in relation to member states which integrated into the EU in 2004 and also due to the elimination of former trading barriers and a growing common internal market. Starting from this, the examination of trading of goods between particular countries is also justified. The important aspects in considering the possible solutions for the consequences of the economic crisis in 2008 are: the strengthening of regional markets, the utilization of geographical conditions and the increasing role of comparative advantages.

The present study details the agricultural trade flow between Hungary and Croatia. It is highly actual topic because after the Croatian EU-accession the flow will be totally changed. We will show, that what happened in the frame of bilateral trading activities till the accession. In regards to trading of goods, it is reviewed which products show concentration and which products can be characterized with comparative advantages.

**Keywords:** agricultural foreign trade, Hungary, Croatia, export specialization, comparative advantage

**JEL classification:** Q17, F15

## Introduction

Following Slovenia out of the former Yugoslav Republics, Croatia was the second to access the European Union (EU) on July 1, 2013. A number of important and favourable benefits and measures are available now for the new member state. Besides the euphoria about the integration, however, there are some other opinions and approaches in the Croatian public, too. It is for sure that – similarly to Hungary – Croatia should also learn to live with the benefits of the EU. It is true that the government of Zagreb can count on 13,7 billion euro until 2020. Moreover, this year the pre-accession funds are also complemented by about 655 million euro which is 1,5% of the Croatian GDP. (HVG, 2013) The elimination of visa requirements and the expansion of the four fundamental freedoms offers huge possibilities for tourism, which is the most important sector of the country, but problems and challenges are waiting for agriculture and fisheries<sup>1</sup>. The GDP per head in the country, the population of which is 60% less and the area is 40% smaller than Hungary, is lower by only 1000 euro than the 16500 value of Hungary. As regards agricultural areas, Croatia has limited possibilities due to the geographical conditions. The size of the agricultural land is only 3% of the total

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<sup>1</sup> The case of Slovenia was a strong sign for fishermen, where the ratio of local fishermen drop to its tenth in some harbours, due to the emergence of efficient and highly developed Italian fishing fleets. (HVG, 2013)

area (it is 50% in case of Hungary), about 1,326 million hectare and only 177.000 producers deal with agriculture (we have 534.000 registrated farmers here). (EUROSTAT, 2012)

By and large Croatia is considered as an agricultural importer, the majority of its export to EU is given by sugar, cereals, meat, fruits and vegetables. Cereal production is a key sector in the country. Agricultural activities in total give 6-7% of the GDP in Croatia. The farm structure of the two countries is similar. The agriculture of Croatia consists primarily of small family farms in addition to a few state-owned large-scale companies. The main reason for this is that the former Yugoslav agricultural policy limited the size of farms in 10 hectares until the middle of the 1980s. Agriculture is rather significant in the labour structure of Croatia: altogether 186 thousand persons, 13% of all the employed work in this sector (the Hungarian values are 291 thousand persons and 7,2% respectively). The output of agriculture is 7,76 billion euro in Hungary, while in case of our Southern neighbour it is 2,86 billion euro. The value added, however, is 2,926 billion euro in Hungary and 1,297 billion euro in Croatia. These figures indicate that the Hungarian agriculture is more considerable due to the size of the sector, but the Croatian agriculture is more efficient concerning the value added.

Since the import duty of 20% on goods coming from EU countries is eliminated after the integration, the Hungarian agricultural products would have excellent market possibilities. The geographical proximity may largely expand the possibilities for Hungarian products in spite of the fact that Croatian farmers can already enjoy the advantages of the EU subsidy system<sup>2</sup>. It is possible to evaluate the accessions consequences in different way: it possible to analyse the macro and microeconomic issues of budgetary-financial conditions, the reactions of different sectors, or sub-sectors (cereal: Takács-György et al 2012, beef: Poór 2013), or just the use some of several methods (Zéman et al. 2013). But in this paper we will focus just on the international tradeconsequences.

In this case by the development of trade relations has been discussed by a number of authors. Out of among them, the works of, for example, Fertő (2003), Fertő et al. (2005), Baráth et al. (2010), Kiss (2010) or Jámbor (2013) can be highlighted. They analyse the general features of competitiveness between Hungary and EU15. These works examine the Hungarian trading relations basically from the aspect of EU convergence and successes on the OMS markets perspectives. In the case of these authors, the profound theoretical description and practical implementation of the analysing methods should be underlined.

Recently, works by Bartosova et al. (2008), Drabik et al. (2008), Bojnec et al. (2009), Savtos et al. (2010), Bojnec et al. (2012), Rajcaniova (2012), Bielik et al. (2012), Qineti et al. (2012) have appeared in the international references. They examine the trading conditions of the new member states with special regard to Visegrad Countries.

Following the EU accession of Hungary, considerable market positions opened for the other Visegrad countries, in addition to the EU member states. (Vásáry, 2012) After the accession

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<sup>2</sup> Croatia could conclude a particularly advantageous agreement during the accession talks. As a result of this the country can invoke 400-500 million euro of direct agricultural subsidies and rural development grant. Croatia can count on 373 million euro aid per year in the harmonization period following directly the accession. Since Croatia integrates into the EU in the middle of 2013, the first rural development programming period lasts only for a few months in 2013 for Croatia, and a new programming period starts from 2014. Thus Croatia can start its EU membership in a much more favourable position than Hungary did. The direct aid will be available for Croatia – just like the other new member states – gradually, at an increasing pace, thus in 2014, at the beginning of the new seven-year budget period they can call only 25% of the full direct aid, then – gradually increasing the amount until 2020 – they can access to 70%.

of Romania, the traders already having some EU expertise could target significant market niches, thus the value and volume of export could be increased substantially. (Vásáry et al., 2012) Therefore our research aimed to explore the current agricultural foreign trade between the two countries and the possible tendencies of the future.

## Material and methods

The basis of research was provided by the data of bilateral trading processes available from 2000 until 2012<sup>3</sup>. In some cases, the four-digit and two-digit product groups of combined classification<sup>4</sup> have also been utilized. It has become clear during the research, that, in general, a lot of difficulties and special conditions can affect the uniformity and reliability of data due to the characteristics of the database.

In these cases, the correlations can be determined multiple delineation.

The export-import balance, which clearly expresses the difference between the export and import of the country.

$$B_{E/I} = x_{ij} - m_{ij} \quad (1)$$

Where  $i$  is the given country,  $j$  is the product in question,  $x$  is export,  $m$  is import,  $x_{ij}$  is the sum of export value of the given country, and  $m_{ij}$  is the sum of the similar values of import,  $B_{E/I}$  gives the sum of balance,  $x_{ij}$  is the sum of export value of the given country, and  $m_{ij}$  is the sum of the similar values of import.

The indicator quantifying the export-import ratio can also be applied. The ratio is the simplest export specification index which correlates the export of the countries to their import.

$$R_{E/I} = \frac{x_{ij}}{m_{ij}} \quad (2)$$

Where  $i$  is the given country,  $j$  is the product in question,  $x$  is export,  $m$  is import,  $x_{ij}$  is the total of export items, currently the sum of export values of the given country, while  $m_{ij}$  gives the sum of similar values of import,  $R_{E/I}$  is the value of index.

In addition to the above, there are a lot of indices and evaluations concerning the quantification of comparative advantages. One of them is connected to Béla Balassa, who can be regarded as the pioneer of measuring comparative advantages. During the last decades, a lot of versions of the index have been developed, but in the present paper the original formula

<sup>3</sup> The database was summarized by the Research Institute of Agricultural Economics on the basis of the data of Central Statistical Office. However, since according to the methodology and records of the Statistical Office, some product groups, e.g. animal and crop fats, oils or raw leather, do not belong to the agricultural products but to the raw materials, the adjustment is justified. After this supplement, the basis of examination was formed by the values of trade concerning agricultural raw materials, food industry products and beverages belonging to the whole agricultural sector.

<sup>4</sup> The Standard International Trade Classification is a product classification of the United Nations and used for external trade statistics (export and import values and volumes of goods). In cooperation with Governments and with the assistance of expert consultants, the United Nations Secretariat drew up the 1950 edition of the United Nations Standard International Trade Classification (referred to below as the "original" SITC). By 1960, many countries were compiling international merchandise trade data according to the original SITC or national classifications correlated to it and major international organizations had adopted SITC as a basis for the reporting of international trade statistics. SITC is allowing for international comparisons of commodities and manufactured goods. (UN, 2006)

is used for the examination of competitiveness in connection with the trading of goods with Croatia. Béla Balassa suggested to the use of the following index for measuring the relative comparative advantages:

$$B = \frac{x_{ij} / \sum_i x_{ij}}{\sum_j x_{ij} / \sum_i \sum_j x_{ij}} = \frac{x_{ij} / \sum_j x_{ij}}{\sum_i x_{ij} / \sum_i \sum_j x_{ij}} \quad (3)$$

where  $x$  indicates the export,  $i$  is for the product group,  $j$  is the examined country, and, subsequently,  $x_{ij}$  means the product-level, while  $\sum_i x_{ij}$  is the total export of the given country,  $\sum_j x_{ij}$  indicates the product-level export, and  $\sum_i \sum_j x_{ij}$  is the total export of the world or a country group. (Balassa, 1965)

The B index starts from the point that the export structure is equally sensitive to the relative costs and the differences between non-price factors. (Fertő, 2003) Therefore, the comparative advantages are expected to determine the structure of export. The index was criticised from many aspects, see for example Fertő 2003. The critical approach can be the consequence of the application of the index widely, in international environment, where it served the comparison of very heterogeneous features and market regulators. In our opinion, in the case of EU27 countries, (1) the geographical proximity, (2) similar macro-economic conditions show that the predictability and applicability of the index can be regarded clearly sound.

The numerator and denominator of Balassa index is between 0 and 1.<sup>5</sup> Accordingly, the value of the index can be within the  $[0; \infty[$  interval. If  $B > 1$ , the given country has a comparative advantage in the case of the examined product, if the value of the index is between 0 and 1, we speak about a comparative disadvantage. The index is asymmetric in its structure and, with regard to its leaning deviation, it is leaning in the positive range. Dalrum et al. (1988) tried to solve this problem by introducing the revealed symmetric comparative advantage (RSCA) index.

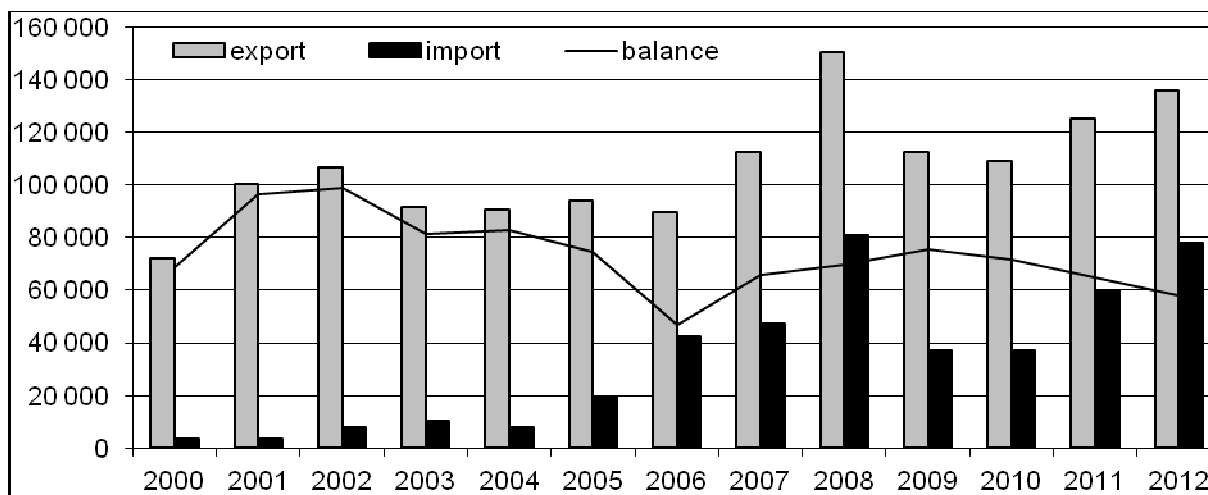
$$RSCA = \frac{(B+1)}{(B-1)} \quad (4)$$

## Results and discussion

The Hungarian (HU) and Croatian (CR) agro-trade relations were rather moderate in the examined period. Hardly 1,7% of the total Hungarian trade went towards CR and this did not exceed 4,7% to the „neighbouring” newly accessed country. The value of the Hungarian export was between 80 and 150 thousand euro at current prices. (Figure 1) The value of import was much lower than this, it did not reach 20 thousand euro before 2005 but increased after our EU accession. The best value was reached in 2008 when it was about 80 thousand euro. This latter was due to the shipping of Hungarian cereals.

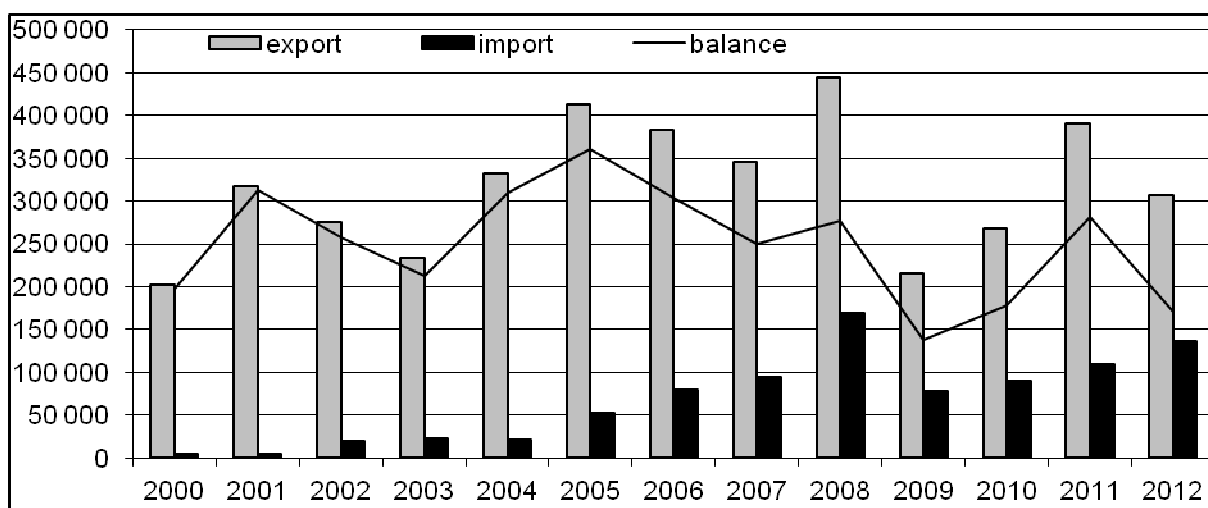
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<sup>5</sup> If  $x_{ij} / \sum_j x_{ij} = 1$  we speak about monopoly, the product is supplied only by the examined country.



**Figure 1: Value of Hungarian-Croatian foreign trade (million euro at current prices, 2000-2012)**

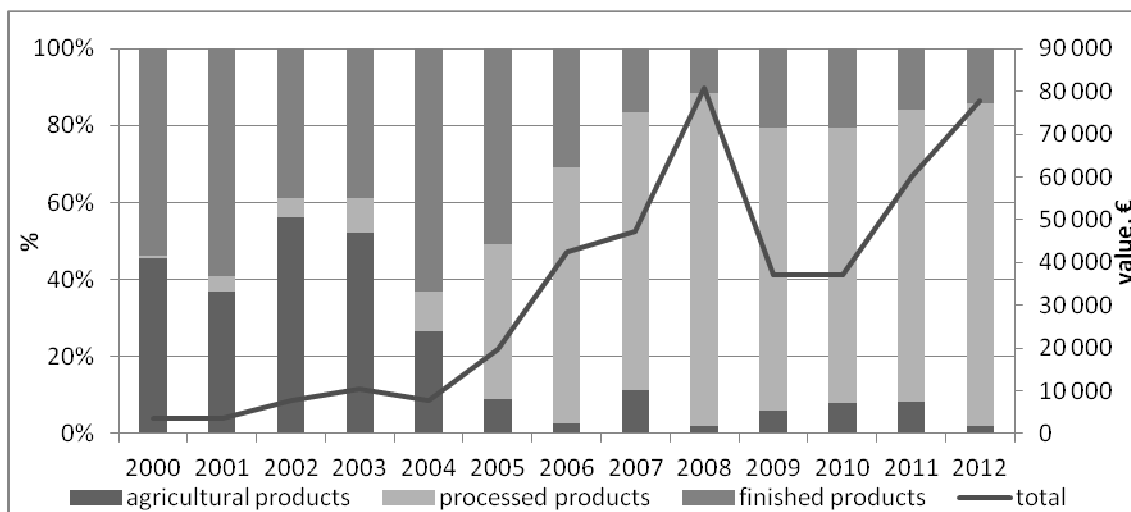
Source: own edition, on the basis of RIAE database, RIAE 2013



**Figure 2: Value of Hungarian-Croatian foreign trade (euro/ton, 2000-2012)**

Source: own edition, on the basis of RIAE database, RIAE 2013

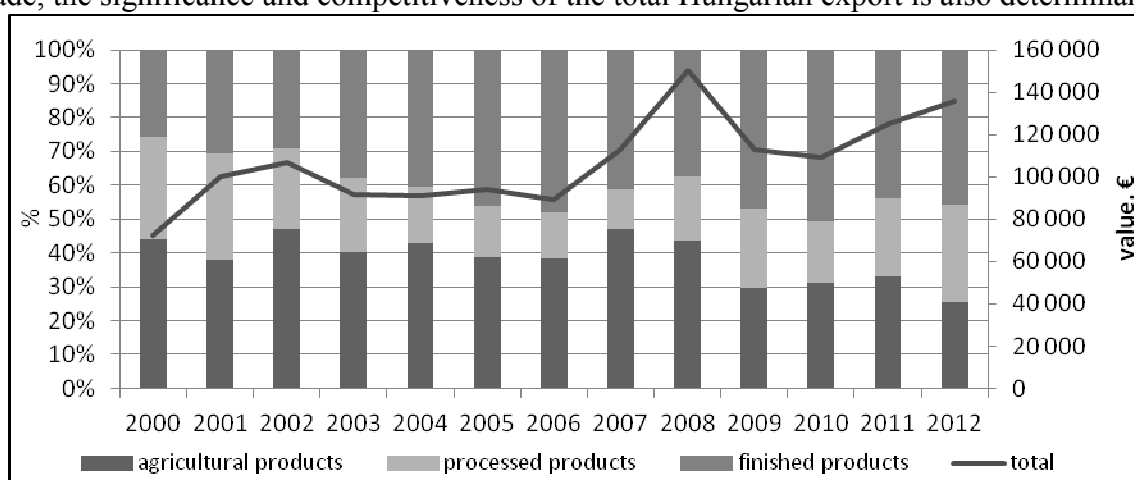
This latter process is also confirmed by examining the product structure summaries. (Figure 3) It is obvious that the ratio of raw materials is dominant in regards to the Hungarian export, it made up to 60% of the total export value. In contrary to this, the Croatian import – as the result of expanding trade relations from 2005 - included mostly semi-finished goods and recently almost exclusively semi-finished goods. Their ratio grew from 1% in 2000 to 84% by 2012. Sugar import - which was given duty allowances by EU - filled up 98% of this turnover.



**Figure 3: Agricultural goods turnover in Hungarian-Croatia relation (import, 2000-2012)**

Source: own edition, on the basis of RIAE database, RIAE 2013

Besides the special features regarding the role of products and the degree of processing in trade, the significance and competitiveness of the total Hungarian export is also determinant.



**Figure 4: Agricultural goods turnover in Hungarian-Croatia relation (export, 2000-2012)**

Source: own edition, on the basis of RIAE database, RIAE 2013

In the field of trade processes the changes in export-import ratio show a very interesting picture. (Table 1) This ratio is the simplest export specification index which compares the export of the examined country (group)s to the import. In order to ease the analysis, the values of the most significant country-groups, EU15, EU12, V3<sup>6</sup> and Croatia are compared to the Hungarian export.<sup>7</sup> It is obvious from the analysis of the whole period that the value of the ratio was gradually decreasing in case of the examined country groups which means that the Hungarian export advantage was declining year by year. The Hungarian export advantage in CR relation went down from a particularly high value but the Hungarian position was still outstanding by the end of the period.

<sup>6</sup> Visegrad countries: Slovakia, Czech Republic and Poland

<sup>7</sup> The selection of the country groups should be made on the basis of similar conditions and date of EU membership.

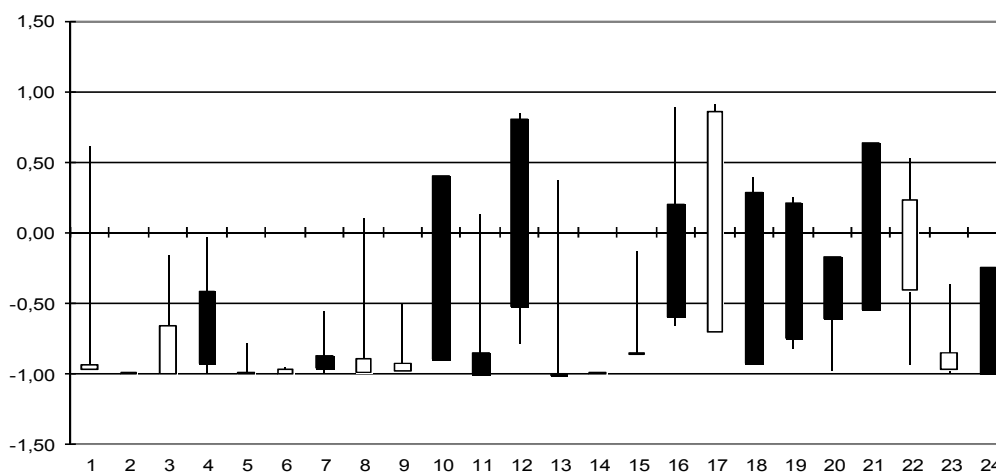


**Table 1: The Hungarian export-import ratio in case of some country groups and Croatia (% , 2000-2012)**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
EU15	0,4	0,4	0,5	0,6	0,7	0,9	0,9	0,8	0,9	0,8	0,8	0,8	0,6
EU12	0,3	0,3	0,4	0,6	0,8	0,9	0,9	0,7	0,6	0,6	0,6	0,6	0,7
V3	3,7	3,0	2,2	1,2	0,9	0,8	1,2	1,5	2,0	1,4	1,7	2,0	1,6
CR	20,6	28,8	13,6	8,7	11,6	4,8	2,1	2,4	1,9	3,0	2,9	2,1	1,7

Source: own edition, on the basis of RIAE database, RIAE 2013

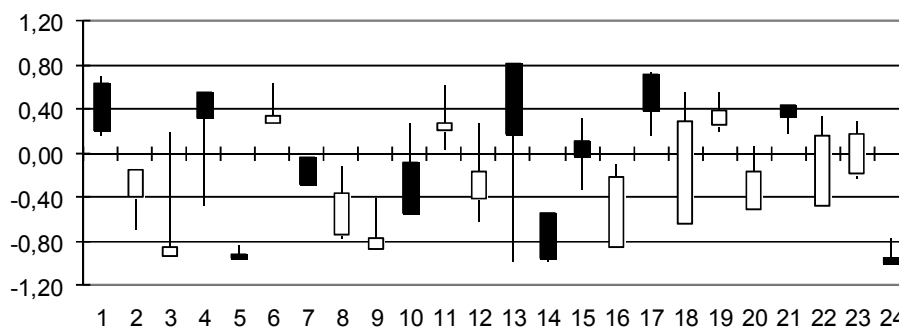
If the signs applied in stock exchange evaluations are used, the opening, maximum, minimum and closing values can be demonstrated in one figure. The thin line refers to the minimum and maximum values, the columns mean the opening and closing intervals. If the column is dark, the closing value was worse than the opening one, if it is white, the value grew. The RSCA smoothed value RCA index results per product categories are included in Figures 3 and 4. In the former case the Croatian-Hungarian trade is shown. The figures indicate that the competitiveness values deteriorated in 11 cases out of the 24 categories. The greatest decline could be observed in groups 12 oil seeds and oleaginous fruits, 13 cereals and 18 cocoa and cocoa preparations. The strengthening of competitiveness has very slight impact in most of the cases. It is considerable only in categories 17 sugars and sugar confectionery and 3 fish and crustaceans, molluscs and other aquatic invertebrates.



**Figure 4: Values of RSCA index in regards to the CR-HU agritrade (2000-2012)**

Source: own edition, on the basis of RIAE database, RIAE 2013

In regards to the Hungarian export, it can be concluded that the competitiveness decreased in case of 11 groups of products, although the degree of decline was not as high as in case of the reversed trade. The loser categories include number 13 lac; gums, resins and other vegetable saps and extracts, number 10 CEREALS and 1 live animals. In respect to competitiveness, the following categories took winning positions: 18 cocoa and cocoa preparations, 8 edible fruit and nuts; peel of citrus fruits or melons as well as 23 residues and waste from the food industries; prepared animal fodder.



**Figure 5: Values of RSCA index in regards to the HU-CR agritrade (2000-2012)**

Source: own edition, on the basis of RIAE database, RIAE 2013

## Conclusions

In spite of the position losses regarding competitiveness, the producers of cereals, oil seeds and milk products become in more advantageous situation following the EU accession of Croatia. It is likely that the formerly significant sugar market will change but substantial market losses are not expected thanks to the accession negotiations. The underdeveloped agriculture and food industry of Croatia parallel with the comparative advantages of Hungary may ensure considerable possibilities for market acquisition. It is true, however, that the efforts of other EU member states should also be faced. It can be concluded that as an EU member, adapting to the EU expectations and market environment, we can have good prospects and possibilities on Croatian market. Considering the market conditions, expansion can still be expected on the market of mass goods and semi-finished products.

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# ICT AS A SUPPORTING TOOL FOR CONDUCTING SURVEYS

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## Abstract

The importance of information and communication technologies (ICT) is currently rising in scientific and professional fields. In this paper, we deal with surveys created and conducted using ICT. Online questionnaire surveys stand for an often applied method to get a wide range of information from numerous respondents. Furthermore, surveys represent a frequently used research tool in several branches of science and technology. There are web pages offering electronic surveys as a service including their creation and assessment with a special software system. Nowadays, social networks represent also a significant and efficient dissemination tool used in surveys. Although, this service is a frequent tool nowadays, there are still many respondents mistrusting unknown web pages or due to lack of time, they often do not complete a survey.

**Keywords:** information and communication technologies (ICT), online survey, software, information society, social network, questionnaire survey (QS)

## Introduction

In market research the term "questionnaire" is used to refer both to questionnaires intended for self-completion by survey participants and to survey instruments intended to be administered by an interviewer, either in a face-to-face interview or by telephone. In other disciplines this is often referred to as an interview schedule, with the term questionnaire reserved for the self-completion survey instrument (Brace, 2008, p. 2).

Researchers today have several different options to choose from when conducting a survey, from the traditional paper-and-pencil surveys to technically sophisticated web surveys with automatic question branching. Traditional mail surveys include: fill-in-the-blank surveys, which use sheets of paper with check-off boxes and blank spaces for written responses; optical mark recognition surveys, often referred to as a "bubble" surveys because of the small circles that must be filled in to indicate particular responses; and optical character recognition surveys, combining optical scanners, that can read marking such as bubbles, and sophisticated text recognition software. Electronic surveys comprehend: e-mail surveys, either as text in the body of the e-mail itself or as an electronic attachment; web surveys, a html form that is posted on a web site, of which respondents are notified (Moutihno and Hutcheson, 2011, p. 231).

Many fields (e.g. business, health, social science, etc.) have found it beneficial to use electronic surveys as opposed to pencil-and-paper or interview surveys. The primary benefits of using electronic surveys are the saving of both time and money and the promotion of more honest responding. Time benefits are found in both the speedier administration and return of surveys, and the ease of data use. Furthermore, with the data already in electronic form, there is a decrease in data input errors (Heiervang and Goodman, 2011, p. 71).

Research indicates that more honest responses are elicited by electronic surveys. Given the anonymity that electronic surveys afford, survey participants generally report feeling less vulnerable and more comfortable disclosing personal information on electronic surveys (Joinson, Paine, Buchanan and Reips, 2008, p. 4).

According to Heiervang and Goodman (2011, p. 73), this has been vital information for those fields exploring sensitive subject matter. With the higher rates of perceived anonymity produced by electronic survey format, participants are likely to report more honest and less socially desirable answers, thereby producing higher rates of truthfulness in the data results.

Recent research suggests that survey format is relatively comparable in terms of item non-response (Börkan, 2010 cited in Sappleton, 2013, p. 158). One of the major advantages in electronic survey forms is that the routing of the questions becomes automatic. For example, the survey form might ask the participant a multiple choice question on how they travelled to an event. The answers provided might have included walking, taking the bus, riding a bike and driving. If the respondent answers the question by checking "driving" automatically the next question will ask about the convenience of parking (Kolb, 2012, p. 209)

Information and communication technologies (ICT) permeate almost every facet of our daily business and have become one of the most important priorities for formal and informal education. ICT has become a key driver in culture, economics, politics and education with profound effects on all countries which in turn affect people in the most remote and least developed areas, even if they are not directly using the technologies (Anderson, 2009, p. 1).

Information and communication technologies or ICT are an integrated set of resources used not only for preparation and processing of data. They integrate all resources which are used for acquisition, processing, transmission, presentation and filing of data (Popelka and Hennyeyová, 2011, p. 8). These technologies operate with data and information. The information can be understood as any message, data, command data (values, characters), instructions, orders, commands, and so on. They bring new knowledge and eliminate ignorance in this area.

Information, ICT and information systems are used to make our society better educated and more effective in their work, and effective. Using the mentioned tools, information society is heading towards this effectiveness. Informatisation of the society is a process aimed at maximising the potential of information and communication technologies (ICT) in all relevant areas of social, political and economic life. The basic objective of society informatisation in Slovakia is to create conditions for building a knowledge-based economy using methods, informatics resources (including ICT) and services provided by the Internet. This is according to Hennyeyová (2007, p. 10) established as one of the preconditions for improvement of the regional competitiveness.

## **Material and methods**

### ***General assessment and categorisation of online survey providers***

We have evaluated selected web pages that offer the service of creating an electronic questionnaire survey (Google, SurveyMonkey, Kwiksurveys).

We divide the evaluated web pages into two main typological groups according to the accessibility of the provided services following:

- Free service - evaluated parameters: number of questions, form and editing of questions, statistical tools and global view of received answers (from which country was the survey completed).
- Commercial service (for firms and advanced survey research) - evaluated parameters: number of questions, advanced service, statistical tools.

Furthermore, we compare services by each of the two main typological groups and define the most significant differences, advantages and disadvantages.

### ***Monitoring of dissemination tools***

We have evaluated the possibilities how an individual or a firm can spread a questionnaire survey to a wished category of potential responders by monitoring the dissemination possibilities offered by online survey providers.

### **Results**

We have evaluated three different web pages designed for creation of an electronic questionnaire survey: Google Documents, KwikSurveys and SurveyMonkey. All these three web pages offer a free account to create an electronic QS. But only KwikSurvey and SurveyMonkey offer a pay account for commercial use, sophisticated question creation and more detailed statistical analysis.

***Google Documents*** - this is a tool of the google package and is often used by students and common users to create an electronic QS. It offers an easy creation of a QS and the possibility of answer variation (one, more answers, open text questions, etc.) but it does not offer an "order ranking of choices" answer. For editing questions there is a tool bar for making the changes in questions easier. Once the QS is created, the user can share it via Google+, Facebook, Twitter, e-mails and other online dissemination tools. Received answers are statistically processed (diagrams, tables) in order to make them more understandable for a wider range of recipients. Therefore, it is the most often used method of an electronic questionnaire survey. The service user can see the daily answer rate of her or his questionnaire survey. It is also possible to get the received answers collected in a table, in order to see the exact date and the given answers. Open questions that respondents answer by writing their own thoughts are not statistically processed. It is up to the service user how she or he processes the answers.

***KwikSurvey*** - this web page offers a more sophisticated question creation. Advanced questions, account service and processed answers through statistical results are a paid feature because there are many limits in the free account. Furthermore, this web page does not offer an open question where respondents could write their answers. This might be caused by the difficulty of a statistical processing of the received data. Created questionnaire surveys can be also sent to respondents via e-mails, social networks and other online dissemination tools. Received answers are statistically processed. The first result you can see is the global answer view (Visitors statistics) - which part of the world and which web page (directly from KwikSurvey.com, social networks or other web pages) was the questionnaire survey completed from. The next important part is the "Quick report" where all the answers are shown on graphs which can be edited to have a better information value. For more detailed and scientific purposes, a free account can be upgraded to a professional account for a fee

which offers more features. The main difference is that a free account does not have an option to extract the received data in excel format and "skip logic" for questions (this was described in the introduction - Colb, 2008). For early stage researchers there is the possibility to pay less for the professional account. This web page offers unlimited questions and survey responses unlike the SurveyMonkey web page.

***SurveyMonkey*** - this web page offers a direct selection of Pro account and free account at the sign-up and first log in on this page because the free account is very limited in questions and received answers from respondents. From all three evaluated web pages, this one offers the most possibilities of answer types. The greatest disadvantage of this web page is that open answers - for text - are only available for paid accounts. On free accounts you can see them in the received answers, but they are not statistically processed. Like the other two evaluated web pages, on this web page the answers are statistically processed and shown by graphs. Open questions cannot be processed. The QS creator can only read them and make an objective response. Professional accounts provide more features, e. g. enhanced security, skip logic in questions, excel reports. But the SELECT account (it is a professional account for one month) does not offer text analysis for open responses. This feature is offered only by GOLD and PLATINUM accounts. These two account types also offer unlimited questions and responses.

### ***Social networks as a new way for finding respondents for electronic questionnaire surveys***

Quite a short time ago, questionnaire surveys were made on papers. Nowadays, there are still paper questionnaires that are sent to respondents via post, but due to technological progress and in a time when people lower their costs, surveys are sent through the internet via e-mails, chat rooms and of course social networks. Social networks represent the best way for early stage researchers to be connected with many people with a range of further connections.

This way, a questionnaire survey can be sent to the whole world without knowing all the people. There is a saying: "If you know five people, you know the whole world". This is the main reason why people send their surveys this way. Moreover, people have no mistrust when they complete a survey from a friend. If someone mistrusts a survey, she or he can directly ask the questioner - what is the reason to complete this survey, or for what purpose this survey must be completed for. According to our findings, this electronic form of a questionnaire survey is more pleasant for respondents for many reasons, e.g. they do not need to complete a survey on paper form and use the post to send it to the questioner, the questioner has not a full mail box of received answers, almost everyone today is reachable online and it takes less time to complete a survey and to receive responses.

## **Discussion**

According to our research that included the evaluation of selected web pages, their tools and techniques of electronic questionnaire surveys, we can state that this field is a very advanced and fast developing field in our information society. This statement corresponds with the findings of Moutihno and Hutcheson (2011). For this development, the competition between web pages offering online questionnaire survey services is the key factor.

In an online QS made by Palkechová, Virágh and Svoradová (2013) to analyse the holiday behaviour of Slovak citizens, we can see that respondents prefer to complete an online QS unlike the paper form. An online QS is of course much more easier to process. These conclusions show the relevance of our findings and underline the importance of further

research into the field of online QS. Similar arguments are claimed by Heiervang and Goodman (2011).

We found out that the so called "skip logic" of questions is a very helpful tool in online QS since it makes the process of the survey more comfortable for the questioner and the respondents as well. This finding confirms the results of Kolb (2012).

Based on our results, we can agree with the statement of Hennyeyová (2007), who claims that the information and communication technologies make our lives better and the informatisation of society is important to make the lives of people and the society even much better and easier in every field.

## Conclusion

Evaluated web pages offer in the basic very similar services. Differences are mostly related to paid services and accounts. These web pages have the same disadvantage - neither of them can processes open questions and show them as statistical results. Web page KwikSurveys does not even offer a possibility to create an open question. Electronic form of questionnaire surveys and web pages offering the service of questionnaire creation and processing are more and more used by researchers, mostly by younger generation which uses social networks to spread their surveys through the world.

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This special issue contains peer-reviewed papers by authors who took part in the First Visegrad Doctoral Symposium, held in Gödöllő in October 2013. The authors are mainly PhD students and young researchers. The aim of the conference was to allow the young students and colleagues to present their research results in various sessions, chaired by well-known and nationally and internationally acknowledged professors and experts. The conference was organized under the auspices of the Visegrad University Association (VUA) and it was the first event of the series. More than 100 participants from over 20 countries including Hungary, Poland, Slovakia, Italy, Russia, Ukraine, Croatia, Germany, Afghanistan, Vietnam, Kazakhstan, Kyrgyzstan, Moldova, Kosovo, Macedonia, Ethiopia and Kenya were present and could enjoy the interesting and exciting discussions and the nice atmosphere of Gödöllő.

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**ISSN: 1789-5588**

10.21408/SZIE.ACTAREG.2014.spec